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THE GREAT

International Fruit and Flower Show

AT

EDINBURGH,

September 9th, 10th, and 11th, 1891.

NOTICE.

With THE GARDENING WORLD for September 12th will be issued, gratis, a supplementary sheet, containing eight portraits of leading officials of the Royal Caledonian Horticultural Society; and with the number for September 19th will be published a detailed report of the Great International Exhibition.

Can be obtained through all Newsagents.

For Index to Contents see page 11.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Sept. 7th.—Trade Sale of Bulbs at Protheroe & Morris' Rooms.

TUESDAY, Sept. 8th.—Royal Horticultural Society: Meeting of Committees at 12 o'clock. Sale of Nursery Stock at West Croydon, by Protheroe & Morris. Trade Sale of Bulbs at Protheroe & Morris' Rooms.

WEDNESDAY, Sept. 9th.—Great International Fruit and Flower Show at Edinburgh (3 days). Early Autumn Show at the Royal Aquarium, Westminster. Brighton Autumn Show (2 days). Trade Sale of Bulbs at Protheroe & Morris' Rooms.

THURSDAY, Sept. 10th.—Trade Sale of Bulbs at Protheroe & Morris' Rooms.

FRIDAY, Sept. 11th.—Trade Sale at Messrs. Roberts Bros., East Grinstead, by Protheroe & Morris. Sale of Orchids at Protheroe & Morris' Rooms.

SATURDAY, Sept. 12th.—Galashiels Flower Show. Trade Sale of Bulbs at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, SEPTEMBER 5th, 1891.

FLOWER SHOW VICISSITUDES.—Last week we referred to Flower Show attractions. This week we have to refer very sympathetically to the serious troubles which befel Flower Shows at Newcastle-on-Tyne, Dublin, and some other places in the same week, arising from the terribly stormy weather. Generally, Flower Show committees have found the season a very unpropitious one for out-door displays, and no one cares for an in-door exhibition in the summer. How much reason have our Chrysanthemum Societies to rejoice that the period of the year at which their favourite flower is in its best form forbids out-door Shows, and that the exhibitions must perforce be held in buildings, where at least no such misfortunes as befel the Shows mentioned are possible.

There are few places, perhaps, where more Hall or room space would not be heartily welcomed by the Chrysanthemum people, but where it is limited it is best to cut the coat of the Schedule according to the cloth of the Hall available, and things work smoothly. It is difficult for us to imagine a sadder spectacle on the morning of a summer Flower Show than is seen in tents blown to rags, and levelled to the ground, staging a ruin, and early staged plants destroyed. That sort of spectacle is enough to drive committees and exhibitors mad. It is a catastrophe from which all in-door Shows are happily free.

Even a wet day, devoid of all other terrors, is bad enough, but in a well-lighted Hall, once the fairly hardy plants and flowers of the Chrysanthemum are staged, little concern is manifested for the character of the weather outside. Sometimes, indeed, November Shows as it is are held in a hurricane, or in a snow storm, or with sharp frost prevalent, but these are minor evils compared with what some Societies have recently had to encounter.

THE WEATHER.—This subject probably intrudes itself upon the public mind more in Great Britain than anywhere else. We find more and more how almost everything in which we are as a nation concerned, is bound up with the weather. Really our national prosperity seems to be absolutely dependent upon good weather, for trade stagnates when it is bad, and flows freely when it is good. How our pleasures are dependent upon good weather, how bad weather produces mental deadness and gloom, all too well know. It is of no use writing nonsense or we might declare a grudge against the weather for having not only robbed us of so much of the summer which was our due, but of so much prosperity that might have been ours, so much of natural beauty, so much of external pleasure, and not least so much of what conduces to bodily sustenance.

Our greatest trouble is that over which we have no control. Man may be said now to be able to command the most subtle forces of nature, and control them by his will for his own purposes, but still he cannot command or change the weather one iota. Worst of all it seems almost just as though the more man's command over nature's forces increase, the weather becomes all the more troublesome and erratic. It literally laughs at our helplessness, it rages at our presumption, and sheds tears all too copiously over our increasing powers. Yet there is not the least prospect that we shall ever command or control the weather in any degree.

The recent miserable weather has harmed everybody. We may say that could we control the weather, everybody would want something different, but at least there must have been entire unanimity as to the objectionable nature of our meteorogical surroundings for the past summer, and equally so a desire that from now till the end of September at least we may have fine warm weather. Perhaps those unfortunate persons whose annual holiday has been one of persistent rain would grumble a bit because others would be favoured. Still, few would they be, whilst all others would rejoice.

THE GLADIOLUS.—When the Rev. H. H. D'Ombrain gave a very interesting address the other day at the James' Street Drill Hall, respecting Gladioli culture, so far as his experience of that popular flower

went—and it must be admitted to be somewhat extensive—he naturally restricted his attention to the autumn-blooming section, of which he, as an Amateur, is such an admirable grower. Through the aid of Messrs. Kelway & Son, and Mr. Burrell, both of whom are trade growers in a large way, there was presented to the visitors to the Drill Hall at the same time a very fine show of Gladioli spikes, as good perhaps as will be seen anywhere this season.

But in spite of the fact that we have such superb varieties in cultivation and in commerce, that these Gladioli can be easily grown as Mr. D'Ombrain was enabled to testify, and also because they occupy but very limited space in the garden, yet they are but moderately grown. This section of the Gladioli will never become popular for market purposes. It blooms at the wrong time of the year, and the spikes of bloom do not accommodate themselves with any degree of convenience to ordinary decorative uses. If, however, we turn to the early or summer-blooming section—which it must be admitted do not win prizes at exhibitions—we find in the market trade a most popular class of flowers in the Colvillei section, especially the white and pink varieties. These never come into competition separately as Gladioli, but only in groups of cut flowers, or in vases or epergnes, for which uses these light graceful flowers befit admirably.

There is all the more use in calling attention to these forms just now because the time for planting is at hand. Out of doors in good deep soil the roots of the Colvillei, Cardinalis and Byzantine forms should be planted in October, whilst for pot culture roots should be got in from September till Christmas, so as to secure a forced supply all through the early winter and spring. For uses so important as these the autumn-blooming or Show varieties are of no service. They make grand displays now. That is all very well, but when in the winter and spring beautiful flowers are scarce, then the early-blooming Gladioli are invaluable.

To our Readers.—With the present number, which marks the commencement of our eighth volume, we present the index to volume seven, and take this opportunity of tendering our warmest thanks to the very many kind friends who by their valued contributions have greatly helped us to make the contents of that volume of wide-spread interest among the gardening community. Our best thanks are also due to those (and they are many too) who, appreciating our efforts to provide gardeners with a weekly budget of useful, practical information on all subjects connected with their calling at a popular price, have exercised their influence among their gardening friends in promoting the circulation of the paper, and so have greatly assisted in extending its sphere of usefulness during the past year. We thank them all most cordially, and hope we may continue to deserve a continuance of such valued support. It will have been observed by our friends that we have lately been located in temporary offices, but we are glad to announce that the inconvenience will only be of short duration, as at the end of the month we shall be established in more suitable premises than before at 1, Clement's Inn, Strand.

Mr. John Docherty, Fruit and Plant Foreman at Erskine House, Glasgow, has been engaged as gardener to John Stewart, Esq., Ballechin, Tullypowrie, Perthshire.

The Diamond Back Moth is reported to have made a descent upon the east coast of Scotland, and the sea gulls are helping to clear it off.

Mr. Samuel Bradley, for many years gardener at Elton Manor, Notts, and the raiser of Sir Joseph Paxton, Dr. Hogg, Amateur, Oscar, and other Strawberries, died on the 17th ult. at Littledales, in the same county.

Preston and Fulwood Horticultural Society.—The usual monthly meeting of this Society will be held in the Legs of Man Hotel, Fishergate, Preston, this (Saturday) evening, when Mr. Alfred Waters, of the Gardens, Hopwood Hall, Middleton, will read a paper on "The Use and Abuse of Watering and Syringing."

Mr. John Richardson, general foreman to Mr. Temple at Carron House, Falkirk, has been engaged as gardener to Lord Torphicken, Calder House, Mid Calder.

The Late Mr. H. J. Buchan's Collection of Orchids will be sold at Messrs. Protheroe & Morris's Rooms on September 25.

Mr. Edward Horne, late general foreman at Preston Hall, Dalkeith, has been engaged as gardener to H. Senhouse, Esq., Netherall, Maryport.

Mr. Alexander Smith, late gardener at Wheatlands House, Bonnybridge, has been engaged as gardener to J. A. Platt, Esq., Eishken House, Stornoway, N. B.

The Annual Trade Autumn Sales of greenhouse and other winter flowering plants conducted by Messrs. Protheroe & Morris will take place on the following dates:—September 11th, Messrs. Roberts Bros., East Grinstead; September 14th, Mr. H. B. May's, Edmonton; September 15th, Messrs. B. Maller & Sons, Burnt Ash Lane, Lee; September 16th, Mr. John Fraser, Lee Bridge; September 17th, Mr. John Maller, Enfield Highway.

Death of Mrs. J. W. Thomson.—We regret to hear of the sudden death, from failure of the heart's action, on August 4th, of Lydia, wife of Mr. J. W. Thomson, of Hortulan Lodge, Hayward's Heath, aged eighty years. Mr. Thomson, who was gardener to George III., and to the Duke of Northumberland at Sion House, some sixty or more years ago, has himself attained a great age, and his many friends will sincerely sympathise with him in his bereavement.

The Gale in Yorkshire.—*B. L.* writes:—The gale on the 25th and 26th ult. was one of the severest experienced for many years. Forest and fruit trees have been uprooted and limbed, as well as denuded of fruit, and the foliage battered. Main and late cropping Peas and Scarlet Runner Beans look as if they had passed through several degrees of frost. Cabbages and winter Greens look as if someone had been trying to screw their necks round. Chrysanthemums, Dahlias, and Sunflowers have snapped off at the ligatures. Indeed, the sight presented after the gale was enough to make the stoutest heart quail.

The Mustard Bug is reported to be exhibiting itself in an extraordinary degree in the Crowland and Deeping St. Nicholas districts of Lincolnshire. At Deeping near Spalding, a field of Mustard was cut which was badly infested, and as soon as the crop was down the Mustard bugs were to be seen crossing the roads in millions. They devoured everything in the people's gardens and made their way into the houses, and had to be swept out with brushes. The farmers at Crowland also report that the Mustard bug is becoming a dreaded plague.

An Italian Fruit Market in Hatton Garden.—A distinctly new departure, says a daily paper, is about to be made in the fruit trade in England, and one which will have a most injurious effect upon the English growers. It seems that the vineyards of Southern Italy have yielded such extraordinary crops that the fruit is actually being used for manure. It has occurred to the Italian Government that something might be done in the way of establishing a fruit market in London at which Italian fruits could be sold, and accordingly Hatton Garden, which is the centre of the Italian colony, has been selected for the initiatory part of the experiment. Fruit will be sent across weekly by the Anglo Steam Navigation Company's vessels, and will be retailed at Hatton Garden to Italian subjects, to whom the Italian Government will make small grants for the purchase of vehicles to take their purchases round the metropolis in the same way as they now take their ice-cream barrows round the suburbs.

Aster Novæ-angliæ pulchella.—The flower heads of this form are large, blue shaded with purple, and produced in flattish corymbs terminating the stems, which are 3 ft. to 4 ft. high, and flower much earlier than those of the variety A. n.-a. rubra. The latter has very tall stems, rose or red flowers produced in a more elongated raceme or panicle. All of the above may be seen in the gardens of the Royal Horticultural Society at Chiswick, where they are now flowering.

THE INTERNATIONAL SHOW AT EDINBURGH.

On Wednesday, Thursday, and Friday next the Great International Fruit and Flower Show to be held in the Waverly Market, Edinburgh, will provide a great fund of interest and attraction for horticulturists from all parts of the Kingdom, and more especially for our Scottish friends, who know so well how to carry out exhibitions of this kind, and to appreciate their great value as a means of promoting the advancement of horticulture. This is the fifth great exhibition which has been organised by Scottish horticulturists, the previous ones having been held in 1865, 1869, 1875, and 1883, and it is gratifying to know that the show to be held next week promises to eclipse all the others both in extent, the range of subjects to be exhibited, and the value of the prizes to be awarded.

We learn as we go to press that the demand for copies of the schedule has been unprecedented, showing the keen interest which is taken in the matter by exhibitors in almost every county in the United Kingdom. The entries, which closed on Wednesday, also show a marked advance on the numbers at previous displays of the same kind. It may almost be taken for granted that Grapes will be the leading feature in the fruit section, although not so distinctly prominent as at the previous "Internationals," owing to the greater amount of attention that has been paid beyond the Tweed to improvement in the cultivation of other fruits in recent years. Hardy fruits especially will be a fine feature doubtless, as we understand that, beyond the house-grown fruits, several of the large southern growers have intimated their intention of exhibiting. Vegetables, and especially Potatos, for which handsome prizes are offered, are likely to be shown in unprecedentedly great numbers, and they are usually of great excellence at Edinburgh.

We may add for the information of intending exhibitors and visitors, that all exhibits must be staged by 8 o'clock on Tuesday evening, so that the judges will have a clear course when they commence their arduous duties at 6 o'clock on Wednesday morning. Gardeners will be admitted as usual at 9 a.m., and the exhibition will be opened at 12 o'clock by the Rt. Honorable Viscount Melville. May the weather be propitious, and the measure of success a bumper!

WHAT IS A FRUIT OR A VEGETABLE?

"J. F." asks, What is a Fruit and what is a Vegetable? *Answer.* All plants in the vegetable kingdom produce fruit. Of such fruits some (1) are regarded and used as fruit proper, and are consumed raw with pleasure to the sense of taste, or in pies or tarts, preserves or jam, or in sauces, and are popularly called *Fruit.* (2) Other fruits are usually consumed *cooked*, with or without flesh meats, as Potatos [?], Tomatos, &c., and are usually consumed in the earlier stages of the principal meal of mankind, to wit, *dinner*, and are popularly termed *Vegetables.* Vegetable Marrows come under this head, and Cucumbers too, as forming part of salads, or as consumed with fish. Melons are *fruit.* Fruit appears mostly at the end of a feast as dessert.

Examples:—Potatos go with almost all meats. Tomatos may be eaten raw as an apple, if you like, and if you like it you may call them Love Apples, but chops and Tomato sauce is a more typical form of consumption. I call Tomatos vegetables. Would any one suggest rump-steak and Cherries, or Peaches, or Pine Apples? Olives, perhaps, are the only puzzlers. They improve some fricassees and ragouts, and they are eaten alone at dessert. Quære to improve the *taste* of wine, or immorally (ehem!) to provoke a thirst for more wine. The decision of what is a vegetable or what a fruit may at shows be left to the common sense of the judges, whether Market Gardeners or Amateurs.—*Francis.*

Your correspondent "J. F." leaves this still an open question so far as the Tomato is concerned, and it would settle a vexed question as to the admission or not of the Tomato in a collection of Fruit, if a general understanding could be arrived at and the question solved for the guidance of judges in the future. I know of a recent instance when a collection of Fruit was disqualified by able practical gardeners, on the ground that the Tomatos staged in the collection were vegetables, and this opinion was very generally upheld by several horticulturists

For myself, I am not prepared to admit that the Tomato is a fruit in the general acceptance for dessert purposes, or for tarts or puddings or using with sweets and pastry, any more than the Cucumber. The Melon is a fruit, as it is not of any value whatever excepting when ripe, and only then for dessert. I think that whilst we have a large number of varieties of fruits to select from, we should discourage the use of Tomatos in collections of Fruits; and if general custom was to sanction their use, well then I think they should carry very little weight. I should like to see through your columns a large expression of opinion on this subject, because the sooner the matter is settled the better, and an opinion by postcard even to the Editor may be tabulated for publication.—*An Old Judge.*

A PRIVATE GARDEN IN MASSACHUSETTS.

While on a visit to Boston recently, I chanced to meet one of the assistants at Oakley Hall, Watertown, a fine old place owned by a Mr. Pratt. We boarded an electric car, which soon carried us out of the city, through the small town of Cambridge, past Mount Auburn, with its magnificent cemetery, and onwards between fields of Sweet Corn and Tomatos, until we are set down within a few minutes' walk of our destination. Proceeding along a well-kept carriage drive through the extensive park, thickly studded with shady trees, we soon arrived at the glass structures, and I was immediately ushered into a long lean-to house containing a wealth of Asparagus plumosa growing up a trellis on the back wall, a large collection of Dendrobium nobile, perhaps the finest in the country, and some fine plants of various species of Cypripedium.

The next house also contained Dendrobiums, amongst which D. Wardianum was most conspicuous, and a newly-imported batch was lying patiently waiting for treatment. Then came a cool house containing Masdevallias, and fine young healthy plants of Odontoglossum Alexandræ and O. vexillarium. The latter, I was told, were gorgeous during the spring months, and a few stray blooms with their rosy lilac sepals and petals and large spreading lip of deep rose pronounced them to be worthy of extensive cultivation for decorative purposes. A large span-roof house held several hundred plants of that noblest of Maidenhair Ferns, Adiantum Farleyense, and their fine fronds showed skilful management. They are potted in equal parts of half-decayed leaves and loam, and they seem to delight in this compost. When it is desired to raise a large quantity they cut up several old crowns into small pieces, and place them in a bed of sand with bottom heat, taking care to cover the cut part. In a short time an abundance of young plants is ready for growing on. Here, also, I observed Nepenthes ampullacea and N. distillatoria, bearing any quantity of their curious pitchers. On a side stage, too, were some fine specimens of Cattleya Mossiæ. We next entered the vineries. The Hamburgh house contained many fairly well finished bunches, and many had been cut from it previous to my visit. The Muscat house was carrying a heavy crop, but shanking was making havoc amongst them. The two late houses were also good, containing such well-known sorts as Black Alicante, Lady Downes, and Alnwick seedling. Looking over the frames, my attention was drawn to a batch of over one thousand Cyclamen persicum, fine young stuff; also a similar quantity of Gloxinias, planted out in a compost of rough leaves and turf, and which were growing away in good style. A lot of Begonias were treated in like manner. In the flower garden I was much struck with some beds of showy Cannas, a very popular sub-tropical bedder in this country. One in particular, Star of '91, a new variety, with bright green foliage and terminal clusters of bright scarlet flowers, had a decided advantage over older varieties in size and colour. The Cannas are a most useful class of plants for massing in large beds or planting in borders, their foliage and flowers being exceedingly ornamental. They are easily propagated from seed, better still by division of the root stock, and can be stored over winter in moist sand. I observed, also, two beds of the almost stemless Yucca filamentosa, with spikes, five feet high, of tulip-shaped creamy-white flowers. A line of Sweet Peas, Blanche Fairy, a dwarf variety, ran the entire length of the garden, and was one mass of pink and white blossom.

In the vegetable patch, Melons, Cucumbers, and Tomatos were growing luxuriantly. The Celery, but recently sown, was showing itself above ground. Mr. Allan, the head gardener, a clever all-round practitioner and a keen orchidist, hails from Banffshire, and his assistants also belong to the north of Scotland.—*Jas. S. Reid, No. Cohasset, Mass., Aug.* 13.

FLORICULTURE.

Mule Pinks.

Mr. John Forbes, Buccleugh Nursery, Hawick, has just sent me a collection of flowers of pretty varieties of Mule Pinks, with their bold trusses of small, well-sized blooms quite double, and freely produced. If they were only fragrant! but then many Carnations do not possess this desirable property, the grand yellow self, Germania, among them; and, after all, I dare say Nature is pretty right in so forming some flowers that they are scentless. If all were fragrant we should be overcome with the weight of perfume, and die of highly-scented asphyxia.

Foremost among the batch sent are Napoleon III., with its rich bright scarlet-crimson flowers; Abbotsford, laced, intense rosy pink, fully double; Miss Paterson, rosy purple; Marie Parc, pure white; and a small-flowered form, probably an unnamed seedling; a very useful batch.

The Mule Pinks are grouped under the head of Dianthus hybridus, but how or where it originated I cannot say. It is given as a native of Britain, and it is generally supposed the first form originated from a cross between the Carnation and the Sweet William. They make excellent border plants. They are very free and remain for a long time in bloom; and, perhaps, of all the members of the tribe they render the best floral service to many, because the period of blooming extends over a considerable period. It would not, perhaps, be difficult to make up a list of a dozen or so varieties, and additions are occasionally made by fresh introductions from the Continent, but the two most grown are Napoleon III. and Marie Parc. Unfortunately, like the Carnation, generally a severe winter, like that of 1890-91, is injurious to the plants, but they appear to stand as well the rigours of an ordinary winter as do the Carnation.

The foliage of the plants resembles that of the Carnation; the leaves are narrow and grass like; when planted out in the open border they form a dense tuft of compact dark green herbage, attaining to some six or eight inches in height from the surface of the ground, but some varieties grow stronger than others. From this herbage is produced numerous flower stems, which reach to the height of a foot or more; they are sturdy and freely branched. They are produced successionally, and so form pretty and welcome subjects.

These Mule Pinks can be readily propagated by means of cuttings, which can be formed of the grass thrown up by the plants. The shoots can be taken off in July and August, put into pots in a light sandy soil firmly pressed down, and rooted under a hand glass or in a cold frame; or when the plants have gone out of flower they can be lifted, divided, and planted out, placing a little sand or cocoa fibre about them to induce them to root; and I cannot see why these Mule Pinks should not be potted up and brought into bloom for decoration in early summer. I think it will be useless to attempt to force them; they should be brought on slowly in a cold frame or greenhouse, keeping them clean and robust and well tied out so as to make handsome specimens. I am quite sure they are worth a trial. I may add that at Ascott Park Mr. John Jennings grows Napoleon III. very largely for border and pot work for cutting, and finds it exceedingly useful.—*R. D.*

Chrysanthemums.

Those who intend layering a portion of their Chrysanthemums should commence the operation now. Make little mounds of light soil around but at some distance from the plant to be layered. Then strip off a few of the leaves of the stems to be layered, at a point a little below where the laterals branch away. The stems should then be tongued in the same manner as is done with Carnations, making the cuts, however, about two or three times as long. Peg down the shoots and cover them with about 6 in. of soil. Keep the soil moist by watering, and in the course of a few weeks a sufficient number of roots will be formed to warrant the separation of the young plants from the parent stool and potting them up.

SCOTTISH NOTES.

Rosehaugh, Inverness.—There are few places more worthy of a visit than the lovely seat of J. D. Fletcher, Esq., as not only are the grounds brimful of interest to the lover of gardening, but at every turn new scenes open up to view, developing the grandeur of the situation. When standing in front of the mansion with Mr. Mackie, who is the gardener in charge of this magnificent place, and looking eastward, grand views of Fort George and the Moray Firth are seen; on the south and west, is some fine agricultural land, surrounded by numerous hedgerows, studded with trees, varying in shade, and making a landscape that baffles description Turning northwards, new objects of great interest come into view. A huge mountain skirts the rear of the mansion, covered with trees of various shades,—a grand subject for a skilful artist. The flower and kitchen-gardens at the time of my visit were full of great promise, and reflected much credit upon Mr. Mackie for his skilful management.

A move is made towards the houses, the first visited being the Fernery, a large structure 50 ft. long, and 20 ft. wide; the rock-work in which is composed of the old red sandstone manipulated with great taste and ability. In the centre of the Fernery there is a serpentine lake, and on each side there are some grand Dicksonias with a splendid spread of fronds. The rock-work with its numerous pockets of interesting objects, its waterfalls and cascades, is full of never-ending interest. A long time might be spent here with profit to the admirer of all that is beautiful in a Fernery. We next enter the Palm house, an immense structure, with a spiral staircase and balcony, from which an excellent view of the gigantic Seaforthias, Latanias and Kentias can be obtained. Many of them tower away 30 ft. high and have a spread of 20 ft. Pushing onwards, the Orchard houses are reached, in which there are numerous Pear, Apple, Plum, Cherry and Peach trees bearing immense crops of splendid fruit, which is in great demand during the London season.

The next house in order is the cool Orchid house, with numerous occupants in bloom, viz: Odontoglossum Alexandræ, many fine plants, O. Pescatorei, O. maculatum, Epidendrum vitellinum, etc. The Todea house follows, and here are many grand specimens of various species, all so delicate that they will on no account endure the rays of the sun. In this house there is a sensible contrivance for moistening the inmates; a perforated pipe runs along the roof, and by merely turning a tap a gentle spray of moisture pervades the entire atmosphere.

Adjoining is the Phalænopsis house, a fine modern structure (built specially for Phalænopsis), containing some fine pieces of P. Schilleriana, P. amabilis, P. Stuartiana, P. Sanderiana, etc. In successional order comes the Fig house, in which the varieties grown are Brown Turkey, Negro Largo, and White Ischia. Then come the Peach houses, early and late. The early crop was gathered in the second week in June. The sorts grown are Early Alexander and Barrington Peaches and the Elruge Nectarine. Passing from the Peach house, a spacious greenhouse is entered, which is well filled with numerous choice plants. Another step brings us to the early Vinery. Each vine carries nine bunches averaging four pounds each—not a bad weight—and the Grapes are well finished in every respect. They are not only fitted for the dinner-table, but would stand high in the exhibition tent. In close proximity to the early Vinery are the two late Vineries, and the Muscat house, the crops in each being similar to the early one, for quantity and quality. A few steps further, and I am in the Vanda house, admiring the grand specimens of V. tricolor, V. suavis, V. Parishii, etc. From here I was conducted into the intermediate house, thence to the Cattleya house, the inmates in which are too numerous to mention individually, suffice it to say that it could be seen at a glance that the same master hand guided all gardening operations. Making another move forward the forcing pits and stoves are reached. This range is indispensable where the demand for fruit, flowers, and vegetables is made at all seasons of the year. —*J. McNab.*

Galtonia candicans.—The hardiness and showy nature of this plant should be an incentive for every lover of hardy plants to possess it. At a distance the tall scapes and white flowers remind one of the Tuberose, but the drooping, bell-shaped perianth is much more graceful and attractive. The flowers undoubtedly attain the largest size and purest colour in the southern counties, but their beauty even in the north is sufficient to warrant the cultivation of this ornamental bulbous plant.

NEW & RARE PLANTS.

At the meeting of the Floral Committee of the Royal Horticultural Society on the 25th ult., new Dahlias were pretty numerously shown, and the greater number of certificates awarded went to varieties of that now popular class. We give descriptions of them below. The new orchids certificated on the same occasion are described under "Orchid Notes and Gleanings" on page 10.

Cupressus arizonica.—Judging from the name, we should think this Conifer has been imported from Arizona, or the district of that name on the southern borders of the United States not far from the head of the Gulf of California. A plant of it about 3 ft. high was exhibited by Messrs. J. Veitch & Sons, Chelsea. The leading stems were upright, giving off lateral branches of a twiggy nature, making the whole a compact, columnar mass. The leaves are subulate, acute, awl-shaped, and free for about a third or half their length, the rest being adnate to the branches. The whole plant has a glaucous appearance, which as well as the above description, would apply to the juvenile state of the plant. The branches and leaves are similar to those of Juniperus mexicana. The plant is hardy. First-class Certificate.

Hypericum moserianum.—This is described as a hybrid between two allied and shrubby species of Hypericum by its continental raiser. The leaves are ovate, obtuse, deep green above and glaucous beneath, and similar in general aspect to those of H. oblongum. The young shoots are terate, red, and terminate in cymes of large bright yellow flowers. The petals are broadly obovate, rounded at the apex and much overlapping. The stamens are very numerous, yellow and tipped by red anthers, which give the flowers a handsome effect. It is very unusual for the species of St. John's Wort to have red anthers. Cut flowering sprays were shown by Mr. A. Waterer, Knap Hill, Woking. First-class Certificate.

Gladiolus Thalis.—The ground colour of this variety is of a China white. The outer segments are of great size, arranged in the form of a triangle, and the outer edges are slightly marked with purple. The inner segments are much smaller with a large reniform purple and crimson blotch across the centre. There were five open flowers and twenty buds on a spike of the specimens exhibited. Award of Merit.

Gladiolus Bias.—The flowers in this case are of medium size, and salmon shaded and striped with scarlet towards the margin. The two lower and inner segments have each a large crimson blotch on the centre; sometimes there is only one segment with a crimson blotch. The anthers are bluish. Award of Merit.

Gladiolus James O'Brien.—The specimens of this exhibited showed about eight open flowers on the spike and twelve well-advanced buds. The flowers, which are notable for their great size, are striped or flaked with scarlet towards the margin, where they are tinted with blue at the edges, especially when they first expand. The anthers are pale blue or violet, and most conspicuous before they burst. Award of Merit. All three varieties of Gladioli were exhibited by Messrs. Kelway & Son, Langport.

Carnation La Neige.—The flowers of this Carnation are of medium size, pure white, and fragrant; the latter quality is by no means so common as it ought to be amongst Carnations of the modern types at least. The petals are neither too crowded nor numerous. The stems may be considered dwarf, being only 12 in. to 15 in. high, and they seem to have the habit of producing shoots all along their length. These shoots would be highly suitable for cuttings, but would offer some difficulty in layering till after the flowering period, when the stems could be laid down. The variety will prove useful for border work. It was shown by Mr. T. S. Ware. Award of Merit.

Carnation Mr. C. R. Humbert.—This is also sometimes called Red Jacket, and is a border variety. The flowers are of medium to large size, and are of a deep crimson with a paler centre and not unlike those of the Old Clove, but rather smaller, and the petals have rounded and rather deep indentations. Cut flowers of it were exhibited by Messrs. Dicksons, Limited, Chester. Award of Merit.

New Dahlias.

St. Catherine.—This belongs to the Cactus type of Dahlia, and has large blooms for that class. The florets are ovate, accuminate or drawn out to a long point and yellow, or the outer ones are lightly shaded with crimson.

Kynerith.—Here again the florets are loosely arranged and drawn out to a long point as they should be in a Cactus Dahlia; they are also somewhat twisted, and of a deep crimson-scarlet.

Baron Schroder.—The florets in this case are red, shaded with purple at the apex, and sometimes revolute at the sides. The heads are of a good average size for a Cactus Dahlia, and the florets loosely arranged. All three were exhibited by Messrs. Keynes, Williams & Co., Salisbury.

Swanley.—The heads of this Cactus variety are of small size with long pointed florets, revolute at the side, sometimes a little twisted, of a deep or rich scarlet, and project on all sides like so many bayonets.

Robert Cannell.—The florets in this case are also pointed, revolute at the sides, red and distinctly shaded with violet purple on the upper part. The heads are of medium size for a Cactus Dahlia, and of fine shape, with the florets projecting on all sides. Some look upon this fine variety as being a step towards a blue Dahlia. Seed sowing and selection may ultimately result in a flower with a considerable amount of blue in it. Both sorts were shown by Messrs. H. Cannell & Sons, Swanley.

Delicata.—The heads of this Cactus variety vary from medium to large size, and are of a delicate but pleasing lilac pink. The florets are ovate or lanceolate with long, flat points. The heads have a yellowish tint in the centre when opening, but they soon give place to the normal hue. The variety was shown by Mr. T. S. Ware, Tottenham, and attracted some amount of attention.

Miss Glasscock.—The ray florets of this single Dahlia are blush-lilac with broad, clear-purple edges, and are very distinct in their way. They are also obovate-elliptic, of great breadth, overlapping, and slightly recurved at the ends.

T. W. Girdlestone. — The heads of this are smaller than in the last case, but also single. The rays are white with deep crimson-purple edges, and the disc is yellow. Both were shown by Messrs. J. Cheal & Sons, Crawley, Sussex.

Mrs. McIntosh.—The heads of this exhibition variety are large, globular, and yellow, shaded with light crimson on the outer face of the florets, which has the effect of giving the flower as a whole a buff yellow hue. The shape is good and the centre full.

John Rawlings.—In this we have another large exhibition sort, very full, regular, neat, and of a uniform lilac-purple.

Mrs. Lewis Standbridge.—The heads of this variety are also of large size, and golden-yellow when quite young, but as they get older they become of a pale clear yellow, commencing with the outer and older florets.

Arthur Ocock.—Like the last-named this is an exhibition variety, rather larger in size than either of the others, neat in form with somewhat compressed florets of a deep red. All the four were shown by Mr. Arthur Rawlings, Romford, Essex.

John Walker.—Amongst show varieties this must take a leading place as a good white. The heads are of large size, very neat, and the florets are rounded at the apex with cuspidate tips. A stand of blooms was shown by Mr. J. Walker, Thame, Oxon.

All the above received Awards of Merit.

THE VEGETABLE GARDEN.

Scarlet Runners.

In some parts much difficulty is experienced in procuring stakes for Scarlet Runners, and except where it may be desirable to grow them as much to blind unsightly objects as for their delicious pods, I would not use stakes at all. At no time since I had charge of a garden have I ever staked Runners where they were grown for use alone—topping back the growths as they require it, and gathering the Beans as early as they are fit for use is the only attention we give them after the seed is sown. Two sowings, one at the end of April and other late in May, meet all our wants till frost cuts them down, and then the dwarf system has an advantage, as protection can be given in a way which is not practicable with staked plants. I never grew Runners under glass, but think where French Beans are grown in cold frames or pits unheated, Runners might supplement them, as they are more hardy than their relations Kidney Beans. A line which we sowed for first crop has been in flower for some weeks back with good effect. They are in front of a row of dwarf Dahlias (3½ ft. high), which have also been in flower since they were planted out at the end of May. While the Dahlias are serviceable for hiding off some low growing vegetable crops the Runners are not insignificant associates with them.—*Stirling.*

Potatos.

It would be premature to attempt to give an opinion as to what the value of the Potato crops is likely to be when lifting takes place, meanwhile the vigour of the shaws, in many parts, is almost unnatural. Some varieties of dwarf compact growth under ordinary circumstances have tops huge and coarse, and where they have been planted somewhat closely together I fear the quality will be inferior. Where the space planted is of limited dimensions much can be done to let in light and air to the soil by the removal of a goodly portion of the tops—they can be cut over under the surface of the soil without damaging the young tubers. The thinning practice is not uncommon, but is done early in the season when the growth is young and tender. The most serviceable kind—Sutton's Abundance—has grown beyond recognition, and Veitch's Ash Leaf (procured from a source which warrants its being true) has grown to prodigious proportions, but the crop is excellent and the quality first-rate; they were in rows wide apart. It would be interesting to know what might be the cause of the gross growth this season, on heavy and light soils and at lofty altitudes as well as on land level with the sea.—*Stirling.*

A New Pea.—Superabundant.

This is a first rate variety which deserves its name, and is to be sent out next season. It is the result of a cross between Ne plus ultra and Eckford's Fame, grows not more than 3 ft. high, with a long broad handsome well-filled green pod, which will just suit exhibitors, as it has also the Ne plus ultra flavour, and fills closely to the utmost extent of the pod. It is also a great cropper, and grown singly in bush form as Mr. Eckford has it at Wem, it is a sight to behold. It will be found to be an all round first class variety for general use.—*W.D.*

A NEW CHINESE LILY

Lilium Henryi.

Undoubtably the most important of recent additions to the genus Lilium is L. Henryi, of which our illustration shows the inflorescence. It was discovered in Western China by Dr. Henry, who has been instrumental in adding largely to botanical science by the numerous specimens which he has collected and sent home from that district. Dried specimens reached Kew in 1888, and bulbs were subsequently sent by Mr. Charles Ford, of the Hong Kong Botanic Garden. Having flowered last year and again this summer, the horticultural value of this Lily has pretty well been determined both as a pot plant and in the open ground. It adds a new species to the Archelirion group, which includes such handsome Lilies as L. tigrinum, L. auratum, and L. speciosum.

The affinities of the plant are pretty close with the last named, while the size, shape and colour of the flower are suggestive of L. tigrinum. The leaves are scattered upon the stem, lanceolate, five to seven nerved, of a dark, shining green, recurved and 6 in. to 8 in. long. The uppermost ones are ovate, very short, and somewhat crowded under the inflorescence as shown in the illustration. On the whole they would seem somewhat intermediate between those of L. speciosum and L. auratum, and therefore broader than those of L. tigrinum. The stems vary from 2 ft. to 3½ ft. in height, and bear a corymb of two to eight flowers, according to the strength of the plant; the lower peduncles often bear a secondary flower, and as it gets more established this branching habit of the inflorescence may increase.

The flower stalks stand out at right angles from the main axis, and the large blooms hang face downwards, with lanceolate recurved or slightly revolute segments. The latter are almost of a uniform clear bright orange for some time after expansion, with a

few crimson spots and streaks on either side of the midrib on the lower half. They also possess a few papillæ, or tubercular outgrowths near the base, as seen in L. speciosum, and the base of the midrib being green the centre of the flower appears occupied with a short six-rayed star. The species is almost certain to become popular with gardeners and others throughout the country.—*J. F.*

FRUIT GROWING AS AN INDUSTRY.

(Continued from page 832, Vol VII.)

In the matter of the choice of kinds it seems necessary to utter a word of warning against the practice generally followed of choosing a great number of different varieties for the mere sake of multiplying sorts. It is much better to select such few good sorts as will meet the possible demands you are called upon to satisfy. Avoid, then, needless multiplication of kinds. The imported fruits, as received both from America and Tasmania as well as from other Edens over the sea, teach us this lesson emphatically. Having named half a dozen kinds you have nearly exhausted the types of the splendid American fruits which reach us, and though I would not wish to suggest a strict limit or to define it I would certainly say it would be better in making out a list to be nearer six than sixty, that is of a given kind of any particular fruit, for I am not now suggesting that a fruit grower should grow nothing else but Apples. I would strongly urge that he should go in for general cultivation of Apples, Pears, stone fruits, berries, and some of the choicer vegetables, including Mushrooms and Tomatos, for all of which there is a constant and increasingly heavy demand.

It is desirable to have plans so arranged that no particular season is so overcrowded with pressing work as to necessitate neglect of some other department calling for labour and immediate supervision. In cases of this kind it is usual that after this over-pressure there may come a period of prolonged feeble activity until the return of the time when a renewed outburst is needed to put matters upon a clear basis again. This may be said in another way by exhorting the fruit grower, in the language of the familiar proverb, "not to carry all his eggs in one basket." He should be able to spread his resources with tolerable evenness over the longer period of the working days of the year, or in the busy time of the preparation for the market and the attendance there will constitute such a crowded day as will render attention to home duties—to the necessary demands of special growing crops—an irksome toil, an attempted futility, and must mean loss of money and repose of mind, of pleasure, of peace, and of profit—pleasure, which every man's calling ought to give him, or he is better out of it; of peace, which every man's life must have in some measure, and might have in fulness; and of profit, without which we are unable to provide for the stern necessities of an existence demanding at least food, clothes, and shelter. With everything properly balanced, and with due regard to daily duty, there should follow that best of all rewards on the earthly plane—health and contentment. It is not every industry that can offer such advantages.

It will be remembered that the grand Carlylean maxim was, "Produce! produce! produce!" This is a splendid utterance of the wonderful old rugged prophet and sage philosopher, whose writings are rightly counted amongst the most precious treasures of our literature and philosophy. Carlyle's maxim is timely. Its counsel is greatly needed in our present age. It is a healthy tonic for the present day lassitude—a stimulus for the weary languor which seems to be creeping into the labour ethics of the end of the century. My brief remarks find focus in the same idea. The fruit growing idea is "Produce! produce! produce!" We are aiming at production. And this opens out the next phase of the subject to which I must briefly allude. Production includes at least two phases—quantity and quality. Whilst we aim for both we must insist upon quality. Let me write this out in capitals—insist upon quality. There is little room now for, and less profit upon, anything in the way of fruit that is not up to the mark as to quality. Soon there will be no ready market for anything but that which can be branded "A1," and I believe the day will never come when good fruit, well grown and carefully packed, will not find an eager market demand and a ready sale at profitable prices, but we have to make steady and great advancement in this respect. I hope the day may come when fruits can be offered and bought by sample, when the fruit grower need not stand idle in the market place behind his hampers waiting the whim of the purchaser, who in his turn is likely waiting for the decline of the day and corresponding decline of prices, a process which often goes on to save the necessity of carting home the unsold produce. Why not sell the fruit by sample as grain and other produce of the earth can be sold? Why can I not buy British fruit of a certain brand and a certain quality? This must come together with improved market methods, central agencies, increased railway facilities, and other blessings for which we are waiting, and which a future organization connected closely with this industry must take in hand with determination.

There are other questions, such as fruit preservation, upon which I should have liked to have touched, but in a subject so wide we must leave certain tracts of interesting territory marked like the maps of the world, "unexplored." Fruit as food might be favourably and profitably discussed—in a double sense, if you like—but this must wait another opportunity. There are other points, too, connected with the industry from a Government point of view—as, for instance, the fact, that whilst the fishery industry receives State aid, no such helpfulness is rendered to this, I venture to urge, more important industry of fruit growing. Another interesting and peculiar fact is, that whilst in some countries there is a Government supervision of orchards, and an insect infested fruit grove has to be reported to Government officials, so that the plague may be stamped out before its harmful influence is extended, our own Government at home limits such precautionary measures to swine fever and foot-and-mouth disease.

But upon these and other points such associations as the British Fruit Growers' Association, under the auspices of which I am permitted to-day to address you, are always ready to seize, and from this Association and other similar societies whose record of past work, though necessarily brief, as the history of the movement is brief, is as yet a noble testimony to good service actively rendered with most satisfactory results—from this Association and other organisations I look, with a full hope, for the better day which I am persuaded is about to dawn. There are pessimistic growlers who see puzzles and problems everywhere, men who have neither peace nor patience, who never get to the tops of the mountains, but mope and maunder in the mist at the foot of the hills, and say solemnly and drearily that the sun is always obscured by the rain cloud, and the breath of the wind is full of a blight curse. The Book of Job is believed to be one of the oldest books in earth's library, and you find Job's comforters were children of yesterday. They are with us to-day, and they are likely to be here to-morrow. We can pity them, but we can also afford to largely ignore them. To the right minded and the right hearted this industry—this movement is a splendid fact in the world's welfare. We do not consider the matter entirely from a pounds, shillings, and pence point of view. In speaking of an industry it is necessary to keep this in view, but there is another side to this question, a most important one. The future happiness of the nation, and other nations, for the subject is too large even for a nation—it is international in in its best, its highest aspects—the happiness and welfare can be, must be, largely influenced by an extended practice of fruit growing, involving of course an implied effect of this system, a largely increased use of fruits as the food of the people. There are weary eyes aching over the needle night after night, to these there is little to look at of this beautiful world—only the dull dim street; there are heavy hearts which hear no semblance to music, save the dinner bell at the factory; there are languishing spirits in close crowded courts fainting for the breath of the breeze. Toilers these in the towns whose lives are almost without hope. Open the gates of Arcadia! Lead the children out into a peopled paradise.—

Edmund J. Baillie, Chester.

LILIUM HENRYI.

THE HERBACEOUS BORDER.

Choice Plants in Flower.

ACHILLEA MILLEFOLIUM ROSEA.—The ordinary white-flowered form of this plant is passed unheeded as vulgar and common, although it would doubtless find admirers were it a foreign instead of a British weed. There can be no question as to the beauty of the rose-coloured variety, for the ray florets although short are rich in hue, and the heads being produced in close flat corymbs, the whole is exceedingly attractive. In several northern districts it is one of the favourites in stands of herbaceous flowers. The umbels are also often used in bouquets of flowers. In fairly good soil a succession of bloom is kept up for several months during summer.

DIANTHUS SEGUIERI.—During the latter part of summer the border or rockery is rendered very gay by the large and abundant flowers of this Pink. The petals are wedge-shaped and of a bright rose, with about three crimson spots or sometimes a wavy band of the same colour across them a little above the base, and just where they are furnished with a beard of hair. Propagation should be effected by means of cuttings in the early part of the year, because nearly all the stems run to flower, and there is consequently a dearth of cuttings at present. The plant is, however, a long-lived one, throwing up fresh growth from the same rootstock for a period of twelve or fourteen years at least without any apparent diminution of vigour. Nor does it make much increase during this time, and the stems die down completely in winter.

SILENE MARITIMA FLORE PLENO.—The single forms of this plant is very pretty with its large white flowers and netted, inflated calyx sometimes of a deep red. The double form is notable for the great size of its flower heads. The stems are never of great length even when grown in good soil, but they assume a spreading or almost procumbent habit, due in part to the weight of the large flowers. The glaucous or sea-green foliage is evergreen, very neat and conspicuous.

HELIANTHUS MULTIFLORUS MAXIMUS.—The stems of this garden form of H. decapetalus are 5 ft. to 6½ ft. high, and therefore quite away from the normal character of the old plant with double flowers, and which seldom exceeds 3 ft., as may be seen in cottage and other gardens as well as parks everywhere at the present time. The heads of the plants under notice are single and measure 4½ in. to 5½ in. across, while individual rays in two overlapping rows often measure ¾ in. to ⅞ in. across.

EPILOBIUM ROSMARINIFOLIUM SERICEUM. — The variety here mentioned differs from the type in its linear leaves being densely clothed with a silky pubescence, imparting to the plant a hoary appearance. The flowers are of a soft rose colour, lined with darker veins, and when produced in quantity are very attractive. The stems vary from 18 in. to 24 in. in height, and branch freely above the middle so that a small plant forms a good bush. Division of the rootstock is easily effected in spring or autumn.

BOCCONIA CORDATA.—The abundant rain of the past summer has been very favourable to the growth of this plant as far as height is concerned. In good rich but well drained soil the stems will be developed 6 ft. to 8 ft. high. The flowers are small for a Poppywort, but numerous, and of a creamy-white and showy in the mass. The large cordate and lobed leaves are glaucous above, whitish beneath, and attain such a size in some seasons as to have a subtropical appearance. A variety with smaller, darker coloured leaves, and more decidedly straw-yellow flowers, is sometimes grown in gardens under the name of B. japonica, but the difference is really very little. The plant may be increased from suckers which it throws up freely from the root, or possibly by root cuttings.

HELENIUM PUMILUM.—This is usually considered to be a variety of H. autumnale, from which it differs by its much dwarfer stems (6 in. to 18 in.) and larger bright yellow flower heads with broad three parted, overlapping rays. The length of time during which it keeps in bloom is remarkable, and extends from early in summer till late in the autumn provided the plants are grown under favourable conditions in good soil, with a sufficiency of moisture, so as to keep the rootstock throwing up young stems which in their turn produce fresh flower heads.

PRUNELLA GRANDIFLORA.—Some authorities consider this as a variety of the common All Heal (P. vulgaris) of our meadows and pastures. There is a wide difference, however, both in the size of the leaves and the flowers. The leaves of the former are oblong or ovate with a cordate base, and distinctly toothed. The large helmet-shaped flowers are of large size and rosy-purple; they are produced in terminal and auxiliary, dense oblong spikes, and develop in succession. The plant is hardy and very easily increased.

THE SNEEZEWORT ASTER.—When grown in good soil Aster ptarmicoides produces heads of an appreciable size in terminal corymbs that might easily pass for a species of Achillea resembling A. Ptarmica, after which it is named. Being now at its best it precedes the large majority of the perennial Asters that are of any real decorative value. Coming as it does when other flowers are plentiful it loses much of that appreciation that would pertain to it if the flowering period was October instead of August. The white rays surround a creamy-white disc, so that on the whole the Sneezewort is pretty closely imitated. The stems are generally about 18 in. high, and furnished with long, linear, deep green leaves. If grown in a herbaceous border the second line would be the best place for it. Increase is very slow, a few stems only being produced even when the plant has been established for several years, so that no fear need be entertained in introducing it amongst a select collection of plants. A piece of it may be seen in the collection now on trial in the gardens of the Royal Horticultural Society at Chiswick.

NOTES ON FRUITS.

WANTED—A CROP OF PLUMS.

I should be glad if the writer of the item "The Plum Crop," on page 808 of your last volume, could tell me why, in this fruitful year for Plums, I have only four off ten bushes, averaging 5 ft. high, on a south border, with a wall and a hedge behind of 8 ft. The soil is inclined to clay, yet very porous—to write "fine," say decomposed arenaceous shale; this was trenched 3 ft. deep, and well mixed with old leaves, the cleansings of an old big sewer, and the trees were four years old when planted four years ago, yet they have never borne one Plum till this year, when I find one on Jefferson, and three on Victoria. Besides this experience, I had from Messrs. Rivers a dozen cordons, but I have never had one Plum on them. The trees are pictures of health, but that's not satisfaction enough, there's no fruit. Seeing in one of your issues that lime was a good thing for all stoned fruits, I have mulched all my Plums and Cherries with agricultural lime, as I am tired of waiting. The trees are the admiration of many friends and gardeners too, but I want *some* fruit—if only a little. Can anyone suggest to me what to do to induce its appearance? So far as I know, the trees have had every possible good thing, and successful pruning to secure a good tree to begin with, still I cannot get fruit. All these trees have been root-pruned, and those in the border turned completely round two years ago to balance the shape of them; they have all been tied down so that each branch is quite clear of all neighbours. The Cherries were year by year, and this spring also, covered with blossom, but not one blossom to each Plum tree! In this soil Apples, Gooseberries, Currants, and vegetables luxuriate; so do Roses; but I have no Plums!—the same with Peaches, Nectarines, and Apricots. I have all of them on a south wall where no wind can reach them; the Peaches flower, but never set; the Apricots won't condescend to blossom even! I may add that my cordons have only 15 in. of root run in front. They, of course, run in and among neighbours, in a row of thirty, but I have dug down and cut off all roots to within 15 in. to encourage, as I thought, fibrous rooting. I want an opinion of someone who, like myself, likes to work through for himself and know the reason "why."—*John Cliff.*

GYPSOPHILA ELEGANS.—The flowers of the various species of Gypsophila are usually very small individually, and are seen to best advantage in the mass, or for the purpose of lighting up arrangements of cut flowers. That under notice has comparatively large, pure white flowers, and is now extensively used, both in the London and Paris markets, for mixing with other cut flowers, and for that purpose it is exceedingly useful. We noted it amongst other annuals in the borders at Gunnersbury House, Acton.

THE AMATEUR'S GARDEN.

A House for Tea Roses.—I propose to plant a span-roof house, of which I enclose a ground plan, with Tea Roses, and should be glad of advice as to the best position for the beds, their depth, the best compost to use, and the best varieties to plant, with brief hints on their management. The house can be heated up to 70° if required, and I propose to plant Roses worked on the Seedling Briar.—*T. O.* [The plan shows that the house is not very suitable for growing Roses. In the first place the hot water pipes are so near to the wall that there would be no possibility of using it for short climbing Teas, such as Marie Van Houtte and Rubens, and however it is arranged the pipes will be among the Roses planted out. If the pipes could be laid up and down a path in the centre of the house it would be worth while going to the extra trouble. We would advise a centre path 3 ft. in width, laying the flow and return each side of a short wall say some 18 in. in height. This wall would assist in forming a nice bed for the Roses to be planted out in. Another plan would be to leave the pipes as they are, making a couple of side borders in the same way as suggested, and then plant out the Roses, keeping them quite a foot from the hot water pipes. The advantage of this plan would lay in the greater benefit of the heat rising close to the glass, and so drying it off during damp and muggy weather. Less heat would be required this way than if the pipes were up the centre part, but you would lose the wall room. Altogether we should choose the plan first recommended, and use the top of the walls at the sides of the path to stand a row of pot plants on. It would be possible to grow a Maréchal Niel on one side and William Allen Richardson on the other; these strong climbing varieties could be trained up to the glass and spread fan-shaped to right and left. You should not plant more than one climber on each side of the house, or you will darken the house too much for the remainder of the plants. The best kinds of Tea Scented Roses to grow in such a house are, Niphetos (white), Catherine Mermet (pink), Souvenir d'un Ami (pink), Fransisça Kruger (yellow buff), and Madame Lambard (deep rose varying to red). If you wish for red Roses, you might plant a Reine Marie Henriette in place of one of the two climbers; this Rose comes a grand colour under glass, and if treated similar to Maréchal Neil, will flower equally as free. The best treatment for all climbers under glass is to grow as much clean, vigorous wood as possible, getting this well matured, when it will flower from almost every eye the following spring. After the flowers are secured cut the plants back rather hard, removing most of the wood that has just flowered. This plan will induce more strong growths, and will also let more light into the plants underneath. As you propose using plants upon the seedling briar stock, your soil should be of a somewhat stiff and heavy nature. Turfy loam, with a little clay well mixed amongst it, and enriched with pig manure, is a famous compost for Roses on this stock. Another good soil is well decayed vegetable refuse, and odds and ends, often procurable from any rubbish heap. Dig the bottom of the bed deeply, before adding either of the above soils, and if the position is a very wet one you will do well to mix some coarse sand or road-grit amongst this bottom soil. Plant the Roses a little deeper than they were before, taking care that the junction of Rose and stock is well below the soil. Grow the Roses as steadily as possible, and do not use fire-heat more than enough to keep the house between 55° and 65°. Syringe the plants well upon all bright mornings, and in spring and summer they will benefit by an evening syringe. We always use tepid water (70°), and have a very little of the best soft soap dissolved in the water—this prevents mildew; and if you avoid too sudden changes in the temperature, dryness at the roots and cold draughts, you will not be troubled with this worst enemy of the Rose. A slight fumigation upon two successive nights, immediately any aphis appear, will generally settle them. Do this upon following evenings, and be careful not to give it too strong; the syringing in the morning will kill those that were not quite dead from the smoke. During very hot weather a slight shading will be needed, but as a rule the more light they can receive the better.]

GARDEN RACES OF THE OPIUM POPPY.

The flowers of Papaver somniferum are so variable in colour even in the single state that it would be difficult to say what was the original colour of the wild plant. It is a native of Continental Europe, the west of Africa, and extends over the whole of Asia, and has been introduced to Britain and North America, where it has established itself to some extent. The flowers of the plant, which has run wild in some parts of the south of England, are generally bluish-white with a violet blotch at the base of the petals; but it varies both in the shape of the capsule, in the colour of the flowers, and seeds.

Several of the single-flowered varieties have received special names, and are very distinct when they can be kept true to name, but like all plants which have been under cultivation for generations past they are very difficult to keep true to any type. Many of the seedlings from any one kind when grown for a time revert, or sport, or whatever name is given to the phenomenon, they often show rogues in a sowing which differ from the type. A double race, with very full flowers, is grown under the name of Pæoniæflorum, from their Pæony-like flowers. Another type or strain, with fringed flowers, is grown under the name of Murselli; while a great many growers simply disregard that name and give separate ones to fringed flowers of different colours.

A collection of numerous varieties grown on trial may be seen in the gardens of the Royal Horticultural Society at Chiswick. Danebrog is a shortly fringed, single-flowered form, with scarlet petals and a large white blotch at the base of each. From the face of the inner petals a few curious fringes arise giving one the impression that they consist of stamens adnate to the petals, and free at the apex, where they are dilated and petaloid. The Victoria Cross would appear to be a selection from Danebrog, and differs by having entire not fringed petals, which may be scarlet or rose-coloured with the large white blotch at the base of each. Seedlings are evidently very sportive, for we sometimes find white ones amongst them. Similar variation occurs amongst the seedlings of Danebrog, for the petals are sometimes without fringes and sometimes pure white. The white one has been selected and named White Danebrog, but any other name would be more appropriate, for when it loses the white blotches on a coloured ground it is no longer Danebrog. The types can, however, be kept tolerably pure by pulling out the rogues as they come into bloom.

The so-called double Danebrog is a much-fringed and fully double flower, the petals of which are white with scarlet fringes. Rawson's Fringed and The Mikado are both very similar to the double Danebrog, and it would be difficult to define the differences. We have seen The Mikado with rose-coloured fringes or something very near it, so that the difficulty in keeping these variable flowers in distinct colours true to name is no doubt considerable. Probably it would be good practice to sow the different kinds at some distance apart in the garden or seed ground. These double, fringed forms would come under the name Murselli.

The under-mentioned kinds would readily fall under the name Pæoniæflorum; but a number of them, probably from different growers, have other names. French Steinforth is a close-habited and floriferous variety about 18 ins. high, with very double flowers and shallowly-fringed petals with red or scarlet tips. A line of it has a close and massive appearance. Marseilles splendens has large flowers and rather broad, but not fringed petals; the outer ones are scarlet, and the inner ones purple stained with red. The flowers on the whole bear a considerable resemblance to a double Hollyhock. Another very choice sort named Snowdrift has large, double, pure white flowers and shallowly-fringed petals. Like the French Steinforth it is a very dwarf and compact-habited sort.

The Pæony-flowered white is a tall and vigorous sort, with moderately broad but not fringed petals. The Pæony-flowered scarlet and violet is also very full, and the claw only of the petals is violet. The Pæony-flowered brick red and white, Pæony-flowered black, and the Pæony-white with a scarlet edge, do not require description as the names are all fully descriptive. The Pæony-flowered pink is a fringed variety of pleasing and attractive form and colour.

A dwarf variety named Chamoise Rose has fully-double flowers of a beautiful rose or salmon-pink hue. The Chinese double dwarf has cherry-red flowers, and, as the name expresses, it is notable for its low stature and compact habit. Another dwarf Chinese variety has pure white flowers, fully double, and very early, as most of the flowers had dropped and the seed vessels were of some considerable size by the 25th of July last. The above does not, by any means, exhaust the number of kinds in cultivation, or even all that are grown under distinct names; but they constitute a very fair nucleus for anyone who likes to make a collection of the cultivated races of the Opium Poppy. The flowers, whether single or double, are now much used for indoor decoration in the cut state. They should be cut while yet very, very young, that is, soon after expansion.

PLUMS AT CHISWICK.

Notwithstanding the large number of varieties of Plum now in cultivation, comparatively few of them are cultivated outside of general collections, and they are very few in this country. In private gardens they are mostly grown upon walls, where they perhaps bear a more regular but scantier crop. When grown in the form of standards the greater proportion of them bear only in certain years, and may be entirely fruitless for some years in succession. The crop is unusually plentiful, however, this season, and a goodly proportion of the trees in the gardens of the Royal Horticultural Society at Chiswick are simply loaded, while other trees carry but a scanty crop.

The Victoria Plum is almost an unfailing cropper, and is a favourite with many growers in various parts of the country, and fruits well as far north as Aberdeenshire when grown on a wall. The trees in the collection at Chiswick are grown as standards. Close by Denniston's Superb, a round yellowish-green fruit, is equally heavily loaded. Gisborne's Early, Bradshaw, and Angelina Burdett are in a similar condition. Early Orleans and Monsieur Hâtif are said to be synonymous, but two trees in the collection here are under the different names. Both are round purple fruits and heavily loaded in each case. Belgian Purple has a much larger and showier fruit than either, and the crop is heavy. It is evidently well suited for culture as a standard, for it forms a compact, round-headed tree of slightly drooping habit, and being dwarf in stature it is well sheltered from the effect of wind. The Nectarine Plum is another free-bearing sort something similar to the Prince of Wales, but is of a duller purple hue and less attractive although of fairly good quality. Large Black Imperial is considered the same as Bradshaw.

So heavily-laden is the tree of Oullin's Golden Gage that the branches are weighted down like several others requiring support. Lawson's Golden Gage is another golden-yellow Plum that does well in Scotland. Imperial Ottoman is also a yellow variety, with round fruits of excellent flavour and quality. Better known is that named Jefferson, an American raised variety that now finds favour with many growers especially for Orchard house culture. The fruit is oval, dark yellow, and speckled with purple or red next the sun. A tree grown here as a standard is simply borne down by the weight of the fruit, but another tree in a different part of the garden bears no fruit at all. The latter had formerly been grown in a pot and fruited well, but was planted out about eighteen years ago and has scarcely borne a dozen fruits since. The soil cannot differ widely from that in which the fruitful tree is planted, yet there must be a difference somewhere. Possibly the confined state of the roots in the early stage and the high feeding they received acted injuriously on their feeding capacity afterwards.

Blue Gage is a bluish-purple Plum of good quality, but it requires a drier season to ripen properly. The great amount of wet has caused the fruit to split. It is carrying a fair crop, but nothing compared with most of the above-named sorts, nor with Bryanston Gage, Heale's Hybrid and Standard of England, which are heavily loaded. The July Green Gage in ordinary seasons should be ripe by the end of July, but seems quite a month later this year. The fruit is of medium size, roundish and blotched with red on a yellow ground. The tree is but lightly cropped, The fruit possesses some merit for dessert purposes. Plums for culinary purposes enter largely into the market garden cultures, and amongst them is a large oval, dark purple fruited sort named Diamond. A tree here is very heavily laden, but the fruit, which has a brisk acidity, has not yet reached maturity.

GARDENING MISCELLANY.

ARISTOLOCHIA GRANDIFLORA.

The huge flowers of this species are as wonderful as those of A. Goldieana, and produced in much larger numbers upon the plant. It appears also to be less difficult to cultivate, and may be trained to the rafters in the same way as A. ornithocephala, A. trilobata, and others of that class. It was introduced from South America in 1841, or from Guatemala in Central America according to others. Possibly it may occur at both places, for they are not widely distant. There is a figure of it in the *Botanical Magazine*, t. 4368 and 4369. It is the A. gigas of Lindley, and is figured under that name in the *Botanical Register* 1842, 60, and A. cordifolia is another synonym. The leaves are heart-shaped and acuminate. The flowers, however, constitute the great feature of this plant, and so large are they that the native children on the banks of the Magdalena river in Columbia amuse themselves by using them instead of a hat. The lamina of the flower is broadly cordate, ribbed outside and reticulated with blackish purple on a ground colour of creamy yellow. The tube is contracted in the middle, but opens out into a wide throat of a velvety blackish purple. The flower also ends in a tail 2 ft. to 3 ft. long, and which may well be compared to a Chinaman's pigtail when worn by the children as above mentioned. The plant became lost to cultivation soon after its introduction, but may now be seen flowering finely in the Victoria house at Kew.

TRITONIA CROCOSMIFLORA.

In this fine hybrid we get the large flowers of Crocosmia aurea and the brilliant colour of Tritonia Pottsii. The two species named were the parents, and there can be no question that in the progeny we have a garden plant of exceptional value. The sword-shaped leaves are abundant, ascending, and of a bright green colour. They are considerably exceeded in height by the flower scapes, which are 2 ft. or 3 ft. high, according as to whether they are grown in pots or planted out. The latter is the best way of dealing with the hybrid, as it is equally as hardy as the parents, and a bed of it is a grand sight during the late summer and autumn months, far excelling in grace and elegance a bed of the best zonal or other Pelargoniums. The scapes are slender, yet sufficiently rigid and strong to support themselves without staking of any kind, and are racemose or panicled in the upper portion. The tube and external face of the segments are orange-scarlet, or almost crimson, with the exception of the three inner segments, which are yellow. The inner face of all the segments is of a bright orange, and yellow at the base. A coating of cocoanut fibre placed over the bed in winter serves to afford the corms and young leaves protection, as well as to keep the soil cool and moist in dry summers.

HELICHRYSUM ARGYROLEPIS.

The general aspect of this species would lead one to suspect that it comes from the Cape, or some similarly dry country. The specific name refers to the silvery-white scales or bracts surrounding the head, and which, in fact, constitute the ornamental part of the plant. The disc is yellow, as is generally the case with other species of the genus. The whole plant is only 9 in. to 12 in. high and well furnished with lanceolate or linear, hoary leaves. The flower-heads may be compared with those of Acrolinium roseum as to size, but differ from them in colour; the leaves also differ to a much greater extent. When grown out of doors, the rockery would, no doubt, be the best place for it, ensuring good drainage and the exposure necessary for this and other species of Helichrysum of like habit. As a pot subject for the greenhouse or hardy-plant house it would, no doubt, prove highly suitable.

ACHIMENES TUBIFLORA.

The adaptability of this plant to different conditions is somewhat remarkable. Some cultivators grow it in the close moist atmosphere of a stove along with Gloxinias, Palms, and other subjects that delight in plenty of heat and moisture. Others grow it in the greenhouse, while in other cases it is relegated to the hardy plant house with equally good results. It a is

native of Buenos Ayres in South America, and our experience of other plants from that region is that they will bear a pretty low temperature; in fact they prove hardy in the more favoured parts of England and in the Channel Islands. The flowers of the plant under notice are pure white, except when grown in the hardy plant house where it gets plenty of light and free ventilation. The long curved tube under those circumstances becomes slightly tinted with pink, but not to such an extent as to detract from the beauty of the plant. The lamina is equally five-lobed with rounded, slightly crenate segments. The leaves are oblong or ovate-oblong, crenate at the margin and somewhat hoary. The rootstock is tuberous as in other species of the genus, and the stems and flower scapes together reach a height of 2 ft. to 3 ft. One meets with the plant under other names, such as Gloxinia tubiflora and Dolichodeira tubiflora. Within the last few years the cultivation of the plant has been greatly extended.

LAVANDULA MULTIFIDA.

There are about twenty species of Lavender, some of which differ considerably in general appearance from the common species which is largely grown in some districts for the distillation of Lavender-water, as well as everywhere for garden ornamentation. The species under notice is of a herbaceous character, somewhat spreading in habit and about 18 in. high. The leaves are light green and once or twice deeply pinnatifid, and in this respect more resembling Verbena Aublietii than the Common Lavender. The flowers are borne in short, terminal, square spikes, and are of a deep blue or violet. The plant may be grown in the herbaceous border in well drained soil, or upon the rockery. Being of the nature of a biennial it must be raised from seeds one year and flowered the next. It is a native of the Canary Islands, from whence it was originally introduced in 1597. A clump of it in bloom may be seen in the herbaceous ground at Kew.

HARDY FLOWERS FOR A LARGE CONSERVATORY.

It is difficult sometimes to find plants of a showy nature to enliven the conservatory during the summer months, especially if the building is a large one, and many gardeners are contented with climbers on the roof and some large palms to give the interior a furnished aspect, dotting in flowering plants in convenient positions and retaining the smaller flowering subjects along the front. By the use of several hardy or half hardy biennials and perennials a very bright effect can be produced at a small expenditure of labour and cost, as may be seen at Sion House, where Mr. Wythes for some time past has been introducing different subjects of the above-mentioned kinds, showing practically a return to the flowers of former days, and which we should like to see more extensively employed.

Easily obtained flowers are often regarded as commonplace, but the effect that may be produced with them is handsome all the same. At present the cool ends of the conservatory are bright with Campanula pyramidalis in various shades of blue and white. The plants vary greatly in height, as a dwarf strain has been evolved and selected from the type. So dwarf and stiff are the stems in some cases that no staking is required; others tower up to a height of 6 ft. Some would consider the dwarf sorts a deterioration from the type, as the flowers are somewhat crowded, but they form short pyramids of bloom suitable for the front shelves.

Interspersed amongst the Campanulas are strong plants of Hydrangea paniculata and H. hortensis, with large panicles of white and pink flowers respectively. The Cape Hyacinth (Galtonia candicans) and the Night Scented Tobacco (Nicotiana affinis) are well-known subjects hardly requiring description. Francoa ramosa has also seen good service for many weeks past, and different varieties of Campanula carpatica have been flowering continuously for the past two months. A group of the above Bellflowers was recently awarded a Medal when exhibited at one of the Drill Hall meetings of the the Royal Horticultural Society. Ophiopogon jaburan variegatum and Eurya latifolia variegata impart a cheerful aspect by their foliage alone. Large plants of Livistona chinensis and Phœnix serve by their shining green foliage to set off the colours of the flowers, and make in the aggregate a display to which a similar quantity of scarlet and other Pelargoniums would be tame in a large house.

ORCHID NOTES AND GLEANINGS.

Cymbidium Lowianum Mandaianum.

We described this variety under the name of C. Mandaianum in vol. vii., p. 641, and when doing so had not the slightest doubt as to its affinity. The description was taken from a specimen received direct from Messrs. Pitcher & Manda, of the Hextable Nursery, Swanley. We observe that Mr. R. A. Rolfe, of the Kew Herbarium, has recently renamed and described it in the columns of a contemporary as C. Lowianum var. concolor, a proceeding against which we must offer a protest on the ground that by right of priority our name, which was sanctioned by the owners, should have been retained even if sunk under the specific name, as is customary among botanists in subsequent revisions of genera, species, or families. The uniform greenish-yellow colour of the flowers renders the variety very distinct for horticultural purposes, and as it differs in no other particular it may be looked upon as purely a garden plant, so that the commemorative name given it was just as correct and applicable as any other. For the matter of that, the variety might have been named C. Lowianum, Manda's var., and the original possessor of the plant would have received that distinction to which he was entitled.

Lælia elegans blenheimensis.

The stems of this Lælia grow about 2 ft. high and terminate in one or two broadly oblong, rigid and deep green leaves about 8 in. to 10 in. long and 2½ in. to 3½ in. wide. The sepals are oblong and pale purple, while the oblong-lanceolate, blunt petals are undulated at the sides, rosy-purple and finely netted with darker veins. The three lobed lip has a pale, almost white, tube and the oblong side lobes are purple with deeper veins; the middle lobe is obovate—wedge-shaped, bifid, undulated at the sides, of an intense rich purple, and somewhat paler towards the margin. The column is also stained with purple. A specimen was exhibited at the meeting of the Royal Horticultural Society on the 25th ult. by T. Statter, Esq. (gardener, Mr. R. Johnson), Stand Hall, Whitefield, near Manchester, when an Award of Merit was accorded it.

Zygopetalum grandiflorum.

The pseudobulbs of this plant are tetragonal, about 3 in. long, and crowned with two or three lanceolate bright green leaves 15 in. to 18 in. long. The peduncle bears one large and showy flower. The sepals and petals are spreading; the former are lanceolate, accuminate, and greenish-yellow, with brown veins running along their whole length; and the petals are similar, but more decidedly falcate. The lateral sepals are also curiously infolded at the contiguous sides in the basal half. The lip is three-lobed, fringed at the edge, and white with crimson lines running along its whole length. The crest is very large and prominent with deep acute teeth, and is creamy yellow lined with purple. The terminal lobe of the lip is furnished with lines of short white fringes along the veins. The column is large, white and striated with purple on the inner face on a white ground, and terminates in two large wings, one on either side of the anther cap. A Botanical Certificate was awarded it when exhibited at the Drill Hall on the 25th ult. by Messrs. Charlesworth, Shuttleworth & Co., Bradford, Yorks, and Clapham.

Cattleya Behrensiana.

The parentage of this Cattleya was Lælia elegans crossed with Cattleya Loddigesii. The pseudobulbs are club-shaped, slightly compressed, 12 in. long, independent of the flower scapes, and attenuated below. In these respects it points strongly to Lælia elegans, as the stems of Cattleya Loddigesii are cylindrical. The form and structure of the flowers are undoubtedly those of the last named, while the colour, especially that of the terminal lobe of the lip, is that of Lælia elegans. There are two or three oblong-elliptic leaves terminating the stems, and they are of a bright green and 4 in. to 5 in. long. The oblong sepals are blush-coloured, the lateral ones being falcate as in C. Loddigesii. The petals are oblanceolate or somewhat cuneate, crisp at the edge, and pink. The tube of the lip is strongly curved and blush pink; while the terminal lobe is roundly wedged-shaped, emarginate, undulated and crisped at the edge, and of an intense purple. A plant of this bigeneric hybrid was exhibited at the Drill Hall on the 25th ult. by Messrs. F. Sander & Co., St. Albans, and was accorded an Award of Merit.

WHAT TO DO IN THE GARDEN.

Begonias for Winter Flowering.—These are now getting numerous, including B. ascotensis, B. knowslyana, B. insignis, B. digswelliana, B. fuchsioides, B. semperflorens, and its grand variety B. s. gigantea carminata, B. odorata, and others. Of the tuberous class B. socotrana, Winter Gem, John Heal and Adonis must not be overlooked, for they are very choice in their way. The last to flower of this type is Winter Gem. The improved and hybrid forms of B. Frœbelli will also receive more attention in the near future. Any potting that may require to be done should be accomplished while the light and heat are still good. Those who plant out any of the above-mentioned kinds with the intention of lifting them should see to it at an early date. The plants will then have time to become re-established before winter.

Rockeries in Stoves and Ferneries.—It will be necessary to occasionally overhaul the plants that are used for the decoration of mounds and rockeries as well as of the back walls of stoves and ferneries, in order to give each kind its due share of space and exposure to light. This will be all the more necessary if they were originally planted without a due regard to the space they would ultimately occupy. Some will have overgrown their space, and others, it may be of the choicer kinds, will be suffering by being overgrown and shaded. The removal of a few of the shoots, or it may be only a few of the older and worst leaves, may give the necessary relief. Ferns, Begonias of the B. rex type, Fittonias and similar things do not require a great amount of direct sunlight, but they will last in much finer condition through the winter provided they have been well exposed to diffused light with a due share of ventilation.

Propagating Ferns.—If it is desired to propagate any particular kinds of Ferns from spores the matter should be seen to at once so that the prothalli may develop and be divided into little tufts before the approach of winter with its bad light causing the same to damp off in large numbers. Young fronds or plants will then appear early in spring and have time to make useful plants during the course of summer. Several of the Aspleniums such as A. bulbiferum, A. b. minus, A. viviparum and others may readily be propagated by layering the old fronds on the surface of seed pans with or without a pane of glass for a covering, and detaching or leaving them in connection with the mother plant. A bed of cocoa-nut fibre in the propagating pit would answer the purpose of layering the fronds admirably. When well rooted the young plants may be potted off separately.

Gloxinias and Streptocarpus.—Any number of young plants of these may now be obtained by making cuttings of the leaves and inserting them whole or cut into suitable lengths in pots or pans of light sandy soil, and placing the same in the moist atmosphere of a stove or propagating pit. In this way choice and new kinds may be increased true to name, which seed sowing would not always insure. The tubers formed should be kept in the soil all winter to prevent their becoming shrivelled.

Nerines and Belladonna Lilies.—Bulbs of this class should be potted up at once when received as they commence to flower a little later on. Water the soil immediately after potting and stand the plants out of doors in a sunny sheltered spot, covering them with some cocoa-nut fibre. If so desired the Belladonna Lilies may be planted alongside of a stove or other heated structure where the heat from the wall will contribute to their safety during winter. The border in which they are planted should be a narrow one, so that all the bulbs may come within the heat radius.

Roses.—Examine the Roses which were budded at the proper season to see which have taken. The ties will have to be removed to allow the proper swelling of the stem, and the shoots beyond the bud removed to encourage the growth of the latter. Should mildew make its appearance, a very likely occurrence during the present damp weather, dust it with sulphur to check it from spreading, otherwise the stems cannot be expected to finish their growth and lay by sufficient reserve matter to flower well next year. Give supplies of manure water to all choice kinds.

Cinerarias and Calceolarias.—The earliest batch of Cinerarias should be urged forward by shifting into larger pots. Good fibrous loam, leaf soil and dried cow manure will make a compost of a suitable nature provided the drainage is good and sufficient sand is used to keep the whole porous and open. The first sowing of herbaceous Calceolarias should be ready to pot off singly in small pots. For the first potting a lighter soil will suffice than in the case of Cinerarias.

Vines.—Ventilation will have to be given by night as well as by day to assist ripening fruit to colour properly and develop its flavour. Should birds be troublesome the ventilators should be covered with a piece of netting. The floors and surface of the border should be damped down two or three times a day in bright weather, but not at all when dull and rainy. Do not spare the syringe or garden engine in houses where the fruit has been gathered, otherwise the red spider will soon gain a footing.

QUESTIONS AND ANSWERS.

SEEDLING CARNATION.—*Carnation:* Your seedling comes under the denomination of a yellow ground Picotee, and is a very pretty one with the advantage of not splitting its calyx, the fault of so many of the yellow ground varieties. The crimson-scarlet feathering on the edge of the petals is very bright. A good decorative variety.

NAMES OF PLANTS.—*J. Clark:* Digitalis ferruginea, a very old plant introduced from Italy in 1597.—*S. T.:* 1, Lilium speciosum rubrum: 2, L. speciosum Kratzeri. *Herbert Morris:* The Dodder, Cuscuta Epithymum, growing on Ulex nana.—*J. K.:* 1, Abelia rupestris; 2, Plumbago Larpentæ; 3, Clematis Jackmanni; 4, Jasminum officinale; 5, Sibthorpia europæa.

LIFTING ONIONS.—*Amateur:* The continued and heavy rains have tended to keep Onions growing later than usual, and in some cases a second growth has set in. You can hasten the process of maturation by bending down the tops at the neck. It is useless to attempt this with thick-necked specimens, because they would keep but a short time, even if they ripened at all. They should be left in the ground and pulled for use as required. After the stems of the others have partly dried down the bulbs should be pulled and laid upon a hard surface in a shed or similar place where they will receive a current of air to dry them, while at the same time protected from wet. Those with leaves to them might be tied in bunches and hung up in a cool, airy place.

TRANSPLANTING PYRETHRUMS.—*J. L.:* The operation may be accomplished at once as the ground is sufficiently moist to prevent the leaves from flagging to any extent. Cut down any flower-stems which may have been thrown up as the result of a second growth. The crowns may also be divided if so desired. Pulling them apart with the hand is much better than chopping them either with a spade or trowel, as fewer roots get damaged thereby. Every separate crown or tuft of leaves with a few roots may be used if you require a large stock, but if near a large town it would be advisable to pot up the pieces in small pots till spring, placing them in a frame where they may be more directly under the eye. Larger pieces in the open ground will get established before the approach of winter.

BEGONIA SEEDLINGS.—*H. Slack:* You may lift the seedlings at once which you wish to preserve and pot them in good soil. In removing them from the ground retain as much of the soil about the roots as you can, and the plants will soon commence to grow again as if nothing had happened. Under glass they can be kept growing and flowering for some time after those out of doors have been cut down by frost, and by that means you will be better able to determine the true character and value of your plants. A second summer's growth will, however, be necessary to realise what the plants are capable of doing after the tubers attain a good size. Seedlings of the first year afford only an indication of what they may be.

COMMUNICATIONS RECEIVED.—J. T.—A. D. W.—T. W. N. O.—T. S. W.—H. J. J.—G. A. D.—A. P.—E. J. B.—F. G.—J. P.—W. D.—J. Kipling—A. O.—Omega—T. Meehan—J. D.—A. G. S. (next week).

TRADE CATALOGUES RECEIVED.

BENJAMIN SODDY, 243, Walworth Road, S.E.—Choice Dutch Bulbs.

W. P. LAIRD & SINCLAIR, Dundee.—Dutch Flowering Bulbs.

CHARLES TURNER, Slough.—Dutch and other choice Bulbous Roots.

ROBERT VEITCH & SONS, 54, High Street, Exeter.—Dutch Bulbs and other Flower Roots.

COVENT GARDEN MARKET.

September 2nd.

FRUIT.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.		s. d.	s. d.
Apples... per ½-sieve	1 0	3 0	Pine apples, Eng., lb.		
Currant, blk., ½-sieve			—St. Michaels, each	2 6	5 0
—red.....½-sieve			Peaches .....per doz.	1 0	6 0
Grapes .....per lb.	1 0	3 0	Plums..... ½-sieve	1 3	3 6
Kent Filberts 100 lb.	30 0	35 0	Tasmania Apples,		
Nova Scotia Apples			per case	10 0	14 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Herbs .....per bunch	0 2	0 6
Asparagus.....per 100			Horse Radish, bundle	2 0	4 0
Beans, French, per lb.	0 4	0 6	Lettuces ...per dozen	1 0	1 6
Beet..... per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages ... per doz.	1 6	2 6	Onions.....per bunch	0 4	0 6
Carrots ... per bunch	0 6		Parsley ... per bunch	0 6	
Cauliflowers, English,			Radishes... per dozen	1 6	
per doz.	3 0	6 0	Small salading, punnet	0 4	
Celery.....per bundle	2 6		Spinach, per strike ...	3 6	
Cucumbers .....each	0 6	0 9	Tomatos..... per lb.	0 6	1 0
Endive, French, doz.	2 6	3 0	Turnips .....per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Aralia Sieboldi ...doz.	6 0	12 0	Heliotrope, per doz.	4 0	6 0
Bouvardias...per doz.	8 0	12 0	Hydrangea, per doz.	9 0	24 0
Calceolaria...per doz.	4 0	6 0	Liliums, various, doz.	12 0	30 0
Coleus.....per doz.	3 0	6 0	Marguerites, per doz.	6 0	12 0
Cyperus .....per doz.	4 0	12 0	Mignonette, per doz.	4 0	6 0
Dracæna term., doz.	24 0	36 0	Palms in variety, each	2 6	21 0
Dracænaviridis, doz.	9 0	18 0	Pelargoniums ... doz.	6 0	9 0
Evergreens, invar. doz	6 0	24 0	—scarlet .....per doz.	2 0	4 0
Ferns, invar., per doz.	4 0	18 0	Rhodanthea, per doz.	4 0	6 0
Foliage Plants, doz.	12 0	60 0			

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	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blms.	2 0	5 0	Mignonette... 12 bun.	1 6	3 0
Asters, doz. bunches	3 0	6 0	Myosotis..doz. bchs.	2 0	4 0
„ French „ „	9 0	12 0	Pansies, doz. bunches	1 0	2 0
Bouvardias, per bun.	0 6	1 0	Pelargoniums, 12 sps.	0 4	0 9
Carnations, 12 blooms	1 0	2 0	— scarlet ... 12 sprays	0 3	0 6
— per dozen bunches	4 0	6 0	Poppies, various, doz.	1 6	4 0
Dahlia, doz. bunches	2 0	4 0	Primula, double, bun.	0 6	1 0
Eucharis ...per doz.	2 0	4 0	Pyrethrum, doz. bchs.	2 0	4 0
Gardenias 12 blooms	1 6	4 0	Roses, yellow, dozen	2 0	4 0
Gaillardia, doz. bun.	2 0	4 0	— mixed... doz. bchs.	1 6	4 0
Heliotropes, 12 sprays	0 3	0 6	— Red..... doz. bchs.	2 0	6 0
Lavender, doz. bun.	4 0	6 0	— Saffrano...per doz.	0 6	1 0
Lapageria, 12 blooms	2 0	4 0	— Tea ..... per dozen	1 0	3 0
Lilium Harrisii,			Stephanotis, dz. spys.	2 0	3 0
doz. blooms	2 0	4 0	Sweet Sultan, doz. bh.	2 0	3 0
— various, doz. blms.	1 0	2 0	Sweet Peas, doz. bhs.	1 6	3 0
Maidenhair Fern, 12 bs.	4 0	9 0	Tuberoses, per doz.	0 3	0 6
Marguerites, 12 bun.	1 6	4 0			

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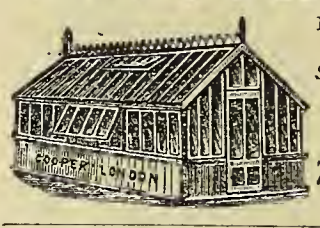

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MONDAY, Sept. 14th.—Sale of Plants at Mr. H. B. May's Edmonton. Bulb Sale at Protheroe & Morris' Rooms.

TUESDAY, Sept. 15th.—Sale of Plants at Messrs. B. Maller & Sons, Lee. Bulb Sale at Protheroe & Morris' Rooms.

WEDNESDAY, Sept. 16th.—Sale of Plants at Mr. John Fraser's, Lea Bridge. Bulb Sale at Protheroe & Morris' Rooms.

THURSDAY, Sept. 17th.—Sale of Plants at Mr. John Maller's, Enfield Highway. Bulb Sale at Protheroe & Morris' Rooms.

FRIDAY, Sept. 18th.—Sale of Plants at Messrs. Roberts Bros., East Grinstead. Imported and Established Orchids at Protheroe & Morris' Rooms.

SATURDAY, Sept. 19th.—Bulb Sale at Protheroe & Morris Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, SEPTEMBER 12th, 1891.

THE GARDEN OF ENGLAND.—A correspondent of a daily paper, who but the other day remarked that even in Kent he had not found good class fruit culture, must have been strangely ignorant of the matter. It is very doubtful whether we can find in all the world evidences of better fruit production than is seen in the Garden of England. We have not in this country the vast areas which mark America, and therefore may not refer to our fruit quarters by the thousands of acres. Kent, however, furnishes plenty of examples of 50 acres breadths of Strawberries, Currants, Raspberries, and of tree fruits. These are, for us, big expanses, and serve to show that

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the small culture found in private gardens is but fruit growing in miniature, compared with what the South-eastern County can show.

It is very doubtful whether the whole world can show land so remarkably undulated, so rich in natural as well as artificial shelter, so varied in the character of the soil as Kent is. The valleys and hills, the slopes and flats, all more or less seem naturally fitted for fruit production, and the enormous expansion of the vocation which has taken place during the past twenty years shows that those who understand fruit culture are profiting by this expansion. When we hear of men who have a thousand acres of fruit land, in different parts of the county, with their own Jam Factories and all the extensive appliances for the disposal of the fruit profitably, we seem compelled to regard these as in some sort fruit magnates, or the aristocracy of market gardening.

Apart from the question of profit or otherwise, and that is beside the matter now, there can be absolutely no doubt but that the County of Kent is not only specially a great fruit producing county, but also exhibits, in an eminent degree, fruit culture in its best aspects. To those interested in a question which has exercised the public mind so much of late, no more efficient lesson can be taught than the Garden of England affords just now.

Away North.—That is a very pretty story, oft retold, of the railway porter who being granted a holiday, employed it in visiting the stations of other Railway Companies. Odd as that form of recreation may seem, yet there is much that is natural in it, because railway work was necessarily the dominating element in the man's mind. Very similar positions are those of the numerous gardeners or other horticulturists who have during the week flitted North. Primarily they have all been animated with the desire to spend a holiday pleasantly, but subordinately there has been urging them to this course the attractions of the great exhibition in Edinburgh, and not least the opportunity to visit some of the many beautiful gardens for which Scotland is famous.

It has been specially fortunate to many that the ordinary holiday season and the holding of the great Scotch Show should have fitted in so admirably. They will have a splendid holiday-time, because whilst enjoying physically to the utmost the glorious change of air and scenery which the North affords, they will return home charged with new garden thoughts and aspirations derived from their visits to beautiful Scotch gardens. Gardening in the North is to some extent different from that seen in the South, so far as regards conditions created by diverse climate. Hence there is to the Southron much that s pleasingly fresh to be seen. There is also associated with many of the fine gardens and nurseries with which Scotland abounds, much beautiful scenery, and all accustomed to garden in flat, uninteresting districts can testify what a new joy is given to horticulture when found among hills and dales, mountains and valleys, forests and woods.

Our Southern friends will proabbly mostly pay visits to Dalkeith, Melville Castle, Newbattle, all within easy reach of Edinburgh, Drumlanrig in the South-west, and the world-renowned vine-yards of the Messrs. Thomson at Clovenfords, places of great horticultural note, or some of the fine nursery establishments, so admirably conducted, with which the North abounds. Wherever they go they will meet with a hearty Scotch welcome, and will return home delighted with all they have seen and experienced awa' North.

The Autumn Plant Sales.—We shall soon be right into the thick of the autumn plant sales. They are abundant in the neighbourhood of the metropolis, where perhaps the largest plant nurseries for market sale exists, but they will be heard of in remoter parts of the country soon, and the hammer of the auctioneer will be unusually active. Annual plant auction sales have now become permanent horticultural institutions. It would seem as if the hundreds of thousands of pot plants the market growers produce could only be fitly dispersed through that medium, although the sales still always seem to leave behind legions of other plants almost innumerable.

The tree and shrub trader also has his annual sale now, and marvellous is it with everybody as it were full up with garden stuff of all descriptions that purchasers are found. Yet we may be sure that the astute men who annually produce these plants or tree legions know very well that they will find purchasers from somewhere. Of course there can be no pleasure to the true gardener to know that myriads of these plants are raised but to serve a temporary purpose, a life perhaps of a month or two after being sold, and then left to die. Still it is, to put it roughly, all in the way of trade, and in that aspect we are bound to look at it.

The vocation of plant raising for market employs a large number of skilled men for whom perhaps there would be no employment but for this business. The fact too that plants can be obtained cheaply in enormous quantities of almost every conceivable sort, and at almost any moment, enables very many wealthy persons to surround themselves with plants and flowers almost luxuriantly, and far beyond the dreams of the floral sybarite of fifty years ago. Our market plant and nursery trades are great businesses now, and we desire for them every success.

Mr. Sydney J. Burgess has been engaged as gardener to Sir Robert Affleck, Bart., Dalham Hall, Newmarket.

The Tomb of the late Mr. William Holmes will be unveiled on Saturday, the 19th inst., at 4 p.m., at Abney Park. There will be a short address and a little singing.

Mr. James Hodgson, for the last six years gardener to E. Chaplin, Esq., Shoreham, Sevenoaks, has been engaged as gardener to C. Marriott, Esq., Cotesbach, Lutterworth.

Mr. William Chester, who has been at Chatsworth for about 40 years, and for 30 years has been foreman in the Conservatory, has been selected to fill the post of gardener shortly to be vacated by Mr. Owen Thomas.

A Strange Phenomenon.—A short time ago an old Elm in Osterley Park, Middlesex, was observed to be on fire about midnight. The lower portion of the tree was alive and apparently sound, but the upper branches were either dead or in a state of decay. The tree is supposed to have been struck by lightning and thus set on fire, but it seems singular that no one took the trouble to extinguish it, for it continued to burn slowly until the heavy rains drowned out the smouldering embers.

The Flower Show Disaster at Newcastle.—The Mayor of Newcastle having made an appeal to the inhabitants for subscriptions in aid of a fund for clearing off the liabilities incurred by the local horticultural society on account of the recent show, which had to be abandoned owing to the tents having been swept away by the gale, we are pleased to hear that there has been a very satisfactory response, the sum of £525 having been collected up to the 5th inst. This speaks well for the love of horticulture in the district, and we hope will lead the Committee to reconsider their decision to abandon the society

Perfumes and the Health.—According to the *Revue de l'Horticulture Belge*, a Hungarian physician asserts that flowers and the perfumes that are extracted from them have a salutary influence upon the health, and can be considered as therapeutic agents of great effect. He says that the sojourn in a perfumed atmosphere prevents pulmonary affections and arrests the development of phthisis. He cites in support of his opinion the towns where the manufacture of perfumes is carried on upon a grand scale, and where phthisis is very rare, thanks to the odoriferous vapours which escape from the numerous distilleries.

Arctic Expedition.—Some members of the Kite Arctic Expedition arrived at Halifax, N.S., on the 30th August, and stated that the expedition reached 77.43 N. and 70.20 W. The country in those regions was rocky, and flowers grew in luxuriant profusion, although the vegetation did not reach higher than six or eight inches. The members of the expedition bring with them large collections of plants, flowers, and butterflies, some of which were previously unknown to exist. They found all the published charts of Greenland to be incorrect. They left the North Greenland Expedition, under Lieutenant Peray, in Melville Bay, 2,500 miles north of Halifax. The latter proposes next spring to penetrate still further north on snow shoes, in order to determine, if possible, the boundaries of Greenland. The party have built a house in Melville Bay, in which they will winter. Mrs. Peary will remain there during her husband's expedition in spring. The scientific specimens which have left St. Johns weigh thirteen tons; they will be sent by steamship to Philadelphia.

Treatment of Cryptogamic Diseases.—We have received a small pamphlet and a supplement thereto on the above subject from Mr. Jean Souheur, Antwerp, Belgium. The agent employed in combating fungoid diseases of the Vine, Potato, Tomato, Beet and other subjects is a comparatively new one named Sulfosteatite Cuprique. One of the ingredients of this agent is sulphate of copper, so treated that the salts resulting from it adhere to the other substances employed in a finely-powdered condition. The preparation is applied to the plants in the form of a fine powder, by means of a bellows made for the purpose, and the whole machine requires only one person to work it. The powder is so fine that it is carried about in the form of a white cloud by the lightest breath of air, and so reaches both the upper and under surface of the leaves as well as the fruit. Mr. Souheur states that the powder is inoffensive to workmen, and is undoubtedly economical, since only 25 to 35 pounds are required for an acre of vines. Four or five applications may be given during the course of the season, and for this purpose 60 to 80 lbs. per acre are considered sufficient for the season. The first application should be made before the flowers open, and the next five or six weeks later on. The supplement deals with the treatment of diseases of the Potato, Tomato, and Coffee Tree. The composition of Sulphosteatite is there said to consist of 9 to 10 per cent. of Sulphates of Copper, and 90 per cent. of Silicate of Magnesia.

The Manchester Fruit Congress.—Mr. Gladstone writing to Mr. Bruce Findlay on August 25th says:—"I will not withhold the expression of my good wishes for the fortune and effect of the meeting you are to hold in October, but it will, as I hope, have the support of those who are much better entitled to speak with authority. For many years, through the activity of the press, the humble advice given by me locally to our cottagers and farmers has become an exposition to the country at large which I was hardly entitled to deliver, and for which I have naturally enough been made the subject of witty animadversion. I have, however, a very strong conviction that the work which you have in hand is a great and beneficial work—that there is a great commercial void which ought to be filled by British skill and labour, and that the extension of what we may term the small culture, in all its branches, will produce very considerable moral and social as well as economical benefits." The papers announced to be read at the Congress are as follow: Mr. Baillie: of Chester, "The Fruit Growing Movement: Present Day Features and Prospects." Mr. Cheal, of Crawley, Sussex: "The Condition, Preparation, and After-Treatment of the Soil for Fruit Culture." Mr. S. T. Wright, of Hereford: "Fruit Growing for Profit." Mr. Crump, of Madresfield: "The Raising, Budding, Grafting, and Pruning of Apple Trees for Orchard and Estate Planting." Mr. T. F. Rivers, of Sawbridgeworth: "Orchard House Culture." Mr. Edward Luckhurst, of Romford: "The Importance of Early Planting and Shelter in Fruit Culture."

FLOWERING AND ORNAMENTAL BRAMBLES.

WILD Brambles are very numerous all over the Northern Hemisphere, but much more rare in the Southern. Altogether there are reckoned to be about 100 distinct species. The varieties of some of the kinds, particularly R. fruticosus, are so numerous and some of them so distinct that authors differ greatly as to whether they should be considered as species or varieties. A reference to the British Rubi will illustrate this. According to the *Student's Flora of the British Islands* there are only four distinct species with a large number of varieties.

In Babington's *Flora of the British Islands* forty-five are reckoned sufficiently distinct to rank as species. Of these but a very small proportion is cultivated for use or ornament. The Raspberry (Rubus Idæus) is so well known for its fruit as to require no description. The Bramble or Blackberry (R. fruticosus) grows in some form or other all over Europe, the north of Africa, western Asia and Siberia to northern India, and the fruit is gathered and eaten by children wherever it occurs. Improved forms and hybrids are now being cultivated to some extent for the sake of their fruits. Ornamental Brambles are not so much grown as they might be, and certainly not so much as they were in former years.

THE COMMON BRAMBLE *(R. fruticosus)*.—Of this, as has already been mentioned, there are many forms, some of which are highly ornamental. One of the commonest to be found everywhere on commons and in hedges is a pink-flowered variety known as R. f. discolor, with small leaves of a dark green above and almost of snowy whiteness beneath. The flowers are of large size and highly ornamental. The darker flowered sub-varieties of it would make objects of great beauty in the shrubbery, or as large clumps in the pleasure ground. The finer sorts might be noted when in flower upon the commons, and young specimens or suckers transplanted at the proper time.

The double variety of this, namely, R. f. d. flore roseo pleno, has always been the greatest favourite amongst our native kinds. It was first recorded in Baumann's Catalogue about fifty-three years ago, and has maintained a position in some gardens ever since. At present its cultivation is again being extended, and deservedly so, for it is a shrub of handsome appearance when in bloom. The petals are very numerous and pink like those of their parent. Small plants flower quite freely, but the trailing shoots ultimately attain considerable length, and the plant should therefore be grown upon mounds in the pleasure ground or on high or rocky banks bordering on walks or drives, so that the long stems might hang down and appear to best advantage when in bloom. Another double variety existed at one time, but seems to have dropped out of cultivation, or to be overlooked in some old garden. This was known as R. f. pomponius and had large, double or semi-double white flowers. It produced the best display when planted and trained against a wall.

THE CUT-LEAVED BRAMBLE *(R. laciniatus)*.—The origin of this plant is unknown, but it bears so close a resemblance to the common Bramble that it is usually considered an abnormal form of some of the varieties, from which it differs by the three to five leaflets being pinnately cut and deeply serrated. In this respect it would bear the same analogy to the Bramble as the cut leaved Elder to the type. The flowers are white or rosy, and the petals are three lobed. The plant produces fruit in great abundance, and which would ripen in a sunny position or against a wall.

WESTERN OR AMERICAN BRAMBLE *(R. occidentalis)*.—Many years ago this was reckoned a highly ornamental subject for the shrubbery where room could be afforded it. The stems are semi-erect and 4 ft. to 6 ft. high. The flowers are white and the fruit, which is about the size and shape of that of the Raspberry, is black, ripening in July or August. The species has various popular names, such as Black Raspberry, Virginian Raspberry and Thimbleberry. It was originally introduced in 1696, or nearly 200 years ago.

PURPLE-FLOWERING RASPBERRY *(R. odoratus)*.—This is altogether distinct from any of the above kinds, and bears little resemblance to the ordinary type of Bramble. The leaves are three to five lobed, cordate at the base, of a fine green, and sometimes attain a considerable size when planted in good soil and growing vigorously. The flowers are of a rich purple-rose, of large size, and produced in clusters terminating the shoots or stems, which vary from 3 ft. to 6 ft. in height. In its native habitats, the woods of Canada and on the Alleghany mountains, it produces broad, flattened, reddish or yellow fruit, but rarely does so in Britain. The showy flowers and the handsome leaves, which are scented, are sufficient recommendations for the introduction of this Bramble to our shrubberies. The fruit in its native land is described as of fine flavour. It was originally introduced in 1700, and is now being more largely planted in this country, and certainly deserves it.

SALMON BERRY *(R. spectabilis.)*—On casual observation this species bears some resemblance to the common Raspberry, for the leaves consist of three ovate more or less lobed and cut leaflets similar in texture to those of the plant named. The flowers, however, are of appreciable size, bright red, and produced in May. The fruit is dark yellow or reddish and attains a great size, but is not very plentifully produced as a rule in this country. If planted in favourable situations on a wall, it would no doubt fruit more freely as it has done before. The flowers are fragrant, and the fruits are possessed of a pleasing acidity that renders them acceptable in tarts. The latter ripen in July. The Salmon Berry is therefore both useful and ornamental, and deserves a more extended cultivation.

THE DELICIOUS-FRUITED BRAMBLE *(R. deliciosus)*.—The stems and leaves of this shrub are quite devoid of prickles or bristles at any period of their growth, but the leaves are covered with glands in the early stages of growth, and emit a strong, but not disagreeable, odour of soap-suds that may be perceived at some distance from the plant, but especially on the lee side of it. The flowers are large, pure white, developed in great abundance, and more resemble those of a single Rose than a Bramble. They are produced during the month of May, when the plant becomes at once an ornamental shrub of the first water. The fruit is possessed of a delicious flavour, but is rarely produced in this country. As an isolated shrub in the border or on the grass, it usually grows to a height of 3 ft. or 4 ft., but when trained against a wall it attains double that height, and should on no account be omitted from a collection. It was introduced from North America as recently as 1870.

THE SOUTHERN BRAMBLE *(R. australis)*.—The curious and remarkable foliage of this species is probably unique in the genus. The leaves are constructed on the same plan as those of the Common Bramble, but there are only three leaflets reduced to the midribs with a small portion of lamina at the very apex of each. The stems attain a great length under favourable circumstances and branch freely, while every part of the stems, leaves and flower stalks are covered with sharp, recurved prickles. The leaves of plants newly raised from seeds are ovate and much more like those of the usual type of Bramble, but this character is soon lost, and the plant develops into that form with which we are acquainted. The flowers are pink or white, but seldom, if ever, produced in this country. The past winter cut it up badly, but young wood was thrown out from the main stems. The species is most suitable for covering a wooden fence or wall, and is thus able to stand the winter. Collectors would find it a most interesting subject.

THE WHITEWASHED BRAMBLE *(R. biflorus)*—Although not the only species with white stems, it is that usually seen in gardens, and comes from the Himalayas. The stems are covered with a white farinose powder, which remains upon them all the winter after the leaves have fallen, and gives those who are unacquainted with it the impression that the stems have been purposely whitewashed. The flowers are by no means conspicuous, but they are followed by yellow fruits in the autumn, and which are edible but not very highly flavoured, at least, in our climate. The stems are of biennial duration like those of the Raspberry, and attain a height of 10 ft. or 12 ft. every year. The plant is suitable for training against walls or for large shrubberies. Fine effects might be produced by planting it in clumps together with the Golden Willow (Salix alba vitellina) or the red-stemmed Cornus alba, all of which are conspicuous after the fall of the leaf. This idea might more frequently be carried out than it is.

THE PURPLE-HAIRED BRAMBLE *(R. phœnicolasius)*.—Unfortunately this Bramble is not as hardy as the other kinds mentioned, although it comes from Japan. In the southern and more favoured parts of England it may succeed fairly well, but the best growth is produced when planted out in the bed of a large conservatory or greenhouse. Here the strong, upright stems will attain a height of 10 ft. or 12 ft. well furnished with large leaves consisting of three leaflets. The whole plant is covered with reddish-purple, gland tipped hairs which suggest the specific name. The plant is showy for this reason alone, and when well furnished with deep-red fruit, is certainly handsome.

THE ROSE-LEAVED BRAMBLE *(R. rosæfolius)*.—The temperature of a greenhouse is also necessary for this beautiful species with its finely pinnate Rose-like leaves. The flowers are white, and are succeeded by large, scarlet, edible but not highly flavoured fruit. The double form, R. r. coronarius, is by far the more popular of the two, and bears large, very double, pure white flowers resembling those of a small Rose. Both were introduced from the Himalayas (some say from the Mauritius) in 1811.

HYDRANGEA PANICULATA GRANDIFLORA.

I SHOULD have thought that there could be no two opinions as to the hardiness of this shrub. Here we find it to be, even in such a severe and protracted winter as the last, hardier than many other kinds of shrubs reputed for their hardiness, as, for instance, Laurustinus and the deciduous Virburnum plicatum, both of which were severely nipped here last winter, while H. paniculata grandiflora was not the least touched with frost, and is now blooming very freely.

I cannot, however, say so much for the varieties of the Hortensis type, as here they partake more of the sub-herbaceous habit, and are cut down to the ground every winter, and in such winters as the last killed outright where they were not well protected over their roots with ashes or litter. Only in the mildest of winters have their succulent shoots come through unscathed, and been in a condition to bloom at the proper season.

It is in the succulency of their shoots which gives to the Hortense varieties of the Hydrangea a sort of sub-herbaceous habit, and their liability to be killed down to the ground annually, that would make many think that they are really "herbaceous perennials," instead of half-hardy shrubs. But why use the term "perennial" at all in schedules of prizes, where both hardy annual and biennial flowers are admissable in collections of hardy flowers, be they from plants of a herbaceous habit or not. Hydrangea paniculata grandiflora is as much entitled to be termed a perennial as any other plant if the term simply means a springing into new life yearly, but, then, so would any other tree or shrub of a woody habit and nature.

Through an understood custom of long use the term has been allowed to be applied and restricted in its use to a section of plants which annually die down in their tops but which keep alive in their roots through the winter, and then, at the call of genial spring, to again push forth stems and shoots to be in due time clothed with floral beauty. To this kind of plant botanists have given the term names, "herbaceous-perennials," in contra-distinction to annuals and biennials, whose existence is for only one and two years respectively, dying at both root and branch as soon as they have flowered.

I quite agree with your correspondent "R. D." in thinking it would be better if the compilers of schedules of prizes would omit the terms "herbaceous perennials" and put in their place "hardy border flowers," with such qualifying term as "hardy shrubs not allowed." I have frequently, when judging at some of our local flower shows, been under the necessity of passing by, or disqualifying, meritorious stands of collections of hardy flowers because they contained flowers which by no stretch of the imagination could be called "hardy" border flowers. I have very often seen bunches of Pelargonium flowers used in collections of flowers which were intended to be hardy flowers, but where, in the wording of the schedule of prizes, it simply said border flowers, leaving it to the exhibitors to understand that hardy flowers were meant.—*J. Kipling, Knebworth.*

FLORICULTURE.

The National Pink Society

THE numerous admirers and supporters of that grand old sweetly-scented flower, the "Florists' Laced Pink," cannot but congratulate themselves that their many years, continual perseverance in the hope of resuscitating it as an exhibition flower have at last been rewarded, and with a success which the most sanguine could scarcely have anticipated. The establishment of a National Pink Society, in three sections, viz., the Southern, Midland and Northern, drove in the "wedge of success" perfectly straight, and the only course now required to ensure its future prosperity, and to turn a little society into a big one, is for the respective committees of each section to work amicably together, under precisely the same rules and regulations as each other, in every respect, so that if any grower should have the opportunity of exhibiting his flowers at more than one of the Societies' sections, or at all of them, he will find that the same rules as to entering his exhibits, staging them and judging them will apply.

The two seasons the Society has passed through have been anything but genial, and disappointment has resulted to many, especially in the North and South, through the flowers not being sufficiently matured on the dates of exhibition. The Pink Shows announced in London for June last, the dates of which in ordinary seasons would have been suitable, turned out at least a week too early for the blooms; and at Manchester it was somewhat similar, the flowers of Mr. Barlow and his friends not being anywhere near ready, and what blooms they managed to exhibit were consequently placed in an inferior position to their usual standing. This happened remarkably unfortunate for my friend Mr. Barlow, who I understand had an unusually fine bed of well-grown plants. The growers of the Midlands were more fortunate, but even the 14th of July was too early for them, but some of them helped Manchester on the 18th by carrying away their principal prizes.

The exhibitors at Wolverhampton and Manchester were numerous, and there were many flowers staged possessing great merit in natural quality and skill in cultivation. On the other hand there were flowers exhibited and awarded prizes with very rough or serrated petals, and coarse unrefined lacing, and some at Manchester containing only twelve and fifteen petals.

Now after so much has been said and written about large coarse flowers, and those containing only twelve, fifteen, and seventeen petals, and what should constitute a good exhibition Laced Pink of the present day, it seems surprising to me that the keen eyes of the judges were not more closely fixed upon the points approaching perfection.

It will be quite clear to any Pink growers of the present period that a flower with only twelve petals in it is not worthy of a prize; and yet it would be only natural for someone to say that such a flower with twelve good well-laced petals is as much entitled to an ordinary class prize as a flower with only seventeen petals is entitled to the "premier" prize of the whole exhibition, as in the case of Empress of India this year at Wolverhampton and Manchester, and with Modesty at Manchester last year, and Empress of India at London.

Now I will ask what constitutes a "premier"? It certainly cannot be a flower with only seventeen petals in it, and because they happen to be broad ones, and the lacing bright in colour, which is the case with Empress; and in regard to Modesty it could not be in consequence of its being extra refined in the lacing, neither could it be on account of its petals being free from serration on the edges, for Modesty never possessed these qualities nor ever will.

A "premier" should be the best "all-round" flower, taking all the good points, and bad ones too, into consideration, and I know that had these conditions been considered neither Empress of India nor Modesty would have been placed in such positions.

Supposing a person anxious to make a start in the cultivation of "Show" Laced Pinks, takes up the report of these winning varieties in the hope of selecting a good collection, including those varieties awarded by the judges the principal prizes; and assuming that such varieties are unknown to him, and that he has been previously informed by a reliable Pink grower that a flower approaching perfection should contain from thirty to forty petals, free from serrated edges, and refined in lacing. Just imagine his disappointment after ordering these varieties, believing them to be the "best of the best," and discovering them when they bloom to be nearly singles, and such as I have intimated, "only second class varieties," and not approaching the standard of perfection!

I have no doubt that some Pink growers will at once condemn me as presumptuous for expressing my views in such a peremptory manner; and I hope they will, as it may lead to a little friendly controversy, and be the means of some definite understanding being arrived at as to what a good laced Pink should be, and what the "points" should be (which is really more important than anything) which the judges should adopt as the basis of their discussion. The question is one that ought to be at once thrashed out, so that before new beginners or amateurs send out their orders intended for next year's bloom they may know what kind of flowers approach nearest to the present standard of perfection.

Perhaps Mr. Barlow, the Rev. Mr. Horner, Mr. Ranger Johnson, Mr. Turner, Mr. Wardill, Mr. Lakin, Mr. Hooper, Mr. Brown, or any other person interested in the subject will kindly give their views. —*James Thurstan, Finsbury House, Richmond Road, Cardiff.*

Seasonable Notes on Some Florists' Flowers.

AURICULAS.

All growers of this lovely and fascinating flower are found bearing testimony to the fine growth they have made during the summer. The plants are vigorous, clean, and very promising—all unite in saying this. Mine are all potted, and the plants are now putting on the growth they make at this time of the year—the second period of activity during the year. What the plants now require is abundance of light and air, water being applied as required and according to the weather. The cultivator should guard against the ravages of a little green grub, that works silently eating its way into the hearts of the plants, and doing incalculable mischief if not discovered. As soon as there are indications that a group is perforating the leaves or eating the sides let there be no rest until the marauder is discovered and summarily executed. Let the plants be kept free from green fly. Some are putting up autumn trusses; it is a habit of the Primulas, and cannot be prevented. Whether the season be hot and dry or cold and wet, whether repotted early or late, the appearance of autumn trusses may be anticipated.

POLYANTHUS, GOLD-LACED.

What few plants I held over from the spring have done well. The cool, moist summer has suited them; they are all repotted and making excellent headway. Seedlings from seed sown last autumn are strong, and, being of good blood, I am hopeful of something good, but I have but a very few plants. As there is plenty of room for some good named varieties of Gold-laced Polyanthus, attempts should be made to raise seedlings. When at Cardiff the other day, I found that our friend Mr. Thurstan has a batch of very promising seedlings, raised from George IV., Cheshire Favourite, &c., all produced from fertilized blooms, and, if the adage be true that the further we go west the more certain we are that the wise men came from the east, we may yet hope of hearing that something good in the way of Gold-laced Polyanthuses of rare quality has come out of Cardiff. Plants that are in pots should be placed so that the worms cannot get into the pots. They should be kept cool, and on no account allowed to suffer for want of water. Any plants requiring repotting should be attended to at once.

DOUBLE PRIMROSES.

I have several times endeavoured to induce the Committee of the National Auricula Society to encourage the growth of the pretty double Primroses in pots by offering prizes for them at their April show. Instead of taking a step that might induce amateurs to attempt their cultivation, they encourage the nurserymen who grow double Primroses largely to lift plants from the open, place them in pans, and show them in a way in which they are never seen to advantage; and yet I cannot see why they should not treat them as they do the Gold-laced Polyanthus, and require them to be grown in pots. Now is a good time to procure varieties and pot them up, placing them in a cold frame or in the open air, and keeping them cool and moist. Such varieties as the Old Velvet Crimson, Purple, Crimson Purple, Lilac, Giant Yellow, White, Croussii, Platypetala plena, Blush, and Early Sulphur are beautiful when well grown in pots. Unfortunately our springs are now late and inclement, and if the double Primroses bloom in the open they become disfigured by weather and are rarely seen to the best advantage. But when they have the shelter of a cold frame the flowers come large, clean, bright, and pure, and well worth the trouble of cultivating. What can be more beautiful than the Old Crimson Velvet? but it is only in very favourable positions that it will do well in the open, and in nine cases out of ten should be cultivated in pots to have it in perfection.—*R. D.*

GODETIAS.

THE above name is the best known appellation of a number of species now included amongst the Œnotheras or Evening Primroses. They are annuals of relatively dwarf habit, and the large, showy flowers obtained from Œnothera Whitneyi, Œ. amœna, and Œ. a. rubicunda and some of the others belonging to the section Godetia, are occasionally cultivated. They are characterised and distinguished from Œnothera proper by a shortly four-lobed stigma, a short calyx tube and a slight wing to the seeds. There are about a hundred species of Œnothera altogether, but relatively few of them belong to the section Godetia. The most popular garden varieties of the latter have been derived from the two species and the variety above named, which are natives of California and North-West America. They are very hardy, and if sown in thin, well-drained soil during August or September, they will survive the winter and flower in spring. They may again be sown in March, April, or May, for a succession during the summer months.

A collection of the leading and most popular kinds may be seen in the gardens of the Royal Horticultural Society at Chiswick, where they have been flowering for many weeks past. Œ. Whitneyi is a species and one of the finest, with large bright carmine-rose flowers, deepening to crimson in the centre of the petals, and fading to blush at the margins. In rich soil the plant grows to the height of 18 in., the principal axis being much taller than the side branches. Lady Albemarle is one of the finest garden forms, and is likely to hold a place in gardens for many years to come. The large flowers are brilliant carmine fading to rose at the margin, and blush or pink at the base. About 12 in. to 15 in. is its usual height in rich soil, but it is dwarfer and makes a greater display in poor or sandy soil. Here, however, it soon runs to seed, while it continues to flower for a longer period in good garden soil. The Duchess of Albany is another favourite about the same height, with purple flowers giving place to rose at the edge, and rose or lilac at the base. The Duchess of Fife is a newer variety, not exceeding 12 in. in height, even in good soil, and has white flowers with a carmine blotch in the centre of each petal. Similarly dwarf is the Duke of Fife, but the flowers are carmine, deepening to crimson on the centre of the petals and rose at the base.

The Bride is popular with many growers on account of its pleasing colour and continuous flowering habit. This latter character, however, is dependent upon its habit, for it ranges from 18 in. to 24 in. in good soil, and favoured by a wet summer such as the past has been. The flowers are only of medium size when compared with such as Lady Albemarle and Duchess of Albany, but white with a red zone at the base. The branching stem assumes a pyramidal habit, whereas the dwarf varieties are flat topped or nearly so. Of a dwarfer habit is Princess of Wales, another old favourite, varying from 12 in. to 18 in. high, with large flowers of a deep rose or ruby-crimson, fading towards the margin, and somewhat flaked with pink at the base. Lady Satin Rose is similar to Lady Albemarle in habit, but is even slightly dwarfer. The plants in a row form a close mass about 12 in. high, with large flowers having a large rosy-carmine blotch in the centre, fading to rose at the margin and pink at the base. It is probably as much a favourite amongst gardeners as Lady Albemarle. The dwarf habit has been secured by the selection of seedlings presenting that peculiarity. The result is a finer display just when the plants get into full bloom, but this is at the expense of continuous blooming.

THE HERBACEOUS BORDER.

Choice Plants in Flower.

LILIUM TIGRINUM SPLENDENS.—The Tiger Lily is now in all its glory, and when planted in quantity is capable of producing magnificent effects. When planted in the open ground or amongst Rhododendrons the stems vary from 18 in. to 4 ft. or more, according to the strength of the bulbs. The linear leaves are of a bright shining green, but occasionally assume a bronzy or black appearance on certain individual plants. The numerous bulbils in their axils serve to distinguish this species. The flowers of the variety under notice are borne in a broad deltoid or sub-pyramidal raceme, are of large size and bold in character, and orange-red with fewer and larger blackish-crimson spots all over the segments. The species is very robust and hardy. Some large beds of it in different parts of the gardens at Kew are now highly conspicuous.

LINUM MONOGYNUM.—This has more right to the title of New Zealand Flax than the plant which has already appropriated it (namely, Phormium tenax), seeing that the latter is not a Flax at all, whereas the former is both a species of Flax and comes from New Zealand. It is of subshrubby character after it attains some age, and annually throws out fresh shoots which flower. Some of the branches get partly killed back during winter in this country, with the effect that the plant remains about a foot in height, well furnished with foliage, and the shoots terminating in large pure white flowers. In the Channel Islands it sometimes forms a bush 3 ft. high. It is readily propagated by seeds or cuttings.

LYTHRUM VIRGATUM.—The Twiggy Loosestrife lacks the bold and massive effect of our own native wilding (L. Salicaria), which is now the glory of the banks of the Thames and other rivers, canals, and streams in England; but it certainly has a charm and grace of its own. The stems are slender and twiggy, the leaves narrow, and the purple flowers are plentifully produced in the axils of the upper leaves, as well as on the slender lateral shoots which give the inflorescence a panicled appearance. The species is a native of Tauria, from whence it was introduced in 1776, and is perfectly hardy, flowering all the summer.

COREOPSIS LANCEOLATA.—None of the perennial species of Coreopsis are neater or more showy when in bloom than the subject under notice. It varies from 18 in. to 3 ft. high, but a medium height is both more common and preferable. In fact it should occupy the second or third line from the back of a herbaceous border, and when planted in fair sized clumps it cannot fail to be a conspicuous object even at a distance during the months of August and September. Propagation is easily effected by division after the flowering period is over.

CHRYSANTHEMUM ARCTICUM.—The leaves of this species are deeply divided with wedge-shaped segments, and the stems dwarf and spreading. The rays are pale purple or lilac, and therefore both characteristic and distinct, for the majority of Chrysanthemums have white or yellow rays.

LOPHANTHUS ANISATUS.—Owing to the particular odour of this plant it is spoken of as the Anise Hyssop. It is a North American plant introduced in 1826, but by no means common in gardens considering its showiness, hardiness, and the length of time it has been in this country. The leaves are heart-shaped, deep green above and hoary beneath. The stems vary from 2 ft. to 3 ft. in height, and terminate in cylindrical spikes of blue flowers with a purple calyx that in the aggregate is conspicuous even after the corolla has dropped. The plant is a member of the Labriate family, which includes Mint, Sage, Lavender, Thyme, and other sweet-smelling herbs.

PHYGELIUS CAPENSIS.—Where prizes are offered at exhibitions for herbaceous plants, especially in the northern counties, the Cape Figwort is generally in great request to make up the stands. The drooping scarlet, or almost crimson, tubular flowers are produced in long racemes terminating the stems. The leaves are ovate or the upper ones lanceolate, and the whole plant bears much the aspect of a Penstemon, only the flowers are more tubular. A sunny aspect near a wall is the best position for it, as the stems and leaves are liable to be injured by frost in severe winters. The plant is easily propagated from cuttings

ZEPHYRANTHES CANDIDA.—The Peruvian Swamp Lily, although it comes from Buenos Ayres, is hardier than is generally supposed, and instead of growing it in pots cultivators might try it in the open border in warm sheltered places. In the mild and equable climate of Jersey it is planted in beds alongside of the Daffodils, and flowers splendidly during September and October. Narrow borders in front of stoves and vineries would meet its requirements in this country, and the plant under those conditions would develop rich, dark green foliage and a long succession of large pure white flowers.

ASTER LÆVIS.—The Smooth-leaved Aster in its typical form is one of the best for border decoration, flowering finely during the month of September. The stems are generally 2 ft. high, but in wet seasons they get a little taller, producing flattened panicles of bright blue flowers that cover the upper part of the plant. The leaves are smooth and of a bright shining green. There are numerous forms of the species in gardens, some of them reaching a height of 4 ft. to 5 ft.; but although the flowers are generally of a bright shade of blue, none of them excel the type for beauty and neatness.

WHAT IS A HARDY PERENNIAL?

THIS is an easy question to ask, but not so easy to answer so far as exhibiting them at flower shows is concerned. I was asked the same question as "R. D." (p. 825, vol. vii.) by a friend who attended the Bridgewater Show, and agree that the exhibitor staging Hydrangea paniculata grandiflora was rightly disqualified, on the ground that it is not a perennial in the sense intended by the Schedule. No doubt it is a perennial in the strict sense of the word, but so is the Oak and the Ash, yet no one would dream of putting up either of these in bloom at a flower show, because every one understands that the word perennial as used in schedules is not meant to include them.

As to the hardiness of Hydrangea paniculata grandiflora, I may say that with us it stood the frosts of the past winter much better than the common Laurel. We have several plants, but not one of them was in the least injured, and they are grandly in bloom now, while the common Laurel was much damaged The judges in question should certainly have said nothing against its hardiness, as from my experience in various parts of the country it is much hardier than any of the other Hydrangeas, and it is greatly to be regretted that it is not better known and more extensively planted. Many know the plant only from seeing it grown in pots, with one or more immense heads of bloom, almost pure white, and this may be the reason why they consider it not hardy.

I agree with "R. D." that schedules are too frequently very loosely drawn up, leaving the door open for confusion and contention. When considering these classes why not simply say hardy flowers? Why is not a bunch of Ceanothus, of Hydrangea, of Jasmine, or of anything else of this class equally as deserving of encouragement as hardy flowers from the border. They are surely as beautiful as hardy Phloxes or Galtonia candicans. As to hardiness, plants must be judged by their behaviour in this respect in different localities, as what may be quite hardy in Devonshire or Cornwall, may not be able to stand a winter in a colder district. When a plant is said to be hardy I think it ought to be qualified by stating to what extent.—*Con.*

FRUIT NOTES.

THE GOLDEN PERFECTION MELON.

It is doubtful if this Melon is surpassed for culture in frames. It is an old variety, but none the less a good one. During the last three years I have had to grow Melons in frames on dung beds; and wanting the fruits in September and October, to get them from frames, it is necessary to have a free setting sort, and this I have found to be eminently the characteristic of Golden Perfection. I have tried many new sorts along with it, but have found none to equal it yet. Four other sorts are being tried with it this season, but none of them compare favourably with Golden Perfection. I am not alone either in possessing a good opinion of this variety. My old friend, Mr. Birkenshaw, gardener at Bridehead House, Dorchester, has grown it for many years as a frame variety, and having tried it against many other sorts, is as convinced as I am that it has no equal. —*Con.*

Gleanings from the World of Science.

Chemical Manures for Peas, Beans, and Haricots.—In the case of a large majority of cultivated plants great stress is laid upon a supply of nitrogen in some form or other when supplying them with manure. Leguminous plants such as those above mentioned are not perceptibly benefited by supplies of nitrogen, and the reason has been sought for by scientists for many years past. One explanation is that the deep rooting nature of many of them enables them to draw nitrogen from a great depth of soil; another reason is that the presence of bacteria in the small tubercles found on the roots of Leguminous plants enables the latter to assimilate the free nitrogen of the atmosphere. A large percentage of nitrogenous constituents are found in the tissues, consequently they must have some special means of getting it which other plants do not possess. What would be considered a complete manure for the above crops contains about 320 lbs. of phosphate of lime, 160 lbs. of nitrate of potassium, and 320 lbs. of sulphate of lime, or about 800 lbs. all told per acre, at an expense of £3 5*s.* 4*d.* Carbonate of potassium should be substituted for the nitrate, but the latter is used because much cheaper. No nitrogen is really necessary, and even in the above receipt for the kinds and relative quantities required the nitrogen included is practically of no importance whatever.

Native Food Plants in British Baluchistan.—Several plants are eaten by the people as vegetables, the principal of which are the young leaves of Eremurus aurantiacus, Lepidium Draba, and Chenopodium Botrys. The bulbs of Tulips (that of Tulipa chrysantha having a pleasant taste like a nut) and of Iris Stocksii are eaten, and also the fleshy rootstocks of Tragopogon gracile and Scorzonera mollis. The nut of Pistacia mutica, var. cabulica, is greatly relished, although very small compared with that of P. vera, and with a strong flavour of turpentine. Amongst other fruits are those of Olea europœa—eaten chiefly as a medicine, the kernel of Prunus eburnea, Berberis vulgaris, Berchemia lineata, Sageretia Brandrethiana, and the fruit of Astragalus purpurascens, called "Palez." In certain years a kind of manna is found on Cotoneaster nummularia, whose fruit is also eaten by the people. At Sibi, the fruit of Salvadora oleoides is collected, and on the higher hills the carraway seed is collected in large quantities.—*J. H. Lace, F.L.S., in the Journal of the Linnean Society.*

Lathyrus sylvestris as a Fodder Plant.—It cannot be said that we are very enterprising in utilising the native plants at our command either as fodder for cattle or other purposes. There are several species belonging to the Pea family besides the species of Clover, Common Vetch (Vicia sativa), Lucerne (Medicago sativa), and Sainfoin (Onobrychis sativa), which we might turn to profitable account. For instance, the Whin (Ulex europœa) is an excellent fodder for horses, but its use is dying out, except in some parts of Scotland and probably Wales. The plants are cut and subjected to a crushing process by rolling a large stone like a millstone over them by the aid of a horse, after which they may be freely eaten by horses. About sixty years ago Vicia Cracca was considered an excellent pasture plant. Lathyrus pratensis might be used for the same purpose. The species of Melilot are greedily eaten by cattle, where they grow in a wild state; the leaves are fragrant and no doubt palatable and good food. Within recent years some attention has been given to the use of Lathyrus sylvestris as a fodder plant where it grows in a wild state, and in consequence of this some people are now growing it in small quantities by way of trial. The only objection to its introduction to the cultivated field is that it is perennial, with strong and long roots penetrating the soil deeply. Waste land and hill sides, especially of a chalky nature, might, however, be permanently sown down or planted with it. The stems grow to a height of 3 ft. to 6 ft. when supported by anything, but no staking is actually necessary as they then spread over the ground, forming bulky masses, which could be cut and used in a green state or dried and used as hay. A top dressing might occasionally be given to keep up their vigour.—*J. F.*

THE ROYAL CALEDONIAN HORTICULTURAL SOCIETY.

The celebration of the fifth great International exhibition of horticultural produce in Edinburgh this week, under the auspices of the Royal Caledonian Horticultural Society, is an event which has drawn to the Scottish capital a greater number of British horticulturists than has been brought together in any place since the memorable International exhibition held in London in 1866. Did space permit we should have been glad on such an interesting occasion to have given some account of the Society's history, which embraces a long and honourable record of faithful devotion to the cause of Scottish horticulture, but for the nonce we must content ourselves with a less ambitious programme. It must be said, however, that the Society has ever been fortunate in securing for its governing body the best business talent to be found among the nurserymen, gardeners, and amateurs of Edinburgh, and it has been well served by many able men, who not being so closely identified for the moment with the management of the Society's affairs as the gentlemen whose portraits are given herewith, find no place in our gallery to day, yet whom we should have been delighted to honour had circumstances permitted.

Mr. William Young has been well known among the gardening fraternity for a great number of years, having filled the office he now holds as Assistant Secretary to the Society for about thirty years, and for many years previous he filled similar offices in connection with other horticultural societies in Edinburgh and in his native town of Haddington. From his earliest days Mr. Young has displayed a keen natural taste for flowers, and has won considerable fame as an amateur grower of Auriculas, Carnations, and Hyacinths. Since he retired from business as a boot and shoe maker, some ten years ago, he has devoted his time to the affairs of the Society, and carries on his duties with unflagging enthusiasm, although considerably beyond the allotted span of threescore years and ten. To Mr. Young, in a very great measure, is due the honour of having initiated the movement for holding the present International exhibition, and conducting it to such a successful issue.

Mr. Malcolm Dunn, gardener to the Duke of Buccleuch, at Dalkeith Palace, Midlothian, is one of the most popular men in the Scottish horticultural world. He has served the office of member of the Council of the Royal Caledonian Horticultural Society, and is a member of the committee appointed to carry out this year's "International." He has also rendered the Society valuable service as Editor of some of its publications. He was the first President of the Scottish Horticultural Association, and has always been one of its most active supporters. Besides all matters appertaining to horticulture, the science of Arboriculture also claims from him a large share of interest and attention, and for many years he has been an active member of the Council of the Royal Scottish Arboriculture Society. Mr. Dunn was for a few years gardener at Powerscourt, and succeeded Mr. William Thomson at Dalkeith, when that gentleman established the famous vineyard at Clovenfords.

Mr. Angus A. McLeod, the much respected and able superintendent of the public parks and gardens of Edinburgh, is a member of the Council of the Royal Caledonian Horticultural Society. He has been connected with the management of the Society's exhibitions for 27 years, and is one of the comparatively few recipients of the "Neil Prize." Mr. McLeod has had an extensive gardening experience. He served as foreman in the gardens of the Marquis of Exeter, at Burghley Park, at Milton, near Peterborough, and at Earl Fitzwilliam's, Wentworth, Yorkshire, and for nineteen years was gardener to the late and present Marquis of Lothian, at Newbattle Abbey, near Dalkeith, before being appointed to the important office under the Corporation of Edinburgh, which he has filled for some years with so much dignity and ability.

Mr. David Pringle Laird is the eldest son of Mr. R. B. Laird, senior partner of the firm of Messrs. R. B. Laird & Sons, nurserymen and seedsmen, of Edinburgh, and a young man of rare energy and business capacity. He is a member of the Council of the Royal Caledonian Horticultural Society, an ex-President of the Scottish Horticultural Association, which he largely helped to establish, and of which he was also the first Treasurer. A popular man in the horticultural community, Mr. Laird has a warm place in his heart for all horticultural movements of a progressive character, and has done as much as anyone to promote advanced education among young gardeners in Edinburgh at the Heriot Watt College. He is a host in himself when there is hard work to be done, and lends a willing hand to any movement likely to be of benefit to gardeners and gardening.

Mr. John Methven, senior partner of the firm of Messrs. Thomas Methven & Sons, nurserymen and seedsmen, has the reputation of being an excellent man of business, and popular among his fellow tradesmen. Still a comparatively young man, he takes a keen interest in all matters connected with improvements of horticulture and the advancement of the social status of gardeners. He is a member of the Council of the Royal Caledonian Horticultural Society, and holds office in most of the societies in Scotland devoted to the interests of gardening and rural affairs generally.

Mr. Alexander Milne, sole proprietor of the old established firm of Messrs. James Dickson & Sons, nurserymen and seedsmen, Hanover Street, is an active member of the Council of the Royal Caledonian Horticultural Society, an ex-President of the Scottish Horticultural Association, and for several years the energetic Secretary of that useful institution after its foundation. To Mr. Milne indeed is due much of the prosperity which the Association has attained. He is also a keen Arborist, and member of Council, and a regular attendant at the meetings of the Royal Scottish Arboricultural Society. Nothing comes amiss to Mr. Milne in connection with the promotion and management of societies designed to advance the cultural arts, or to benefit his fellow-men.

Mr. William M. Welsh is the senior partner of the firm of Messrs. Dicksons & Co., nurserymen and seedsmen, Waterloo Place, President of the Scottish Horticultural Association, and member of the Council of the Royal Caledonian Horticultural Society. He is well known as a skilful landscape gardener, as well as being an enterprising fruit grower and farmer, in addition to being the moving spirit in the large business concern carried on by his firm, one of the oldest now in the nursery trade of Edinburgh. Of recent years the firm has worked up one of the best collections of hardy fruit trees in Scotland, to which important branch Mr. Welsh has devoted much skill and attention.

Mr. Robert Lindsay, Curator of the Royal Botanic Gardens, Edinburgh, is President of the Edinburgh Botanical Society, and an active member of the governing bodies of several kindred societies in Edinburgh, including the Royal Caledonian Horticultural Society. Mr. Lindsay, who succeeded the late Mr. John Sadler at the famous Edinburgh Botanic Garden, has an unusually extensive knowledge of the British Flora, and has distinguished himself as a raiser and cultivator of many tribes of plants which require more than an average amount of forethought and attention to command success, and which often baffle the most skilful horticulturists to grow them well. The fame of the Pitcher plants, Sarracenias and other "carnivorous" plants under his charge is world-wide; and the splendid collection of Alpine and hardy herbaceous plants is unrivalled; while coniferous plants and hardy trees and shrubs are not excelled in any similar botanic garden in the world.

Mr. George Mackinnon, gardener and local factor to the Right Honourable Viscount Melville, Melville Castle, Midlothian, is an active member of the Committee which has been engaged in the promotion and carrying out of the great International Fruit and Flower Show, and has served the office of member of the Council of the Royal Caledonian Horticultural Society. Mr. Mackinnon succeeded his brother Alexander (now gardener to the Earl of Mansfield at Scone Palace, Perth) about ten years ago, when quite a young man, and has greatly distinguished himself by the perfect state in which he has kept the garden establishment entrusted to his care, and the success he has attained at horticultural exhibitions with all kinds of garden produce, and especially in the fruit classes in which he is generally hard to beat.

THE INTERNATIONAL SHOW AT EDINBURGH.

Edinburgh, *Wednesday Morning.*

The Royal Caledonian Horticultural Society and its Council are to be most heartily congratulated on the success of the fifth international exhibition opened in the Waverley Market this morning. The previous gatherings of a similar character showed a marked advance on each other, but this year's display eclipsed all at every point. The vast floor of the Waverley Market is filled to repletion and with the best of everything.

The arrangements, too, are all that could be desired from the effective display of such widely diverse materials, the tables of plants and group of specimens being placed along the centre, with the fruits and vegetables along one side of the market and cut flowers on the other, the whole presenting from the galleries an exceedingly effective floral tableau. The three special features of the show are the Grapes, the Vegetables, and the tables of plants; and as usual here the preponderance of the former over all other fruits is very marked, but perhaps to the average gardener the show of vegetables, and especially of potatos, will prove the greatest source of interest; the collections of the former are exceedingly numerous and of superb quality, while of the noble tuber in two classes there are no less than 1,500 plates, quite an extraordinary competition for a few, but liberal prizes offered. The total number of entries was 3,850, yet so admirably had the immense amount of clerical work been got through by Mr. Young and staff, and the stage arrangements been completed by the Show Committee, that the judging was got through in about two hours.

The champion collection of twelve dishes of fruit comes from Mr. McIndoe, Hutton Hall, Guisborough, a very fine lot; and the second and third prizes are taken by Mr. D. Murray, Culzean Castle, and Mr. J. Hunter, of Lambton, both, of course, showing well.

In another class for twelve dishes, from which certain fruits are excluded, Mr. Hunter takes premier honours, closely followed by Mr. McKelvie, Broxmouth Park, Dunbar, and Mr. P. W. Fairgrieve, of Dunkeld, Mr. Hunter, Mr. McIndoe, and Mr. D. Melville, St. Boswells, also take the awards in another competition with twelve dishes, and the same exhibitors are also to the front with orchard-house fruits.

There are eight competitors for Messrs. W. Thomson & Sons' special prices for eight bunches of Grapes, and the premier one stops in Scotland, having been well won by Mr. Kirk, gardener to J. T. Paton, Esq., of Alloa. Mr. Taylor, gardener to Alderman Chaffin, of Bath, being second, and Mr. W. Murray, Park Hall, Polmont, third. For six bunches in a strong competition, Mr. Kirk is again first, Mr. McHattie, Newbattle, second, and Mr. MacKinnon, Melville Castle, third. The pair and single bunch classes are all exceedingly well contested, but one exhibitor distinguished himself in the "finest bloom" class in a manner that deserves the strongest condemnation. He had "faked" his bunch until it stank of sulphur, and so exposed his dishonesty. The heaviest bunch of black Grapes is one of Gros Colmar weighing twelve and a half pounds, shown by Mr. J. Mattison, of Currie. Pines are not numerously represented, but all other kinds of fruit are plentiful and good.

The amount of produce brought out by the vegetable classes, and the uniformly high character of all is most satisfactory, the competitions with collections and single dishes being exceedingly keen. All of Messrs. Methven & Sons' prizes for a collection are taken by English gardeners, the awards going in the order named, to Mr. Pope, Highclere Castle, Newbury; Mr. Muir Margam, Port Talbot; and Mr. Wilkins, Inwood House, Dorset. Miss Thomson's prizes are taken by Mr. James Cocker, Lochryan, Stranraer. Mr. Low, Stirling, and Mr. G. Potter, North Bank, all exhibiting grand produce. The best collection of eighteen varieties of Potatos shown for Messrs. James Dickson & Son's Prizes come from Mr. John Sinclair, Harveston Dollar; Mr. Robertson, Hartrigg House, coming in second; Mr. John Gentleman, Armadale, third. And in the class for six varieties, the last-named exhibitor takes the premier, Mr. McFarlane being second, and Mr. E. S. Wiles, Edgcote, third.

Mr. ANGUS A. McLEOD.

Mr. MALCOLM DUNN.

Mr. DAVID P. LAIRD.

Mr. JOHN METHVEN.

Mr. WILLIAM YOUNG.

Mr. ALEXANDER MILNE.

Mr. WILLIAM M. WELSH.

Mr. GEORGE MACKINNON.

Mr. ROBERT LINDSAY.

Officers of the Royal Caledonian Horticultural Society.

INTERNATIONAL FRUIT AND FLOWER SHOW, EDINBURGH, 1891.

A FLOWER GARDEN AT KESTON.

There is the well-known Alpine garden of Mr. Lubbock, at the Rookery, that of Lady Lubbock, at High Elms, as well as those of my friends the Rector and the Vicar, all within easy walk of Keston, but to none of these am I now referring, but to a secluded cottage garden of modest pretensions that lies half hidden in the leafy shade of Elms and Limes in the village of Keston, and in which now and then I have the greatest pleasure in spending my spare half hours. Natural beauty from the curious surroundings is unfortunately all but wanting, but instead we have a rich collection of rare and curious plants all tended with the best of care and evidently quite at home in the rich and deep soil of this little known garden. Only yesterday I noticed a big mass of the Prophet flower (Arnebia echoides) with dozens of fully-expanded blooms, and foliage of the most luxuriant green growing within a foot of the lovely little Dianthus Lewisii it likewise smothered in flowers and evidently revelling in the niche of sandstone where it had years ago been crammed.

Hardly a yard from this the English Slipper Orchid (Cypripedium Calceolus), with the finest of flowers, was established in plenty, while near to us was another native Orchid gem in the pigmy Orchis ustulata, a curious but inviting plant with dark purple hooded flowers. The stately Onosma taurica next took my attention, for unless in Mr. Jackson's garden at Bangor I never before saw so fine plants of this wonderful floriferous perennial. Gentiana verna, G. asclepeidea, G. gelida, and G. Pneumonanthe were all flourishing to perfection, no dying out pieces nor whitened foliage nor stunted stems being visible, but all of the healthiest green, the former alone, as also G. acaulis, being fully in flower.

Iris cristata is curiously capricious in its nature, flourishing like our native fragrant Orchis (O. conopsea) with equal vigour on the loamy mound or by the stream bank amongst peat and leaf soil. Primula rosea and P. purpurea must have been grand if one might judge by the decaying flower heads on the dozens of each that were scattered here and there over the garden. P. viscosa nivalis was still in flower, and also P. Sieboldii (Miss Ware), the neat but prostrate and rather shy-flowering P. minima and P. Churchilli. The Italian Arum (A. crinitum), with its curiously mottled leaves and equally curious spadix, was just bursting into flower, if flower, for the time, I may be allowed to call it.

How little known a plant is the dwarf Birch (Betula nana), a tree of it here being thirty years old and 30¼ins. in height. It is, however, a plant of much interest, not only as being a native but for the neat dentated leaves and unusually dwarf habit which is constantly retained even under the best cultivation.

Good sized mosses of the purple Polygala (P. Chamæbuxus purpurea) have just now a most striking appearance, and can be picked out at quite a distance away so bright and distinct are the freely-produced flowers. It is a far preferable plant to the better known P. Chamæbuxus, and should be included in every good garden of showy flowers.

Linnea borealis, whether in flower or out of flower, is a charming Alpine of the neatest growth, and being a native plant should still more add to its value. Never before had I the pleasure of seeing it in flower, but in this Keston garden the pink of blooms were produced with the utmost freedom. It seemed to be growing in leaf mould and decayed and decaying twigs and leaves.

The great, fat, woolly buds of the Mocassin flower (Cypripedium spectabile) betoken a wealth of bloom later on, while not one wit behind these were the deep green-leaved Orchis foliosa, both these thriving side by side, and run through with the straggling marsh Helleborine (Epipactis palustris). The latter is a showy wildling of easy growth, but unfortunately a stranger to most gardens.

A very rarely seen shrub was growing under exactly similar conditions with the Cypripediums and Helleborines. This was the Umbrella Pine of Japan (Sciadopitys verticellata), with neat shoots of shining leaves and a conifer that must have dampish peat to do it at all well. Three other Alpine conifers attracted my notice much, the first, Abies excelsa clanbrasiliana, and the others pygmea and an unnamed form of the dwarfest and neatest growth.

Acer pygmea, an old tree but hardly a foot high, seemed a good thing for rock gardening, what might also be said of several species of Willow that came under my notice including the showy and rare Salix reticulata and S. Sadleri. Such pigmy trees, conifers and shrubs seem to me peculiarly suitable for planting on the rock work, they being something apart from the ordinary style of Alpine gardening.

The cold yellow of the mountain Wallflower contrasts strangely with the brighter bits of Silenes and Phlox of which the borders were very replete. Jamesonia Americana is worthy of attention, while the Mexican bridal flower (Choisya ternata) should not be a day absent from any garden. It is a wonderfully floriferous shrub, and as seen here growing in a cosy nook and carpeted with one of Mr. Neill Fraser's seedling Musks is apt to make one turn more than once for a parting look at so happy a combination.

To the rock garden at Rockville, in Edinburgh, this Kentish medley of plants is indebted for much, as I could easily see on perusing the labels, for the name of the donor occurred on not a few seedlings or crosses particularly. Veronicas fared bad during the prolonged biting winter to which we in "the Garden of England," particularly, were subjected. Out of a batch of seventeen from Mr. Neill Fraser, only two—V. buxifolia and V. Armstrongii—have survived, and most likely the deep coating of snow had much to do with this survival of the fittest.

Conspicuous occupants of a deep peaty bed were the various species of Andromeda, but undoubtedly the best of all were A. cosseriafolia and A. pulverulenta, the former in particular one of the handsomest shrubs that is in cultivation in this country.

Side by side with these was a clump of fully a hundred American Wood-lilies (Trillium grandiflorum), some, the majority indeed, 18 in. high, and with the biggest flowers of its kind I can remember seeing all due to the mild climate, and peculiarly rich, sandy, peat, or leaf soil of the district. Strange to say, Narcissi do well here, as a month ago I had the privilege of beholding, when nearly a hundred distinct kinds were in bloom and bud. Liliums, too, are here quite at home, L. auratum having become quite established for years past, while the great stems and borts of L. giganteum speak for themselves. My friend, however, speaks highly of a form of L. canadense picked up in the woods at Rochester, by Mr. Ellwanger.

The purple and crested Laburnums, yellow-fruited Hawthorn, Genistas procumbens, præcox, and Siberica, the June berry, orange-berried Vaccinium, Shepherdia argentea, and many other uncommon shrubs are occupants of one of its borders. Ledum palustre and L. Lyonii as seen here are plants of merit, if only for their great wealth of flowers, and the neat-habited Rhododendron Wilsoni, although a shy bloomer, is a happy shrub for associating with rockwork. Of a very floriferous nature is Genista hispanica, which bears cutting back with freedom, while the various species of desirable Barberries including Hooker's (Berberis Hookeriana) and the ornamental flowered and particularly graceful B. stenophylla. Growing in a sunny corner, Nuttalia cerasiformis and the Chamæcerasus fragrantissima bloom with freedom, the latter a desirable shrub with light pea-green leaves, and lots of sweet-smelling, pinky-tinged flowers. Trailing over a big mass of the Tunbridge sandstone is the now fairly common garland flower (Daphne cneorum), a plant of the greatest beauty and interest.

Hypolepis anthriscifolia has become quite established and survived the last winter, which is more than might have been expected. Hardy Ferns are, however, largely grown in this secluded garden, and I noticed several of my old favourite Blechnums—B. lineare, B. serratum, B. trinervium coronans, B. anomolum and a host of others. Of the forms of the Lady Fern-Athyriumfelix-fœmina acrocladon is well grown, as also is A. f. f. pulcherrimum, some of the rarer Shield Ferns (Polystichums) Scolopendriums, and almost every other branch of the family.

A visit paid to the same garden a couple of months ago was of the greatest interest from the large numbers of Snowdrops that were then in flower. Galanthus Shorlocki pleased me much, and G. virescens was equally distinct, while the uncommon G. poculiformis and several new forms were all of special interest.

Altogether this out-of-the way garden in the country is to me a source of special interest, my commission being to visit it when I like, but I fear that my notes are far from complete, and certainly do small justice to so varied and interesting a collection of flowering plants.—*A. D. Webster.*

SCOTTISH NOTES.

Scottish Horticultural Association.—The monthly meeting of this Association took place on the 1st inst., Mr. James Grieve, president, in the chair. Mr. M. King, Bonnington, read a paper on poisonous plants, in which he dealt with different varieties which come under the gardener's notice, and touched upon their properties. The paper gave rise to a good deal of discussion. Mr. J. H. Wilson, D.Sc., gave a communication on the subject of the fertilization of flowers. He spoke of the different methods of fertilization. He showed how pollination by water is accomplished in the case of such a plant as Vallisneria. He touched upon fertilization by wind, taking as examples the Nettle, the Willow, and the Pine. For the most part, however, he confined himself to the subject of pollination by animals, chiefly insects, and he specially dealt with two Cape plants, Wachendorfia and Albuca, which had been subjects of recent investigation by himself. In the case of one plant, the Aspidistra, he claimed for the slug that it was an agency in promoting its fertilization. Dr. Wilson urged how important it was for practical gardeners to pay attention to the subject of fertilization of flowers, and he pointed out how a knowledge of it was of practical utility. Some discussion arose upon the subject, and one member claimed more for atmospheric conditions in promoting fertilization than for insect agency. Dr. Paterson, Bridge of Allan, sent for exhibition a specimen of the Liquorice plant in flower. In a note accompanying it he stated that the plant had been known to flower in Scotland three or four times only during the past sixty years.

Stirling Flower Show.—This annual flower show was held in the Public Hall, Albert Place, on the 4th and 5th inst. The entries were not quite so numerous as on former occasions, but Sir Alan Seton Steuart, Bart., of Touch, who opened the show, said in his opening address that the society was a very old one, the exhibition had always been one of great excellence, and this year's show, in his opinion, was quite up to the standard of past shows in spite of the weather. The number of prizes offered was very large, and the competition in the division for pot plants was very close throughout—both amateurs and professional growers being well represented. Cut flowers were well shown, and the entries in some of the classes were numerous. Hardy fruits and Grapes were considered creditable. Mr. H. Watson, who took several first prizes for Grapes, also carried off the gold medal offered by Mr. Campbell Bannerman in that section.

Dundee Flower Show.—The twenty-seventh annual exhibition of the Dundee Horticultural Society was opened on the 3rd inst., by the Earl of Camperdown, in presence of a large and fashionable assemblage. The show, as usual, took place on an enclosed portion of Magdalen Green, immediately to the west of the Esplanade Station. There were three main marquees, in which ample space was provided for the display of the many exhibits in all departments which were sent in. There were other smaller marquees for the display of goods, etc., and in the centre of this enclosure was the bandstand, which was gaily decorated with evergreens. For the purpose of illuminating the grounds after nightfall a number of Bray lamps were erected on uprights. At each post a Fir was planted, which almost hid the uprights, and gave to the enclosure the appearance of a neatly laid out lawn. The other appointments were in keeping with the surroundings, giving to the show a most compact and pleasing appearance. The weather fortunately turned out to be fine, although some days previously the storms of wind and rain made it doubtful whether it would be possible to erect the show tents. The principal marquee was occupied by pot plants. Two rows of plants were arranged along the centre, and along each side were platforms on which table decorative plants, Ferns, succulents, and other subjects were staged. Stove and greenhouse plants were arranged for effect at the east end of the central rows, on tables 14 ft. by 7 ft. Orchids were poorly represented, but Coniferæ were shown in fine condition. Caladiums were noticeable for the size of their leaves. Tall and dwarf British Ferns were also a well-marked feature. Alpines are generally an interesting feature of the Dundee flower show, and on this occasion the exhibits had been well grown, but many of them were out of season and were deficient in flowers.

The Amateur's Garden.

Hints for Beginners in Plant Culture.

A few days since I received a communication from a lady amateur who is a reader of The Gardening World, in which she states, "I wish to try to cultivate a few Pelargoniums, Fuchsias, Cinerarias, Begonias, and Ferns, all of which I have seen at flower shows this season and greatly admired: will you be good enough to give me a few hints in The Gardening World for the management of the same." How could I refuse such a request, and so for the benefit of my correspondent, and I trust others, I herewith venture to jot down a few simple directions applicable at this season of the year.

Now we will presume the enquirer has a greenhouse, but we fear she may find it a little difficult to grow the more delicate Ferns with the other things she names, as they want more warmth in winter and early spring than a greenhouse affords. Indeed many of them do best in a warm rather than in a cool temperature; and that most popular of Ferns, the common Maiden Hair, Adiantium cuneatum, thrives as well in a tropical fernery as in a greenhouse temperature, and perhaps better. Not knowing what house convenience our correspondent has, I think she would do wisely to consult some gardener in her own neighbourhood as to the suitability of what glass accommodation she has, and the kinds of Ferns most likely to live in it. The large ornamental-leaved Begonias will do well with Ferns, and if they and the Maiden Hair Fern can be planted together against a wall, in a bed of Moss or Cocoa fibre and loam, supported by means of wire work, a very pleasing effect will be produced; and Begonias of this type do as well, if not better, in such a position as in any other.

It is likely that the tuberous-rooted Begonia is the type our correspondent wishes to grow. It is not too late to purchase a few small plants in pots at a nursery, and they will flower nicely in a cold house, and in making the purchase, plants that have just come into bloom should be selected. The foliage dies down in the autumn, then water should be withheld, and when the foliage has withered away the roots or tubers should be taken from the soil and kept through the winter in a box, with a little Cocoa fibre. Some artificial warmth is needed in spring to start the tubers into growth. The best plan is to stand them on a bed of Cocoa fibre, with hot water pipes under it, or near at hand, and keep the bulbs sprinkled; they will soon begin to grow from the centre, and then they can be potted, grown on in warmth to get them into size, and hardened off to flower in a cold house. A slightly moist rather than a hot dry atmosphere suits it best. Our correspondent may not be aware that tuberous-rooted Begonias are now much employed for bedding purposes; and nothing has stood the wet, cold, dull weather so well this summer as beds of Begonias. The most stormy weather scarcely dims their lustre.

Cuttings of show and bedding Pelargoniums can be put in at once, in pots or boxes of light sandy soil. If there are no plants to take cuttings from, and our correspondent has convenience to strike them, she can purchase them at a nursery, or wait until October and purchase plants of each. They will winter well, requiring simply a greenhouse from which frost can be excluded, and a little fire heat given in cold, dull, wet weather; or purchases may be deferred until the spring, when vigorous, well-established plants can be had at a nursery. If cuttings are struck this autumn they should, as soon as well rooted, be potted off singly into small pots, and wintered on a light airy shelf in a greenhouse. The cuttings will require but very little water until they are rooted. The pots of cuttings can be kept through the winter and not potted off until the spring, and when potted and they begin to grow, the leading shoots should be pinched out, so that the plants can be induced to break into several shoots and become bushy. But a great deal is gained if the young plants can be potted off in the autumn singly into small pots.

Fuchsias can be raised from cuttings in the same way as the Pelargoniums. The Fuchsia is a little tenderer than the Pelargonium, and, like the latter, must be kept from frost. But the plants lose nearly or quite all their leaves during the winter, and there is, therefore, not so much danger of losing the foliage by damp as in the case of the Pelargoniums. The young plants, when placed in the heat in spring, soon break into growth, and when potted on as required soon make fine young blooming plants with proper management. It is not too late to purchase young plants from a nursery, and a half-dozen good varieties could be had at a moderate cost.

Cinerarias are best raised from seeds, and it is now almost too late to sow with a promise of having good plants by November. But our correspondent can purchase seedlings which she will find advertised in The Gardening World, or from a local nurseryman. As soon as they can be procured, they should be potted, one each in small pots, and, if possible, placed in a cold frame and kept near the glass, giving them plenty of air. The plants do best in a frame all the winter. Damp and mildew are the great evils that beset them, and therefore it is a good plan to stand the pots on inverted flower-pots, so that the air can circulate underneath. Mildew attacks the undersides of the leaves, and the best cure is a little flour of sulphur dusted over the affected parts. The greatest care should be taken when giving water in winter not to wet the foliage. The frame in which the plants are placed should be well covered up during frosty weather; but perhaps, as a matter of precaution, it will be best to place the plants on a shelf of the greenhouse during winter.

It will be necessary for our correspondent to provide herself with some potting soil, good yellow loam, well decomposed manure, leaf soil, silver sand, some stakes for her plants, raffia or some other tying material. In the spring it will probably be necessary to fumigate the plants occasionally with smoke from tobacco paper. Should greenfly put in an appearance, let her also consult the pages of The Gardening World weekly, and never hesitate to ask for special information through its columns when necessary, as there are many writers who will be pleased to impart suitable advice.—*R. D.*

THE VEGETABLE GARDEN.

Mildew on Onions.

Mildew has been most troublesome on our Onions this season, and has affected the crop to such an extent that the bulbs are not more than half the size they ought to be considering how highly the ground was cultivated for them. Our method of preparing the ground is to trench dig it two spits deep, working in plenty of good farm-yard manure in the bottom spit. This is done before Christmas, and in spring, at the end of February, the quarter is forked over after a dressing of poultry manure and soot. On a fine dry day about the middle of March the ground is levelled and trodden over, and on the seeds, sown in drills, we sprinkle some ashes from the burnt heap of garden refuse, fill up the drills, and tread the ground over again. The seeds come up grandly, and the plants grow away vigorously and are of a dark-green colour. We generally thin them out at twice, and when the plants have attained a good size, we dust them with soot as an antidote to the Onion Maggot. The crop is not over thinned, as bulbs of a medium size are the most useful, and keep the best. It is just as they begin to form their bulbs that the mildew attacks them. In the course of a few days it seems to arrest their growth, and the leaves quickly turn yellow. This season we have tried a dusting of sulphur when they were damp, but it had no effect in stopping the spread of the mildew. I observe that some sorts are attacked sooner than others, and Danver's Yellow is the first to succumb. Our garden is in a low situation, and close to water. Can any reader suggest a remedial measure?—*Con.*

Early Runner Beans.

The cold spring and summer has had a very retarding influence upon Scarlet Runners, or, as they are often termed, Runner Beans. The complaint is common everywhere, and as the conditions have been pretty much the same, the defect must be pretty general. There is a large collection now on trial at Chiswick in the gardens of the Royal Horticultural Society; but when we examined them on the 22nd ult. very few of them were in bearing. The undermentioned kinds were well fruited and must therefore be considered early. A number of varieties had just commenced to bear on the lower portion of the stems, but a large proportion had scarcely a fruit upon them of a usable size.

The Speckled Cutter is a Runner of the Butter Bean type, with pods about 3 in. or 4 in. long, rather broad, but narrowed towards either end and creamy-yellow, much speckled and splashed with bright red where exposed to the light. They are tender and described as skinless, but probably stringless would be more nearly the correct expression to convey. In this respect the variety would resemble the dwarf Butter Beans, and if the quality is as good the variety may be looked upon as both ornamental and useful. The stems at present are only about 3 ft. high, and are bearing abundantly from the ground upwards. The pods might, however, be improved both as to size and shape.

Somewhat similar is Runner Mont d'Or, with stems about 3 ft. or 4 ft. high, and light green foliage. The pods are 3 in. to 5 in. long, narrow, inflated, often curved, and creamy-yellow. They were very abundant by the above date, and evidently equally early as the Speckled Cutter. A much stronger grower is that named Flageolet Wax, for the stems were 6 ft. to 8 ft. high, or even more, and in this respect resembling the more common types. The foliage also is of a light green, or even tinted with yellow, and in this respect shows a co-relation with the pods, which are also of a light yellow like Mont d'Or. The pods are 3 in. to 6 in. long, and curved, but otherwise of good shape. The crop was abundant from the ground upwards. They would no doubt be better appreciated by the public if the pods had been green instead of yellow. Provided the quality is good, that ought to be no bar to their use.

Runner No 8 (Sutton) is a light green podded variety, already bearing abundantly by the above date. The stems were dwarf, being only 2 ft. to 3 ft. high, with light green foliage. The pods were 6 in. to 9 in. long, narrow, smooth and even. The Jubilee Runner Bean cannot be classed amongst the above as to earliness, but the huge pods are now being produced near the ground, and a crop may be expected presently. It is evidently a very vigorous kind, as the stems were 8 ft. high by the third week in August. Some other kinds were in a similarly advanced state to the last named; but in a season like the present the early varieties, even if not so fine in appearance, should be looked upon with some degree of favour.

Broad Bean Bunyard's Exhibition.

This is a grand cropping variety, and some of the pods around the lowest tiers of clusters on the stems are quite a foot long. Extra long podded beans are not always preferable on account of the length of pith each bean is found to be embedded in when opened, but in Bunyard's Exhibition they are moderately close and shell out well. The flavour is good, and not particularly strong. I consider it an improvement upon the Giant Seville long pod.—*B. L.*

TUBEROUS BEGONIAS OUT OF DOORS.

No one need be reminded of the long spell of wretched wet and cold weather we have been having, and it could scarcely be expected that, excepting in most favourable situations, Begonias could be seen on the last day of August blooming profusely and seemingly uninjured, in a large bed in Messrs. Hewitt & Co.'s nurseries, at Solihull, close to Birmingham. The nursery is close by the side of the railway station, on low ground, and with weeks of showery weather, very little sunshine, a fearful hurricane and downpour a few days before, and wet weather during my hurried look in at the nurseries, I was agreeably surprised to find a glorious bed of good-sized plants of Begonias in full bloom, and buds of Pelargoniums close by, dull and washed out. Such a severe test as this season has been most certainly lifts the tuberous Begonia to the front rank of out-door decorative plants, and grand objects they are when ordinary care is taken in preparing the beds for them, and giving drainage in low-lying situations. In another part of the nursery were a few thousand plants of this year's seedlings. The seed having been saved in various colours, and planted out in rows of each colour, they were doing well and flowering freely, and coming pretty true in colour to the parent plants. I should not at all have been surprised to find a failure here in the outdoor culture of the Begonia, knowing what a season we have had, and that the nursery is on a lower level than the railway and Solihull town, but they were as good as I have

at any time seen out of doors, even at Forest Hill. Mr. Spinks, the manager, has gone in thoroughly for Begonias, and many thousands are in bloom in the houses. In one long house the young plants are in large batches of colours, and the effect on entering is striking. Another long house, with a centre and side stages, contains specimen plants staged amongst Ferns, Maidenhair especially, and other pretty ornamental plants, including the bright variegated Ophiopogon and the variegated Eulalie. A charming arrangement of this character makes a house of Begonias a very beautiful object. Many are of high class quality, and attention is given more to the production of medium-sized flowers of greatly improved form and substance, rather than the large petaled flowers which are wanting in form and substance we so frequently see. In the yellow section, many lovely shades of deep yellow and of salmon tints were plentiful. Doubles also receive a good deal of attention.

Many other objects of interest struck me, two or three of which I will with your permission refer to. The best Golden tricolor Pelargonium known is Mrs. Henry Cox, the foliage of great beauty and form, and such a good grower, and it is to be seen by hundreds here. In one of the houses I saw a row of the lovely white drooping Campanula fragilis alba, a little gem for basket work, boxes, or margins of plant groups, and Coleus Cleopatra raised here is a fine and distinct variety.

The demand for cut blooms here is so great that anything likely to be truly useful, especially in white flowers, is sought after, and I was pleased to see a fine lot of plants in large 48-pots of the beautiful old Swainsonia galegifolia alba grown in close pyramidal form and blooming nicely. What a lovely thing it is with its clusters of snow white pea-shaped flowers on long stems, for wreaths, bouquets, or glasses. Early Pompon Chrysanthums are also well done. Here are three charming early sorts, Piercy's seedling, bright orange, good habit; L'ami Conderchet, creamy-yellow and so free blooming; and Canary, a flower of exquisite form.

Herbaceous plants are extensively cultivated, and a fine collection. A long bed of Solidago nana, about 21 in. high, was a bed of golden colour; and beds of Tom Thumb Antirrhinum in colours from seed, the plants ranging from six to twelve or fifteen inches high, and an abundance of blooms, gave clear proof that such a common flower in general estimation is not too widely cultivated.—*W. D.*

DOMESTIC APHIDES.

There are several of our British species of Aphides, which although more or less frequent on plants in the open air, yet seem to be more at home in our hothouses, judging by the rapidity with which they increase, and the number of different plants which they affect under the protection of glass. Of course, under the protective influence of artificial heat Aphides can not only survive, but breed all through the winter, and if left undisturbed till spring they then multiply at a great rate, spreading their colonies far and wide on the advent of finer weather. The Carnation Aphis (Rhopalosiphum Dianthi) may be described as a universal feeder, both under glass and in the open air. Amongst the plants which it infests in hothouses are Peaches, Fuchsias, Verbenas, Tobacco, Chrysanthemums, Hyacinths, Tulips and others, down to the weeds which may spring up amongst them, including Senecis vulgaris. The beautiful Aphis known as Siphonophora circumflexa thrives much better under glass than out of doors, and increases rapidly upon the stems and flowers of Liliums in pots, including L. auratum, L. speciosum and L. longiflorum. It also increased rapidly on some cut flowers of L. chalcedonicum brought indoors. In the stove it increases rapidly on various plants belonging to the most diverse orders; and in the Orchid houses it is equally at home with Siphonophora lutea, which is more strictly confined to Orchids and may be considered the Orchid Aphis. More curious than either, S. circumflexa can also make a living on the fronds of Aspleniums and other Ferns. Melons in pits and houses are often greatly infested with Aphis Scabiosæ, which varies remarkably in colour according to its age, at first being pale green and then deepening to a dark green, and ultimately often appearing black to the naked eye. It must also find suitable plants out of doors on which to live. Aphis Amygdali is a great scourge to Peach growers, whether under glass or on the open wall. It is often spoken of as black fly, but under the microscope it is seen to be covered with transverse bars of rusty brown. The Pelargonium Aphis (Siphonophora Pelargonii) is also most abundant under glass, as the growers of those plants well know.—*J. F.*

GARDENING MISCELLANY.

LILIUM PARDALINUM.

This fine North American Lily is extremely variable both in the size and colour of its flowers, and several forms have received varietal names. Some large beds of Rhododendrons at Kew are planted with the species in a mixture of many varieties, and so distinct are some of them that they might readily be taken for distinct species by a casual observer. The typical form is orange in the lower half spotted with crimson, while the upper portion of each segment is of a deep nearly uniform red. Some of the varieties have a yellow ground suffused with orange and spotted with crimson, with the red of the upper portion of the segments nearly washed out. Others have flowers of small size, almost resembling those of L. Martagon, with the upper portion of each segment of a brilliant reddish-crimson. This type is usually of dwarf stature. Another variety has very large flowers spotted with crimson on a yellow ground, while the upper portion of the segments is of a bright orange scarlet. This plant stands about 6 ft. high. In a bed behind the Palm-house amongst others is a giant specimen 8 ft. high, with a pyramidal raceme of three dozen flowers. Others have flowers that are almost wholly of a crimson-red, and the different shades of colour in the collection are almost endless.

HEAVY CROP OF MORELLO CHERRIES.

About six years ago thirty trees of the Morello Cherry were planted on a north aspect wall at Syon House. Half of them were worked low and the rest planted as riders between them so as to profitably occupy the space. After a time the riders had to be removed, and were planted on the back wall of a vinery on a north aspect. The heat of the walls had the effect of hastening the maturity of the fruit, which had mostly all been gathered by the third week in August. The dwarf fan trees at the same time were simply loaded with fruit, the greater part of which was dark red or black, and so thickly set upon the branches as to give a distinctive appearance to the wall, notwithstanding the fact that the foliage was both good and plentiful. A curious phenomenon presented itself in the case of one tree the fruit of which on the central branches was red and far from ripe, while that on each side was nearly black. The other side of the wall being occupied with Peach trees, makes it difficult to account for the difference in ripening as the wall at that place is entirely unheated. It is usual to reckon that the individual fruits will be small when the crop is heavy, but here there is no diminution in that respect, for the fruits are large and handsome. The young and vigorous character of the trees must to some extent be held accountable for the size of the fruit. Some regard the Morello as only fit for preserving purposes, but when perfectly ripe the abundant juice and its slight acidity renders it very acceptable to some tastes. It is only necessary to net the trees from birds, in order to secure a supply extending over a long season.

ROMAN HYACINTHS.

In reply to the question asked by a "Young Seedsman" (p. 808) concerning the irritation caused to his hands when working amongst Hyacinth bulbs, I may state that it is produced by the Bulb Mite, often spoken of as the Eucharis Mite (Rhizoglyphus Robini). It is by no means confined to Eucharis bulbs, but has been found also upon Hyacinth, Amaryllis, Hippeastrum, Pancratium, Nerine, Galanthus and Scilla bulbs, as well as upon the tubers of Dahlias and Potatos. The mite was first named and described in 1868 by Claparede; and Boisduval, who noticed it and described it under the name of Acarus hyacinthi, stated that when abundant on the bulbs in autumn it caused itching and irritation to those who handled the bulbs. This then will explain the experience of a "Young Seedsman" as related by him.—*S.*

BEGONIA FRŒBELLII.

The flowers of this species are small compared with those of the improved race of summer-flowering kinds, but they are nevertheless showy, and coming as they do in the autumn and winter months greatly enhances their value. The leafy portion of the plant is quite dwarf, and the obliquely heart-shaped leaves are of large size, light green and felted beneath. The naked or leafless flower scapes rise to a height of 12 in., or 18 in. when the plants have been well grown, and terminate in cymes of bright scarlet flowers. The male blooms have four sepals and the females five sepals; the ovary or fruit is felted or woolly, and therefore very different from that of the summer-flowering types. It is to be hoped that hybridisation will yet greatly improve the size of the flowers of this species. A small group of plants in full bloom may be seen in the stove at Kew.

DWARF CASTOR-OIL PLANTS.

There is only one species of Castor-oil Plant, namely Ricinus communis, but of this there are numerous varieties in cultivation either for economical purposes or for ornament. In this country the species is treated as a half-hardy annual, but in tropical countries it assumes the form of an arborescent shrub, or small tree. Its native home is supposed to have been tropical Africa, but it is now widely dispersed in various tropical countries. The larger varieties are useful in this country for sub-tropical gardening, but it is desirable in many cases to have dwarf sorts for small beds and also for pot work. The bronzy-leaved sorts are useful for greenhouse or conservatory decoration in winter, when colour in foliage is by no means plentiful. The variety Gibsoni was formerly relied upon for this purpose. When planted in the open ground, the stems, petioles, and nerves of the leaves are red, while the general ground colour of the leaves themselves is of a bronzy-red, especially when young. The plant is altogether dwarfer in stature than the green forms. A less known variety named Cambodgensis is only about half the height of Gibsoni when planted under similar conditions in the open air, and seems altogether finer for small beds or pot work. The whole of the leaves are of a deep bronzy-red, and attractive. Both may be seen in the trial grounds of Messrs. J. Veitch & Sons at Chiswick.

THE DOUBLE OR PROLIFEROUS HYDRANGEA.

Different names have been applied to this garden form of Hydrangea, such as H. hortensis stellata prolifera and H. stellata rubro pleno, the former being the more correct one. The leaves are ovate and more sharply serrate than in the common form, with reddish nerves and thinly downy beneath. The segments of the primary calyx are large and once or twice proliferated, for smaller flowers, borne on short pedicels, spring from their axils, making a mass of bloom, if such it may be called. The calyx is yellowish-green at first, becoming ultimately of a rosy-red. The smaller and younger flowers are double, with numerous stellate segments of a pink colour in the early stages. The flowers last a long time in perfection, for a plant in the nursery at Kew has been in bloom for a month past, and is likely to keep good for some time to come. It is without stamens or pistil and completely sterile.

THE GUELDER ROSE IN FRUIT.

During the flowering season the Snowball (Viburnum Opulus sterilis) is the favourite on account of its large and showy flowers, which are of course perfectly sterile, and when the bloom is over the beauty of the plant is gone. The typical V. Opulus, or Guelder Rose, has small and inconspicuous fertile flowers with exception of those on the circumference of the cyme, which are enlarged and sterile. The fertile ones pass into fruit, which is developed in the greatest abundance and ripens to a bright scarlet-red of imposing appearance, even as seen upon the wild plants in the thickets or copses at the foot of the Brecknock Beacons. The ornamental value of the fruit when cut and placed in vases with its own foliage is great, and the scarlet trusses associate very well with cut flowers of other hardy autumn flowering subjects.—*Taxus.*

HIPPEASTRUM RETICULATUM.

The dark green leaves, with their ivory white midrib, of this old fashioned stove plant are familiar in many an establishment, but like a great many other plants of the same class, this species gets neglected in the matter of potting and attention and seldom flowers. The flowers cannot be compared with the huge specimens of the improved garden Hippeastrum, but they are nevertheless very attractive and deserving of attention, the more so as the foliage is evergreen.

About four to six flowers, 2½ in. to 3 in. in diameter, are borne on a scape, and they are of a warm pink and white, beautifully netted with darker veins that give them an attraction which even more gaudy flowers do not possess. The species was introduced from Brazil in 1677.

THE MACARTNEY ROSE.

Ordinarily this Rose flowers in July, but late growths are sometimes produced, and which flower in September. The flowers are large, single, pure white, and developed singly or in small clusters terminating the shoots. The species is distinguished from others by the presence of three or four largely developed bracts beneath each individual bloom, and derives the name of Rosa bracteata from this circumstance. The leaves consist of seven to nine oblong, deep green leaflets, of which the lowest pair is the smallest. The spines of Roses are usually reversed or hooked, but in this case they are straight or slightly upcurved. Being of a subclimbing nature a very good way of growing the species is to train it against a wall or wooden fence, where it will run up to 6 ft. or 8 ft. As a bush it may not exceed 2 ft. or 3 ft. in height. It was introduced from China in 1795.

CUPHEA ZIMAPANI.

Like the plant known as Dahlia Zimapani this Cuphea is a native of Mexico, from whence it was introduced in 1878. It may be raised from seeds sown under glass in March and April, and planted out when the weather becomes fine. The stems are well furnished with large, ovate, bright green leaves, and come into bloom during August. Flowers continue to be produced till cut down by frost, if the soil in which the plants are growing is moderately rich and moist. Good drainage is, however, essential. The flowers are amongst the largest of those commonly seen in cultivation, and rich in colour. The tube of the calyx is deep crimson-purple. All the five petals are present, which is not the case with some of the best known species. They are of a dark crimson-purple, and the two upper ones are both larger and darker. The plant has a bold and attractive appearance, whether grown in clumps in the border, or as an edging to large beds of herbaceous plants or shrubs.

EXACUM PEDUNCULATA.

In general appearance this species somewhat resembles E. affine, but the flowers are smaller and even more abundantly produced, so that what they lack in size they more than make up in numbers. The stems vary from 4 in. to 10 in. in height, and are branched with all the shoots terminating in cymes of bright blue flowers, with greenish eyes and a cone of bright yellow stamens; the corolla is four-parted. As in other species the leaves are opposite, a circumstance that helps largely in enabling us to place Exacum in the order of Gentianworts. The two-celled ovary and the cone of stamens point strongly to the Solanum family. The leaves are also lanceolate, three to five-nerved, and bright green. The species comes from Calcutta, and may be seen in the stove at Kew.

HÆMANTHUS CINNABARINUS.

The habit of this bulbous plant is similar to that of H. multiflorus, but the leaves are produced directly from the bulb, not from the side of it, and the flower scape which is contemporaneous with the foliage springs from the centre of the latter, above which it rises just sufficient to show the flowers quite clear of the leaves. The flowers are borne in dense umbels and the lanceolate spreading or slightly reflexed segments, together with the stamens and style are of a bright cinnabar-red, as the specific name implies, and very ornamental. As the species is a native of the Gold Coast and Cameroon Mountains, it requires a stove temperature, but is altogether worthy of a place there.

CANARIUM STRICTUM.

There are some fifty species of Canarium, all of which are tall trees, a fact which prevents them from being grown in the stoves of this country. They are permeated with a balsamiferous resin of some economic importance, and the species under notice is known as the Black Dammar. A specimen in the economic house at Kew is 10 ft. high, and the large pinnate leaves consist of eleven to thirteen oblong-elliptic, serrated leaflets of some ornamental value. The young stem and leaves are, however, highly attractive. The former is velvety crimson, and the older of half-a-dozen leaves are of a rich bronzy-red, while the younger ones are of a rich crimson. The matured leaves are of course green. Small specimens would be highly appreciated in the stove for the sake of their foliage.

THE CHINESE PAGODA TREE.

Seeing that Sophora japonica is a native both of China and Japan, the popular name may with equal propriety be Chinese or Japanese Pagoda-tree. It was first introduced to Britain from China in 1763, and, considering the length of time it has been in this country and its hardiness, one is inclined to ask why it has never become more popular than it is. The leaves are pinnate, somewhat resembling those of a Robinia, but they are smaller, more leathery (giving one the impression that they are evergreen), and of an intense dark-green colour. The pea-shaped flowers are pure white, and produced in the greatest abundance in panicles terminating the shoots, so that when in bloom the effect is handsome during August and September, till cold weather or frosts cause the flowers to drop. The tree is very late in coming into leaf in the spring, in fact, one of the latest, and the leaves retain their rich, dark hue till frost causes them to fall. Why such a tree should so seldom be seen in British collections is a mystery which is difficult of explanation.

SOLANDRA GRANDIFLORA.

Popularly this is known as the Peach-coloured Trumpet Flower, and is a native of tropical America. It therefore requires a stove temperature to grow and flower it properly, and being of the nature of a tall climber plenty of houseroom must be given it, otherwise years may elapse without ever a flower being produced. The latter is trumpet-shaped and buff-yellow, with ten brownish-burple bands in the throat (that is, one opposite each segment and one between). One to six of these flowers are produced in a cluster terminating the shoots, but an axillary shoot is soon developed, making the flowers appear lateral, as occurs in many other members of the Solanum family. The corolla is drooping with a five-lobed, undulated, and crenate lamina, and may be compared to that of a Brugmansia, but the tube is shorter and narrower, while the lamina is relatively wider. A dry stove temperature suits it very well, as may be seen in the succulent house at Kew.

TUBEROUS BEGONIA MRS. B. R. DAVIS.

This superb new double variety received a Certificate at Shrewsbury, and was in a stand of very fine blooms exhibited by Mr. B. R. Davis, of Yeovil. Its form is that of a beautiful Camellia imbricata, and as large, of very fine substance, and of a bluish-white colour, margined with bright light pink. It is a complete walk-away from any others seen at the Midland and Northern Shows this year, but cannot be sent out for at least a couple of years.—*W. D.*

ORCHID NOTES AND GLEANINGS.

Orchid Growers' Calendar.

Many of the plants now completing their growth will require careful attention as to watering. As the pseudobulbs reach maturity less water will be required. Plants of Dendrobium chrysotoxum, D. suavissimum, &c., having completed their growth should be removed to a cooler house where the plants can get more air, which will assist them to mature their pseudobulbs, and ensure their flowering freely when introduced into heat later on.

Masdevallias of the Harryana and ignea type may be seen to and potted if required. Large specimens are apt to decay in the centre. Where this is the case the plants should be carefully divided into pieces and repotted, using peat and sphagnum with a few pieces of charcoal added. The pots should be well drained, and the plants kept well up above the rim of the pot. Although the Masdevallias are essentially cool house Orchids, they should not be kept too cold during the autumn and winter months, or the plants are liable to be damaged by "spot" on the leaves, a troublesome complaint to get rid off. Keep the plants close and a little warmer for a week or ten days after repotting.

Oncidium flexosum may also be repotted where necessary. This plant is very effective for arranging with others when grown with single leads in 48's or 32's. The flower spikes when so treated become larger, with a greater quantity of flowers. This Orchid delights in plenty of heat and moisture when making its growth, and the usual mixture of peat and sphagnum will suit it to grow in. Oncidium sarcodes may also be repotted; remove all the old material that can be had without injury to the roots, and repot in fresh peat, sphagnum and charcoal. This plant should be kept in the warm house while making its growth, and the plant rested for some time after flowering. When well flowered this makes a telling object when arranged with others, lasting about three weeks in flower.

Cattleyas should have plenty of water while making their growth, but from those having their growths nearly completed the water should be somewhat withheld.—*A. W.*

Habenaria carnea.

The genus to which our native Butterfly Orchis belongs is a very large one, and the plant under notice is quite distinct in its way. The leaves are lanceolate-oblong, olive-green and thickly spotted with white, reminding one of an Anæctochilus or Goodyera more than a Habenaria. They are borne in a radical rosette lying upon the soil, while a few bracts clasp the otherwise leafless stem. The scape is 6 in. or 8 in. high, bearing a short spike of flowers of large size for the genus and quite showy. The upper sepal is small, hooded, three-nerved, and of a deep flesh-colour; the lateral sepals are obliquely ovate, much larger and paler. The petals are half ovate, small, pale, and approach one another under the upper sepal. The lip, on the contrary, is very large, deeply three-lobed, and almost white; its lateral lobes are broad and rounded on the outer edge, while the middle lobe is obversely reniform with a small tooth in the notch. The spur, from which the generic name is derived, is long, slender, and projects behind. Altogether it is a neat and pretty Orchid, well deserving of cultivation in collections. As it comes from Singapore it may require stove treatment to grow it succesfully, but that remains to be proved by experiment. It has been flowering for some time past in the warm division of the Orchid house at Kew.

Coryanthes leucocorys.

Such is the name given to a strikingly distinct and new species of Coryanthes from Peru, introduced by Messrs. Linden, L'Horticulture International, Parc Leopold, Brussels, and flowered by them in June last. Readers will be familiar with the name Coryanthes if not with the plant, as the Orchid with the large bucket into which a liquid trickles, resembling a dripping well, specially prepared to give its insect visitors a bath, gratis, and no doubt much against their will. The bucket is 2 in. in diameter, 1½ in. from front to back, 1¾ in. deep, and suffused and marbled with rosy purple on a white ground. The hood is concave resembling the half of a bivalve shell, ivory white and overlapping the edge of the bucket. In this latter respect it differs from other species which have yet found their way into cultivation. The dorsal sepal is very large, suborbicular and striped and suffused with brownish-purple on a pale yellowish-green ground; the lateral sepals are curiously shaped organs, more than 4 in. long, 2 in. broad, and yellowish green striped and blotched with brownish-purple. The petals are falcate, and very narrow, but 2½ in. long, and white, variously suffused and marked with purple. The pseudobulbs are oblong-ovoid, 1½ in. to 2¼ in. long, ribbed and surmounted by lanceolate leaves similar to those of a Stanhopea. The pendulous scape bears one or two huge flowers. There is a coloured figure of the species in *Lindenia, pl.* 293.

Sobralia leucoxantha.

This plant will flower when only about 12 in. high, but a specimen exhibited by Messrs. Seeger & Tropp, Lordship Lane, East Dulwich, at the Drill Hall on the 25th ult., had slender stems 3 ft. or 4 ft. high, and furnished with lanceolate-elliptic, strongly plaited or ribbed, dark green leaves. The sepals are oblong, the petals broader, and all are revolute at the tips and pure white. The lip is the striking feature of the flower and stands out boldly: the tubular or convolute portion is white, while the lamina is much crisped and golden yellow passing into orange in the throat and white at the margin. The species is a native of Costa Rica. An Award of Merit was granted it.

SOCIETIES.

Crystal Palace, *September 4th and 5th.*—The exhibition held on the above dates was not quite so large as usual, but thoroughly representative and good all round, with the exception of the Apples and Pears, which were far from ripe. Indoor fruits were quite up to the standard of former years. The first prize for a collection of fruit (not less than twenty dishes) was awarded to Mr. J. H. Goodacre, gardener, Elvaston Castle. His Grapes, Peaches, Nectarines, Apricots, Pears, Plums, and Pineapples were all very good. Mr. H. W. Ward, gardener, Longford Castle, Salisbury, was a good second. The best collection of twelve dishes came from Mr. T. Comber, gardener to J. A. Rolls, Esq., The Hendre, Monmouth; and Mr. H. W. Ward was again second. For a collection of eight dishes, Mr. A. Ocock, gardener to Mrs. McIntosh, Havering Park, Romford, was first with an all round good exhibit; Mr. W. Nash, gardener, Badminton, Wilts, coming in second. Mr. C. Warden, gardener, Clarendon Park, Salisbury, was awarded the first prize for a collection of ten kinds of Grapes (two bunches of each). Mr. G. Reynolds, gardener, Gunnersbury Park, Acton, took the first place for a collection of five kinds; Mr. T. Osman, Ottersham Park, Chertsey, being second. Mr. J. Gibson, gardener, Draycot House, Chippenham, had the best Black Hamburgh. There was good competition in the class for Muscat of Alexandria, four of the exhibits being very close, and Mr. J. Dumble, gardener, Picton Castle, Haverfordwest, was placed first as his Grapes were best ripened; Mr. G. Reynolds was second; and Mr. G. Winter, gardener, Walk House, Barron-on-Humber, Hull, was third; but the order might have been reversed, had the Grapes of the latter been a little more matured. Mr. G. Reynolds had the best Gros Maroc; Mr. J. Gibson the best Madersfield Court; Mr. W. Marsh, 9, Henrietta Villas, Bath, the best Alicant; Mr. C. Warden, the best of any other white in Buckland's Sweetwater; and Mr. H. W. Ward, the best black kind in Mrs. Pince's Black Muscat.

Mr. W. Iggulden, gardener, Marston, Frome, had the best four dishes of Peaches; and Mr. W. H. Divers, gardener to J. T. Hopwood, Esq., Ketton Hall, Stamford, was first for as many Nectarines, and also for one dish, as well as for a collection of Peaches and Nectarines. Mr. W. Lawson, gardener, Lovell House, Crawley, had the best dish of Peaches. Mr. A. Gibson, gardener, Halstead Place, Sevenoaks, had the best flavoured green flesh Melon; and Mr. W. Palmer, Kingston-on-Thames, had the best scarlet flesh one. Plums were very plentiful, and Mr. H. Markham, gardener, Mereworth Castle, Maidstone, was first for red varieties; Mr. W. Iggulden first for yellow sorts; and Mr. A. Bolton, gardener, first for purple kinds. Mr. D. McIntosh, East Barnet, Herts, had the best basket of black Grapes; and Mr. E. Longley, West Dulwich, being a good second. Mr. W. Lane, King's Ride, Ascot, was first for a basket of white Grapes; and Mr. G. Winter was second. Messrs. G. Bunyard & Co., Maidstone, had the best collection of Apples, also autumnal Apples (ripened outside), and the best autumnal Pears. Mr. J. McIndoe, Hutton Hall, Guisborough, had the best orchard house Pears. Mr. R. Spinks, Horley, Surrey, had the best Tomatos.

Gladioli were plentiful, and Messrs. J. Burrell & Co., Cambridge, were first in the open class; Mr. W. H. Fowler, Claremont, Taunton, being first among amateurs. Messrs. Reid & Bornemann, Tewkesbury Road, Sydenham, had the best group of Chrysanthemums; and Mr. H. J. Jones, Ryecroft Nursery, Lewisham, was second. Special prizes were offered by Messrs. Sutton & Sons for vegetables. Here Mr. C. J. Waite, Glenhurst, Esher, was first; Mr. W. Palmer, second; Mr. J. T. Barney, gardener, Maidstone, third; and Mr. E. Chadwick, gardener, Ealing, was fourth. For Sutton's Perfection Tomato, Mr. Waite, Mr. Gibson, Mr. Barney, and Mr. T. Croswell took the prizes in the order named. For Carter's Blenheim Orange Tomato, Mr. J. Fry, gardener, Eastcote, Mr. J. Slater, gardener, Carshalton, and Mr. W. Palmer took the prizes in the order given.

Miscellaneous exhibits were numerous. A large and showy group of Begonias, many of which were lifted from the open ground, and also a fine collection of herbaceous plants, were shown by Messrs. J. Laing & Sons, Forest Hill. Mr. T. S. Ware, Tottenham, exhibited an excellent group of well-grown Begonias in all the leading colours both single and double. He had likewise an extensive collection of Cactus, Pompon, show and other Dahlias. A large collection of Cactus and Pompon Dahlias and Begonias was shown by Messrs. H. Cannell & Sons, Swanley. Messrs. John Peed & Sons, Mitcham Road, Streatham, exhibited a collection of Apples, Pears, Plums, and also well-fruited Apple trees in pots. Messrs. Wm. Cutbush & Son, Highgate, had a collection of decorative plants such as Crotons, Palms, Dracænas, and Lilies. Messrs. T. Rivers & Son, Sawbridgeworth, showed a fine collection of orchard house fruit. Messrs. J. Cheal & Sons, Crawley, Sussex, exhibited all the leading kinds of Dahlias, as well as Apples and Pears. Messrs. Wm. Paul & Son, Waltham Cross, staged 150 dishes of Apples and Pears and twelve baskets of Roses. Messrs. Paul & Son, Cheshunt, had cut flowers of herbaceous plants. Mr. Will Tayler, Hampton, showed Apples. Mr. E. F. Such, Maidenhead, had herbaceous plants.

National Dahlia, *September 4th and 5th.*—The annual show of this society was held at the Crystal Palace in conjunction with the fruit exhibition. The show and fancy Dahlias were in the usual form, and plentiful, but in some cases seem to have suffered from the storms of rain. Cactus, Pompon and single kinds were well represented and very attractive. In the nurserymen's classes the first award for sixty blooms went to Mr. C. Turner, Slough, who had many fine blooms in his stands. Messrs. Keynes, Williams & Co., Salisbury, were second; and Mr. Arthur Rawlings, Romford, Essex, came in third. Messrs. Keynes, Williams & Co. had the best forty-eight blooms; and were followed by Mr. A. Rawlings. Mr. G. Humphries, Kington Langley, had the best thirty-six blooms; Messrs. Saltmarsh & Son, Chelmsford, were second. The best twenty-four blooms were those of Mr. G. Humphries; and Mr. J. Walker, Oxon, came in second. Cactus and decorative Dahlias were fine, and the prizes were taken by Messrs. Keynes, Williams & Co., Messrs. J. Cheal & Sons, Crawley, Sussex, and by Mr. M. V. Seale, Sevenoaks, in the order given. Messrs. J. Burrell & Co., Howe House, Cambridge, had the best nine Cactus sorts; and Messrs. J. Cheal & Sons had the best Cactus varieties in bunches. Pompon Dahlias brought good competition, and for twenty-four varieties in bunches of ten blooms each, the first award went to Messrs. Keynes, Williams & Co., Messrs. J. Cheal & Sons, followed; Mr. C. Turner was third; and Mr. E. F. Such, Maidenhead, took the fourth place. Messrs. Paul & Son, Cheshunt, had the best twelve sorts of Pompon Dahlias in bunches; and Mr. G. Humphries took the second place. Single Dahlias seemed unusually varied and attractive. The first prize for twenty-four varieties, in bunches of ten each, went to Messrs. J. Cheal & Sons. Striped varieties were numerous in their collection. Mr. M. V. Seale was second; and Messrs. Paul & Son came in third.

The amateurs' classes were numerous and generally well represented, but the collections or exhibits were smaller than in the classes above mentioned. Mr. J. T. West, gardener to W. Keith, Esq., Cornwalls, Brentwood, took the first award for twenty-four blooms. Mr. A. Ocock, gardener to Mrs. McIntosh, Havering Park, Romford, Essex, came in first for twelve blooms. The first prize for six blooms was taken by Mr. J. Gilbert, Brocklands, Freshwater, Isle of Wight. Mr. J. T. West again came to the front for twelve fancy varieties, also six bunches of Cactus sorts, and a stand of single varieties. Mr. A. Ocock had the best six fancy varieties. The other stands were smaller.

Royal Horticultural, *September 8th.*—The meeting at the Drill Hall on Tuesday last showed the usual falling off at this season of the year. Dahlias and Gladioli constituted the largest ordinary exhibits, and Orchids were fairly represented. Some prizes offered for British Ferns open to amateurs only, brought up two large and very choice exhibits. The first award was made to E. J. Lowe, Esq., Shirenewton Hall, Chepstow, who had the best collection and the largest plants. The second award went to C. T. Druery, Esq., Fernholme, Forest Gate, Essex.

A Silver Flora Medal was awarded to Messrs. Kelway and Son, Langport, Somerset, for 12 large stands of Gladioli, including some new varieties; also some herbaceous plants, making on the whole a fine display. A similar award was made to Mr. Geo. Phippen, Reading, for a large semicircular group of Lilies, set up with Palms, Ferns, etc. He also showed a collection of autumn flowering Phloxes. Another medal of similar value was awarded him for a group of Cactus Dahlias set up with Ferns on elevated stands. A Bronze Banksian Medal was awarded to Messrs. J. Veitch and Sons, Chelsea, for a mixed group of hardy plants, including Liliums, Hydrangeas and Francoa ramosa set up in baskets, and all well flowered. A small group of herbaceous plants and Roses was exhibited by Messrs. Paul and Son, Cheshunt. The huge-flowered Aristolochia grandiflora, also Solandra grandiflora, Mucuna atropurpurea, Clematis Stanleyi and Ixora macrothyrsa were brought up from the Royal Gardens, Kew. Some show Dahlias were exhibited by Mr. West, gardener to W. Keith, Esq., Cornwallis, Brentwood. A stand of them was also exhibited by Mr. A. Rawlings, Romford, Essex. A strain of China Asters exhibited by Mr. J. Walker, Thame, Oxon, was commended. A fine variety of Phlox was shown by M. V. Lemoine, Nancy. A Bronze Banksian Medal was awarded to M. C. G. Van Tubergen, Zwanenburg, Haarlem, Holland, for a group of Gladioli, mostly new varieties of G. gandavensis.

A small group of Orchids was exhibited by Messrs. F. Sander & Co., St. Albans, including; Cattleya granulosa Dijanceana, Dendrobium undulatum, Vanda cærulea and the beautiful V. Hookeriana. Catasetum fimbriatum, showing male and female flowers on one plant, and male flowers on another was shown by Mr. G. Parrot, gardener to W. Wright, Esq., Denmark Hill. A fine variety of Oncidium macranthum was shown by Messrs. Charlesworth & Shuttleworth & Co., Heaton, Bradford, Yorks. Mormodes buccinator aurea, Vanda Kimballiana and other Orchids were shown by Messrs. H. Low & Co., Clapton. Angræcum articulatum was shown by C. J. Lucas, Esq., Warnham Court, Horsham. A small group of Orchids was exhibited by T. Statter, Esq., (gardener, Mr. R. Johnson) Stand Hall, Manchester. He had a fine piece of Lælia elegans blenheimensis, and one of Odontoglossum Harryanum superbum. Drewett O. Drewett, Esq., (gardener, Mr. Keeling) Riding Mill on Tyne, showed some Cypripediums.

At a meeting of the Fruit Committee a Silver Banksian Medal was awarded to Messrs. J. Veitch & Sons, for a collection of some forty-three dishes of Plums and some Apples and Pears, all grown on standards in the open. A cultural commendation was awarded to W. Roupell, Esq., Harvey Lodge, Roupell Park, for a fine exhibit of early Apples. A similar award was made to Mr. W. King, gardener to Philip Crowley, Waddon House, for Louise Bonne Pears grown upon a tree in a 10-in. pot.

WHAT TO DO IN THE GARDEN.

Stove Climbers.—Plants growing beneath the shade of climbers will now require all the light they can get to ripen their tissues. It will therefore be necessary to thin, prune or otherwise regulate the shoots on the roof so as to admit a maximum of light. Those which have done flowering may have the shoots cut back, and the others may have the weaker shoots cut away if densely crowded. Ornamental foliaged plants such as Caladiums, Calatheas, and similar soft-wooded plants do not require so much light as flowering plants, therefore the latter should be placed where they will get the most light.

Hedychiums.—Those in flower or approaching that stage should receive liberal allowances of liquid manure, which will keep up their vigour and enable the late-formed stems to flower freely later on when flowers will be scarcer and more valuable. When grown in pots they will require liberal supplies of water at all times, and if they can be stood on inverted pots immersed in the tank of the stove so that the roots may just dip in the water so much the better.

Ixoras, Vincas, Rudges, &c.—The atmosphere in which these are grown should now be kept in a buoyant state, so as to preserve the flowers as long as possible. Plenty of ventilation should be given on all favourable occasions, and this will materially assist in ripening the wood and enabling a better production of flowers next year.

Scutellarias.—The greatest favourite with gardeners is S. Mocciniana for stove work, but

S. Lehmanni is also a late flowering and showy species. Young plants of the latter if potted on will commence flowering shortly. S. Mocciniana may be had in bloom almost at any time. Cuttings put in now will flower in winter or spring. Dibble the cuttings into pots of light sandy soil and plunge them in a propagating frame. As soon as rooted, pot them off singly, and pinch out the tops after they have taken to the fresh soil if bushy plants are wanted.

Camellias.—The buds on all plants, at least which were flowered early, will now be showing themselves, and plants in small pots requiring a shift before winter should have the operation performed at once, so that the roots may get established in the fresh soil before winter. About an inch of fresh soil all round the old ball will be quite sufficient, and this should be made quite firm. Fibrous peat and turfy loam, with plenty of sand and some half inch bones, will constitute a suitable compost.

Vines.—In houses where late grapes are grown a night temperature of 75° must be kept up in order to hasten the ripening process, which must be completed towards the end of the month, otherwise the grapes cannot be expected to ripen well. A little top air should be kept on all night to prevent moisture from settling upon the berries. Unless a long season with plenty of fire-heat is given to Gros Colmar the berries do not assume their proper colour, and they have an earthy flavour, particularly if the vines are heavily loaded. If the borders are inside they must not be allowed to suffer for want of water.

Peaches.—As the trees become cleared of fruit, whether under glass or out of doors, the old wood which has just borne should be cut away to allow the remainder to get properly ripened by plenty of exposure to light and air. The borders will require frequent attention in the matter of watering in the case of those that are under glass.

Hardy Fruits.—Early and midseason varieties of Apples and Pears will now require looking after and gathering when ripe, otherwise many of them will drop, be blown down by heavy gales, or injured by birds which soon find out those that are ripe. Apples now about fit to gather are Devonshire Quarrenden, Peach, Keswick Codlin, Peasgood's Nonsuch, Lord Grosvenor, Worcester Pearmain, and others. Amongst Pears are Jargonelle, Beurré d'Amanlis, Souvenir du Congres, Williams's Bon Chretien, and others. Owing to the lateness of the season some of the above are later than usual. In the case of Plums it will be necessary to net the trees, in order to preserve the fruit if birds are numerous in the locality.

Phloxes and Penstemons.—Cuttings of these useful summer and autumn flowering plants may now be taken and placed in boxes of sandy soil to be kept in frames during the winter. Some growers prefer to take cuttings of Phloxes early in the season and to have them ready for planting out in the autumn. This gives them time to get well established before sending up their flower stems in spring. Penstemons are more tender, and must have the protection of a frame till March or the beginning of April.

Tomatos out of doors.—Whether in the open ground or on walls, close attention must be given to the pruning back of all laterals so as to fully expose the fruit to what sunshine we may yet get. No further extension of growth should now be permitted, because Tomatos set after this date cannot be expected to ripen.

Cabbages.—Prepare ground for planting out spring Cabbages. It should be well manured and dug a short time previously to its being planted, to allow its settling down before the operation. Good kinds for this work are Veitch's Earliest of All, Ellam's Early, Enfield Market, Early and Large York. The plants in the bed should be properly thinned to allow their being properly hardened by exposure to light. Slugs do not then so readily attack them, and a larger proportion will be able to pass the winter in safety. The smaller growing sorts will only require to be planted a foot apart and 18 in. between the lines.

QUESTIONS AND ANSWERS

Who is an Amateur?—*Alphonse Smets:* This is a question which admits of various explanations according to the ruling of different societies. The real translation of "Amateur" is one who cultivates a study or art for the love of it and not for gain. An amateur from a horticultural point of view is one who grows fruits, flowers or vegetables for the love of them, and this is accepted by the large London Societies, which therefore admit gentlemen and their gardeners as amateurs. Other and smaller societies who give encouragement to the cottagers define an amateur as one who may have help occasionally but does not employ a gardener regularly. Such societies reserve classes in their schedules for nurserymen or traders, gentlemen's gardeners, and amateurs or cottagers. So in all these cases the subject is one for the consideration of the committee, who should clearly define what they mean by the term, and who should or should not be included in it. If this were done, and the same clearly stated in the schedule, there need be little misunderstanding in the matter. Some classes may be left open to any competitors, others to nurserymen only, to gardeners and to cottagers. Either of the latter may be included under the term amateur, but it must be clearly specified which. If it is wished to distinguish between a gentleman who employs a gardener occasionally from a cottager, then the term amateur would meet the case.

Melons Dying.—*Welton:* The specimens you sent had every appearance of having died through the effect of what growers term canker. This disease is produced by a fungus named Glæosporium læticolor, which attacks the roots and the lower part of the stem near the soil, causing the roots to die and the stem to split in bad cases. The supply of water and food material being cut off by the destruction of the roots the plant gradually dies and the fruit ceases to swell as you say. The fruit may ripen, but it can never acquire the quality it would have done if brought to maturity on a healthy plant. While the plants are young great care should be exercised in watering not to wet the collar of the stem just where it enters the soil. The latter should be made up in a mound and the Melons planted on the top. The sides and the base, but not the top of the mounds, should be watered. Plenty of ventilation should also be given to enable the plants to grow sturdily and resist the disease as long as possible. When once the plants are attacked they can never be cured, because the fungus lives in the interior of the roots and stem. In making up your Melon beds another year the house should be thoroughly cleansed, and all the woodwork and glass washed to get rid of the fungus spores. Also get soil from a fresh source if possible, because the fungus may have come with that now in the beds.

Tulips for Pot Culture.—*Omega:* It would be difficult to name any single variety and call it the best, because tastes differ so much, and so do the purposes for which they are required. We should understand from what you say, that some of the large, late-flowering kinds are what you require. For very early work, you should try the white, yellow, scarlet, and other varieties of Duc Van Thol. The following may be described as second early, and good kinds for pot work or forcing, namely, Pottebakker White, L'Immaculee, White Swan and Pax Alba, all white; good red or scarlet kinds are, Keiser Croon, yellow striped red, Belle Alliance, scarlet, Couleur de Cardinal, fiery-scarlet, Vermilion Brilliant, dark vermilion, and Pottebakker Scarlet; yellow kinds that would prove suitable are Pottebakker Yellow, Chrysolora, golden-yellow, Canary Bird, bright yellow, and Yellow Prince.

TRADE CATALOGUES RECEIVED.

Charles Sharpe & Co., Sleaford, Lincolnshire.—Spring Flowering Roots.

Dobbie & Co., Rothesay, N.B.—Dutch Bulbs, Florists' Flowers, Fruit Trees, &c.

Barr & Son, King Street, Covent Garden, W.C.—Catalogues of Daffodils, Dutch, Cape, Californian and other Bulbs.

H. Cannell & Sons, Swanley.—Dutch and other Bulbs, Roses, Strawberries, &c.

Robert Sydenham, New Tenby Street, Birmingham.—Dutch and other Bulbous Roots.

William Sydenham, Tamworth.—Fancy Exhibition Pansies.

H. G. Smyth, 21, Goldsmith Street, Drury Lane, W.C.—Price List of Garden Requisites.

Charles R. Shilling, Hartley Wintney, Winchfield.—Trees, Shrubs, Plants, and Bulbs.

John Jefferies & Son, Cirencester.—Select Bulbs.

LONDON SEED TRADE.

September 7th, 1891.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report an improved demand for Trifolium incarnatum at unchanged rates. Rye and Winter tares sell freely. Clover seed steady. Ryegrasses firm. Finest Rape seed scarce.

COVENT GARDEN MARKET.

September 9th.

Fruit.—Average Wholesale Prices

	s. d	s. d.		s. d.	s. d.
Apples... per ½-sieve	1 0	3 0	Pine apples, Eng., lb.		
Currant, blk., ½-sieve			—St. Michaels, each	2 6	5 0
—red.....½-sieve			Peaches .....per doz.	1 0	6 0
Grapes .....per lb.	0 6	1 6	Plums..... ½-sieve	1 0	2 6
Kent Filberts 100lb.	30 0	35 0	Tasmania Apples,		
Nova Scotia Apples			per case	10 0	14 0

Vegetables.—Average Retail Prices.

	s. d.	s. d.		s. d.	s. d.
ArtichokesGlobe doz.	3 0	6 0	Herbs .....per bunch	0 2	0 6
Asparagus.....per 100			Horse Radish, bundle	2 0	4 0
Beans, French, perlb.	0 4	0 6	Lettuces ...per dozen	1 0	1 6
Beet..... per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages ... per doz.	1 6	2 6	Onions.....per bunch	0 4	0 6
Carrots ... per bunch	0 6		Parsley ... per bunch	0 6	
Cauliflowers, English,			Radishes... per dozen	1 6	
per doz.	3 0	6 0	Smallsalading, punnet	0 4	
Celery.....per bundle	2 6		Spinach, per strike ...	3 6	
Cucumbers .....each	0 6	0 9	Tomatos..... per lb.	0 6	1 0
Endive, French, doz.	2 6	3 0	Turnips ..... per bun.	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Aralia Sieboldi ...doz.	6 0	12 0	Heliotrope, per doz.	4 0	6 0
Bouvardias...per doz.	8 0	12 0	Hydrangea, per doz.	9 0	24 0
Coleus .....per doz.	3 0	6 0	Liliums, various, doz.	12 0	30 0
Cyperus .....per doz.	4 0	12 0	Marguerites, per doz.	6 0	12 0
Dracæna term., doz.	24 0	36 0	Mignonette, per doz.	4 0	6 0
Dracænaviridis, doz.	9 0	18 0	Palms in variety, each	2 6	21 0
Evergreens, invar. doz	6 0	24 0	Pelargoniums ... doz.	6 0	9 0
Ferns, invar., per doz.	4 0	18 0	—scarlet .....per doz.	2 0	4 0
Foliage Plants, doz.	12 0	60 0			

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blms.	2 0	5 0	Mignonette... 12 bun.	1 6	3 0
Asters, doz. bunches	3 0	6 0	Myosotis..doz. bchs.	2 0	4 0
,, French ,, ,,	9 0	12 0	Pansies, doz. bunches	1 0	2 0
Bouvardias, per bun.	0 6	1 0	Pelargoniums, 12 sps.	0 4	0 9
Carnations, 12 blooms	1 0	2 0	—scarlet ... 12 sprays	0 3	0 4
— per dozen bunches	4 0	6 0	Poppies, various, doz.	1 6	4 0
Dahlia, doz. bunches	2 0	4 0	Primula, double, bun.	0 6	1 0
Eucharis ...per doz.	2 0	4 0	Pyrethrum, doz. bchs.	2 0	4 0
Gardenias 12 blooms	1 6	4 0	Roses, yellow, dozen	2 0	4 0
Gaillardia, doz. bun.	2 0	4 0	— mixed... doz. bchs.	1 6	4 0
Heliotropes, 12 sprays	0 3	0 6	— Red..... doz. bchs.	2 0	6 0
Lavender, doz. bun.	4 0	5 0	— Saffrano...per doz.	0 6	1 0
Lapageria, 12 blooms	2 0	4 0	— Tea ..... per dozen	1 0	3 0
Lilium Harrisii,			Stephanotis, dz. sprys.	2 0	4 0
doz. blooms	3 0	6 0	Sweet Sultan, doz. bh.	2 0	3 0
— various, doz. blms.	1 0	2 0	Sweet Peas, doz. bhs.	1 6	3 0
Maidenhair Fern, 12bs.	4 0	9 0	Tuberoses, per doz.	0 3	0 6
Marguerites, 12 bun.	1 6	4 0			

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Sept. 21st.—Clearance Sale at J. Reeve's Nursery, Acton. Bulb Sales at Protheroe & Morris' and Stevens' Rooms.

TUESDAY, Sept. 22nd.—Royal Horticultural Society: Meeting of Committees at 12 o'clock.

WEDNESDAY, Sept. 23rd.—Bulb Sales at Protheroe & Morris' and Stevens' Rooms.

THURSDAY, Sept. 24th.—Sale of Stove and Greenhouse Plants at Camden House, Sutton. Bulb Sale at Protheroe & Morris' Rooms.

FRIDAY, Sept. 25th.—Sale at Oakhouse Nursery, Southgate, at The Mart, Tokenhouse Yard, by Protheroe & Morris. Orchid Sale at Protheroe & Morris' Rooms.

SATURDAY, Sept. 26th.—Bulb Sales at Protheroe & Morris' and Stevens' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, SEPTEMBER 19th, 1891.

THE EDINBURGH INTERNATIONAL.—Though it be true that foreign exhibits were conspicuous by their absence at the great exhibition held in Edinburgh last week, at least there was a section open to all parts of the world, and many classes in which growers from all parts of Great Britain could show their produce, and in that respect the exhibition was of a truly cosmopolitan character. But there is, if possible, a feature respecting exhibitions of this sort which is of special interest apart from the exhibits themselves, and that is found in the admirable opportunity they furnish for social fellowship and intercommunion between horticulturists of all nationalities, as well as from all parts of our own country.

A grand exhibition like that held at Edinburgh was Scotch only by reason of its locale; all the same it was an exhibition of an Imperial nature or of an International nature, as we may determine, just as whilst Edinburgh is the capital of Scotland, yet, as the Modern Athens, it is the property of the whole world. We have always found this intercommunion of horticultural fellowship to be productive of immense good. Apart from the enjoyment which all who are not of the particular city in which any particular exhibition may

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be held, derive from the change of scenes and air, the social associations are replete with pleasure and serve to invigorate, when wisely enjoyed, the faded physical frame.

We have too few of these international shows or gatherings, and for the benefit of horticulture and its votaries could wish that we had more of them. Why cannot we have them annually in London, in Manchester, and in Edinburgh in succession, so that once in three years the South, the Midlands, and the North might have their opportunity? Here in London, the capital of the Empire, we feel some shame that it is not for us to have a grand international horticultural show. More is the pity. Our Scotch friends beat us hollow in energy and in conception. None the less, we would welcome, as we feel sure horticulturists in all parts of the country would welcome, with all satisfaction, a really great show of this description in London, and next year if possible. Why should London wait any longer?

British Apples.—Whilst there are some fruit growers who agree with our excellent correspondent, Mr. R. D. Blackmore, with respect to the doubtful profits arising from hardy fruit culture in this country, there are many others who think and act differently. Amongst these we single out specially that able Daffodil grower, Mr. James Walker, who now occupies a large area of first class land at Ham, near Kingston-on-Thames, and a considerable portion of which he has planted with Apples, Pears, and other fruit trees. Mr. Walker is an experienced market grower. He is thoroughly familiar with sorts, with culture, and not least with marketing, hence knows as well as most men what he is about.

His Apple plantings are almost exclusively on the broad-leaved Paradise stock, and his trees both in growth and cropping justify his admirable choice. Trees now nearly five years planted are carrying crops of the heaviest, and with samples of the finest, as was seen by the collection which he sent last week to Edinburgh. It is very doubtful whether finer average fruit from any market garden are sent into London than are those which Mr. Walker has. At Ham, in the first place, there is a good, deep, free working soil, deeply stirred in the beginning and well manured before planting. Then the trees are put out in rows about ten feet apart, so that already they almost touch each other. The soil beneath is still liberally manured for bulbs, and thus the trees are well fed.

The result is seen in the truly grand crops of fruit, and the fine quality of the samples. This is as it were Apple culture in excelsis, and because the fruits fetch a tip-top price doubtless pays very well. Of course the under or ground crops have to be taken into account in estimating the returns, but then no one embarking in fruit culture for profit can afford to ignore them. Mr. Walker thinks that his method of culture is the only one likely to produce crops which really may hope to compete with foreign fruit.

Early-blooming Chrysanthemums.—The National Chrysanthemum Society has every reason to be pleased with the remarkably attractive display of its peculiar flower made at the Westminster Aquarium last week. The plant groups were the brightest and best yet seen at these early exhibitions, whilst the cut flowers, and notably the large collections of flowers in bunches or otherwise displayed, presented features at once of great beauty as well as of interest. The show demonstrated in a striking manner the great stride which has been made of late in the development of the early-flowering section of Chrysanthemums.

Hitherto, with the exception of the fairly large-flowered Madame Desgrange section, these early bloomers have been too largely of the Pompon race. These are so charming all the same that we would not say a word in depreciation of them, and many growers have proved the flowers to be of the greatest value where a large quantity of cut flowers has to be provided in the early autumn months. They bunch well, travel well, and last well, and these are qualifications that a gardener cannot ignore. No wonder that we are somewhat impatient to have some of the large-flowered sections represented in the September blooming. Not that we want the large incurved section materially, as these do not find that favour for ordinary cut purposes that is accorded to the Japanese forms.

Hence we have seen with great satisfaction the gradual development of the early-blooming Japanese strain, and many and most beautiful were the flowers of these varieties which some of the leading exhibitors had on view. The Pompons too are fast developing into varieties which will equal the best Pompons seen in November. It is useless to talk of the undesirability of having Chrysanthemum flowers so early as the end of summer. What is certain is that they will be produced in great abundance, and growers must accept them or be left behind in the race.

Bog Gardens.—When the weather is cold and wet, as we have found it to be far too often the case during the past summer, it is but natural that we should turn from the contemplation of a bog garden with some feeling of revulsion. Happily our summers are not always of the cold, wet order, and it is when they are of the traditional sort, hot, dry and parching, that a bog garden is indeed a joy. When Mr. George Paul gave his interesting description of his bog garden at Broxbourne, and of the plants with which it is furnished, the other day, the weather had happily taken a delightfully warm summer-like turn, and therefore it was possible to listen to his florid description of what seems to have been a marked success with considerable satisfaction.

It may be true that he who makes the desert into a green pasture merits the thanks of the world, but there is, too, some little merit in having converted a swamp into a beautiful garden full of flowers and glowing in loveliness and sweetness. That seems to be what Mr. Paul has done, and what so many more have done with equal success. Nature has endowed us richly with plants which seem to find their best habitats in or about water, not necessarily stagnant water, but at least such ponds or bodies of water as are found in moist places. These numerous plants will not thrive in ordinary gardens except they have proper surroundings, and these can only be furnished artificially.

But when, as Mr. Paul had, a piece of natural bog or swamp is at hand, a veritable nuisance in all its natural deformity, and by the art of the gardener it is changed or converted into a sort of floral—if somewhat moist—paradise, then indeed does art conquer nature, and the deformity is made to be as beautiful as a garden. Plants exist in nature in such diverse states and conditions that we cannot too heartily rejoice when enabled to grow them in our gardens as nature herself requires.

Mr. A. Abraham, for the last twelve years gardener to J. H. Wilson, Esq., Hazelholt, Bishops Waltham, Hants, has been engaged as gardener to Lord Clifford, Ugbrook, Chudleigh, Devon.

Daffodil Prizes for 1892.—Messrs. Barr & Son have presented to the Royal Horticultural Society a series of Silver and Bronze Medals to be awarded for cut Daffodils to be exhibited at the meetings of the Society to be held in February, March, April, and May next.

Mr. Thomas Everett, gardener to the Rev. Dr. Bartrum, D.D., the Rectory, Wakes Colne, Essex, died somewhat suddenly on the 24th ult., aged thirty-three years. The deceased, who was much respected, leaves a widow and three young children.

"Dining in Clover."—A correspondent of *Truth* declares that one of the prettiest table decorations she ever saw in her life was at a friend's, a few weeks ago. Down the whole of the centre table ran a low, long zinc pan, about 9 in. wide. This was entirely concealed by, and filled with, Clover blooms, which made a lovely glow of colour on the white cloth. The pretty green trefoil leaves of the Clover were freely intermingled with the blossoms.

An Electric Garden Engine.—Messrs. Merryweather & Sons, of 63, Long-acre, have a novelty in small pumps, worked by the electric current. As many of our country seats are now supplied with electric lighting machinery it may be well to consider how the electric "stream" may be further utilised. Messrs. Merryweathers' pump is well suited for garden work, as it is only necessary to fix it by a pond or fountain and attach a suction and delivery pipe, when the little engine will project the water in the usual manner.

Fruit Growing in the South of Ireland.—We learn from a Cork correspondent that a most interesting meeting of representative men was held in that city on the 31st ult., to consider the advisability of establishing a South of Ireland Fruit Growing Society. The Mayor presided, and was supported by W. H. Hall, Esq., High Sheriff of Cambridgeshire, who delivered an opening address. Papers were also read by Mr. T. F. Rivers, Mr. R. Hartland, Mr. Cole, Mr. Wright (Cork), and others.

The Royal Agricultural Society's Consulting Entomologist.—We regret to learn that Miss Eleanor A. Ormerod has felt it necessary—in order to protect herself from the blundering meddlesomeness of the R. A. S. authorities, and her valuable literary property from gross plagiarism on the part of someone high in office at the Board of Agriculture—has sent in her resignation as Consulting Entomologist to the R. A. S., and where that body is to find an equally competent successor it is somewhat hard to say. Fortunately for the agricultural community, however, Miss Ormerod does not intend to relinquish her practice of replying to enquiries for information respecting destructive farm insects.

Apples for East Anglia.—Discussing the subject of hardy fruit culture, in the columns of *The Suffolk Chronicle*, Mr. James Gilbert, of the Cemetery Road, Ipswich, gives the following select list of Apples which he finds are most suited for East Anglia:—Cellini, Cox's Pomona, King of the Pippins, Lord Suffield, Dumelow's Seedling, Kerry Pippin, Emperor Alexander, Warner's King, Keswick Codlin, Cox's Orange Pippin, Dr. Harvey, Peasgood's Nonsuch, Court Pendu Plat, Lane's Prince Albert, Anglesea Pippin, Stirling Castle, Worcester Pearmain, and Hawthornden.

Apple Culture in the West.—Mr. S. J. Pavitt, of Shaw Castle Lane Nurseries, recently delivered an admirable practical lecture on this subject at Twerton, Somerset. He contended that the Apple was the staple fruit of this country, and, but that its cultivation had been too much neglected, try as they might the Colonies could not beat home-grown fruit. He recognised, however, in the existing law as to landlord and tenant an impediment to the development of the industry. An alteration was required here. Knowing the tendencies of some landlords, people holding a few perches of land did not care to expend £30 or so in laying it out with Apple bushes, because, when they were beginning to get their money back, the rent was raised on account of the increased value of the holding. If the law were made more equitable, he believed fruit culture would receive a great stimulus.

TEA-SCENTED ROSES.

THE section of Roses classed under the above heading is one of the most popular, and deservedly so, for none can excel Tea Roses in their exquisite chasteness of colours and scent. They are also amongst the most floriferous plants we have, and being so eminently suitable for indoor or outdoor cultivation, they are well worthy of a place in all gardens or greenhouses, however small.

Tea-scented Roses are truly "perpetual," for they are among the first to flower in early spring, and will keep on producing quantities of bloom until completely cut down by the frost. I have often cut a nice bunch of Roses from the open air during November and December, the majority of which belonged to this section.

During the last ten to fifteen years, Roses have made a wonderful advance, both as regards size, shape, and colour, and none more so than this section.

For softness of shadings, and delicate tints, no flower, excepting a few of the choicest of Orchids, can compare with such varieties of Tea Roses as Souvenir d'un Ami, Francisca Kruger, Comtesse Riza du Parc, Jean Ducher, Annie Ollivier, Niphetos, Perle des Jardins, Comtesse de Nadaillac, Ethel Brownlow, Marie Van Houtté, Jean Pernet, Madame de Watteville, and dozens of others to be found amongst this section. The twelve varieties named above are perhaps the best for forcing, or growing in a warm and sheltered situation out of doors.

When choosing climbers for any walls or fences, one is naturally drawn towards Roses, and the finest of all for this purpose can also be found amongst the Teas; for instance, Gloire de Dijon, Marèchal Neil, Reine Marie Henriette, Heinriette de Beauveau, Brunnert Fridolin, Mdme. Bérard, &c., are all suitable. Wherever Roses will thrive at all well, this class is sure to give the most satisfaction. Any description of soil suits them, but the best is a deep, rich, and well-drained loam. Tea Roses will amply repay any generous treatment in the way of manure and constantly working among the plants; also in having all dead and decayed blooms removed. One more very great point in their favour is their comparative freedom from mildew, and absolute freedom from the orange fungus and red rust, so prevalent among other classes in the autumn months.

Teas are also a hardy class of Roses, although the delicate appearance of their growth and blooms have, until lately, made many growers treat them as tender subjects. It is not so, however, for provided this class of Rose is protected at the base of the plant, by having some soil earthed up around it, the most severe frosts will not kill the plant outright; the lower eyes being kept sound under the soil, they start into healthy growth early in the spring.

They also possess greater vitality than any other section. A Tea-scented Rose that has a little life left in it should never be cast away or condemned, as, if carefully nursed, it will more often than not return to full strength and health. Not so the Hybrid Perpetuals and Bourbons, which if once they commence to go back, are almost hopeless; these classes also die more frequently from the effects of frost than the Teas. Where any growers have a fancy for plants upon their own roots, this section is the best to grow, as they will keep producing strong suckers from their base and which will greatly increase the size of the base and also produce the grandest blooms.—*Experience.*

GARDEN TURNIPS.

THE varieties of Turnips both for field and garden purposes are now very great. While the aim is to get large-sized and generally late Turnips for the field, small or fair-sized and early varieties have been selected for garden use. The market growers about London grow very few sorts, and Snowball is the universal favourite. The gentleman's gardener may have his favourites, but he grows a number of varieties as a rule according to fancy and requirements. Several varieties are noted for their earliness, and for this quality they are used for the first sowing on warm borders. Where ground is scarce it is sometimes convenient to employ the small-topped varieties which require little distance between the rows. The first sowing may be made about the middle of March, and successional ones at intervals from thence onwards to the end of June or the beginning of July for the main or winter crop. Those who prefer very young Turnips may keep on sowing up to the end of August in the southern districts and all the warmer parts of England.

The early sown crops must be utilised as soon as they become fit for use, otherwise the hot and dry weather soon renders them stringy, or causes them to run to seed. The particularly early varieties are most liable to behave in this way. Varieties differ in form by being oblong and tapering resembling Beetroot, while others are globular or more or less flattened. The leading colours are white, yellow, red, green, and brownish or black, with every intermediate shade. The flesh is either white or yellow, but varies greatly in quality. Curiously enough great value is attached to the white varieties in the southern parts of the country, while those in the north have as great a liking for the yellow kinds.

A large collection may be seen on trial in the gardens of the Royal Horticultural Society at Chiswick, where all the leading and most popular types may be noted. The first to come into use is Early Milan, a flattened, purple-topped Turnip of small size and short leaves. This is followed by the Strap Leaf, which is white, with a red top, and is of much better quality; it is also very compact in habit, and may be sown in lines but a short distance asunder, or broadcast for early work. Next in order comes the White Dutch, a roundish white Turnip of excellent quality, and an old and much cultivated sort. Snowball is the variety so much grown by the London market growers, and constitutes the best main crop sort to follow the above mentioned in private gardens. It is also sometimes grown under the name of Early Stone, Stubble or Six Weeks. The flesh is sweet and tender, while its fine shape and clean appearance help largely to render it popular. There is also a sub-variety of the above with the upper or exposed portion of it green.

Several other varieties find favour with different cultivators, according to the purpose for which they may be used. That known as Half-long White has a tuber about 6 in. to 8 in. long, tapering somewhat like Beetroot, and white. It is very early, has small leaves, and is found to be a useful sort for forcing purposes; the quality is also good. Somewhat similar in shape is the Long Green Tankard, the exposed portion being green; the quality is also fine. The Half-long Red Top is also good, and differs chiefly in the top of the tuber being red. It is otherwise known as Tankard or Vertus. Chirk Castle or Black Stone is a hardy sort of good quality. The skin is generally described as black, but it may more correctly be compared to the Potato known as Village Blacksmith, the skin being brown and very rough. Russian Scarlet has very small leaves and a compact habit, and the quality being good, the variety will no doubt get into the favour of some. The tuber is somewhat flattened and red.

The Yellow Finland is a remarkably small and flattened yellow Turnip comparable to Early Milan, but is even more compact with a few short leaves lying upon the ground. One would hardly expect to find a tuber at all, judging from the diminutive leaves. The tap root is very slender, and leaves the tuber quite clean. Large White Globe Purple Top offers a strong contrast to the above in the matter of size. The exposed portion of the large tuber is of a clear, light purple, and the flesh of excellent quality. Robertson's Golden Ball is another large Turnip, similar in size to Snowball, but differing from it in being golden-yellow. While the latter constitutes the main crop in the south, the former or some of the allied varieties is the favourite in the north of England and in Scotland. In spite of their yellow skin and flesh it is questionable whether yellow Turnips are not of better quality than the white kinds; and they are certainly hardier and better adapted to resist a severe winter. The Yellow Dutch also grown in the collection here is a large and good sort

THE EPACRIS.

"CAN I grow the Epacris?" said a neighbour to me a few days ago. It is a plant cultivated with great success at Gunnersbury Park, being found so useful for cutting purposes; and my neighbour being a lover of plants wished to know if she could grow them, and the information I gave her may be perhaps useful to readers of THE GARDENING WORLD, who are always desirous of picking up information of this character.

Few plants are better for winter and spring flowering than the Epacris, and what is of some importance, they are on the whole easy to manage. However, as in the case of other things, if one would succeed it is necessary to understand something about first principles, which I will endeavour to lay down as clearly as I can.

One of the chief recommendations belonging to this class of plants is that they require nothing beyond that of a common greenhouse temperature, helped as a matter of course by a little artificial heat when necessary. Indeed, some of the species and varieties will not be injured if they experience a few degrees of frost; however, it is always best to prevent the frost from getting to them. After the plants have done flowering they should be kept as cool as can be allowed in the greenhouse, say the coolest and shadiest side away from the sun heat; indeed, a cold pit or frame, if available, is a more suitable place for them, but it is not always those who have a greenhouse have a pit also. Here they can remain through the spring, covering the frame up at night when frost may be expected; and in the early part of May the plants can be cut down to within an inch or so from where they had been cut back the previous season.

To induce them to break again into growth, it is the usual practice to keep the frame close for a fortnight or so, and when started, they need to be repotted, using three parts of fibry peat and one part of turfy loam, mixing with both some silver-sand. The bulbs can be reduced one-half or even more, according as the roots are in a healthy condition or otherwise. When repotted in well drained pots, the soil being pressed firmly about the roots, they do best when placed on a north aspect, and kept close for two or three weeks in a frame on a north aspect; or if on a southerly one, the plants should be shaded from the sun in the middle of the day. Water should be applied cautiously, and only when necessary; and so treated, the plants would commence to go a-head nicely. They are much benefited by syringing over head, but only on the mornings or evenings of warm, drying days. It is not usual to stop growing plants, unless it is required to make them more bushy; but if wanted for the decoration of rooms, halls, etc., it is certainly advisable not to stop them. Young plants may be encouraged to grow into size by giving them more than one shift in a season, and they can be stopped also as required in order to make them bushy.

Some of the varieties are winter bloomers and others flower in the spring; the former require a moderate amount of fire heat to bring them well into flower. The colours of the flowers are varied, they range from white to dark-crimson; and those with combinations of crimson and white, rose and white, or pink and white, are very attractive indeed. The flowers, when cut, and especially in the winter time, remain a long while fresh in wet sand and water, which is a valuable quality. Then of all hard-wooded subjects, the Epacris perhaps makes the strongest roots; they are also much less subject to insects than other plants of the same character.

The white carmine and bright pink forms of E. hyacinthus, Salmonea, reddish salmon, Sunset, bright-red, and the Bride, pearly-white, are among the best early flowering forms; and for later work, Eclipse, bright-red and white, very free and fine; Grandiflora rubra, deeper in colour than the preceding, and muriata splendens, red, tipped with white, are decidedly the best.—*R. D.*

THE WHITE STOCK, PRINCESS ALICE.

IN this variety the lover of good Stocks has a perfect gem. It may be described as a Ten-weeks variety, and is pure white. I sowed a packet of seed in March in a box in a frame, transplanted the seedlings into other boxes when large enough, and finally planted them out in May into well-tilled land. We have been cutting the side spikes for some weeks past, and as they are large and can be cut a foot in length they look handsome when massed in large vases, and their odour is simply delicious.

Another great recommendation of this Stock is that it keeps on blooming until severe frosts stop it. Last year we could cut them till November, and both last year and this we had but a small percentage of singles. Beautiful as are the East Lothians I prefer the Princess Alice, as it comes into bloom so much earlier in the summer. It is also most valuable for planting in the mixed border in large masses. To have Stocks really fine the soil must be in good heart, deeply worked and well enriched.—*Con*

FLORICULTURE.

The National Pink Society.

MR. THURSTAN, in his paper at p. 18 of your last issue, offers various opinions, and expresses a desire that comment shall be made thereon. Thinking there is much room for such comment, I propose to accept the invitation. I must premise by saying I saw none of the flowers shown either in London, Wolverhampton or Manchester, neither have I knowledge of the Pink Empress of India. But when Mr. Thurstan advances the opinion that no Pink of twelve petals only can be worthy of a prize, and no premier could fitly be chosen if with seventeen petals only, I take the liberty to traverse the assumption, and very distinctly to assert, excellence in the Pink is not to be estimated by the number or the fewness of its petals.

I know not what may be expected from a novice, but I, an old florist, a student of the Dianthus for more than half a century, am simply astounded to be told that a flower (Pink) "approaching perfection should contain from thirty to forty petals." I am tempted almost into a jest, and ask upon the Rule of Three principle, if to approach perfection thirty to forty petals are required, what will be the number needed for its ultima thule? But it appears to me this gauging merit by the number of the petals in any given specimen of the Pink, is quite beside the mark. The key is to be looked for, and will be found in a very different direction. The Rev. George Jeans, in his invaluable Essays, tells us "There is, then, always one leading idea suggested by any flower, controlled by the general outline of its form and the disposition of its principal parts. This is the characteristic of the flower, to which all its other properties must be subservient." What, then, is the special characteristic of the Pink? I answer, unhesitatingly, the beauty of its concentric markings; and I ask how can this be seen if thirty to forty petals are piled one upon the other?

It may seem presumptuous in me to say so, but my ideal of a Pink would be found not in the Boiard of the present day, though that has much excellence, but in flowers like the Criterion of Dr. Maclean, grown some thirty years ago, or yet better, in the Arabella and Excelsior of my friend and confrere Robert Marris, grown and fine some ten years only since. Personally I cannot hope to take part in the work of development of the Pink, happily now renewed, but I should be sorry to see young aspirants started upon a wrong track.—*E. S. Dodwell, Stanley Road, Oxford.*

Antirrhinums.

I SUPPOSE the Snapdragon may be considered as having dropped out of the list of florists' flowers. Time was, and not very remotely, when fine varieties were raised and named, and the practice is still continued in Scotland; but such fine strains are now grown from seed that it is difficult to know what to select for naming. But it is a fine old-fashioned flower, very popular, and most deservedly so; and I trust that when an extra fine variety is raised it will be named and offered for sale, so that it may become the progenitor of something finer still. Formerly it was at this season of the year cuttings were taken and struck, and there is no difficulty in getting them to root if they are placed in pots, using a light sandy soil, and keeping them for a time in cold frames under a handlight.

The best way to maintain a fine strain is by taking seed only from the very best. One requires only a capsule or so from each, for it contains a great many small seeds. They can be sown in July so as to have plants to stand through the winter and bloom early in the following summer, or seeds can be sown in January or February in a gentle bottom heat, or a month or so later in a cold frame; and if planted out in beds will flower the same season, and come in as excellent succession to plants raised from the previous midsummer sowing. I saw a few days ago a bed of such plants, many of them very beautiful, and especially the full striped varieties. As the plants go out of flower, let a few seed pods be marked, and the remainder cut away, then the plants can devote their whole energy to blooming.

I should like to see the fine old A. Skinneri introduced, with its bands of light carmine on a light ground. One finds seed of it quoted in seed lists, but all my efforts to obtain it from seeds only resulted in something greatly inferior—white, creamy white, and pale colours—but not the exact form I very much wished to have.

Though generally regarded as a native plant, I think it not unlikely our original form of A. majus came from the Mediterranean region, and, escaping from gardens, became a wild plant. It is frequently found on old walls, but always in an inferior character. It has several common English names, such as the Snapdragon, Lion's Snap, Toad's Mouth, Dog's Mouth, Calf's Snout, &c. One can easily understand Snapdragon from its corolla representing the snap or snout of some animal. The tube or throat is closed by a large, projecting, bearded palate, which gives to the flower a resemblance to the face of an animal or a mask, whence the name meaning "Snoutlike." Dr. Prior thinks it should read "Snap, dragon." Columella, an ancient writer who wrote twelve books on agriculture, of which the tenth, on gardening, is in verse, alludes to this flower as "the stern and furious lion's gaping mouth." In many rural districts the Snapdragon is believed to possess supernatural powers, and to be able to destroy charms. It was formerly supposed that, when suspended about the person, this plant was a protection from witchcraft, and that it caused a maiden so wearing it to appear "gracious in the sight of people."—*R. D.*

NEW & RARE PLANTS.

THE undermentioned Ferns, Gladioli, and other plants were exhibited at the meeting of the Royal Horticultural Society at the Drill Hall, on the 8th inst., and received certificates according to their merits. The Orchids which were certificated are described under "Orchid Notes and Gleanings."

New Ferns.

ATHYRIUM FILIX-FŒMINA PLUMOSUM DRUERYII.—The frond of this beautiful variety is 18 in. to 20 in. long, by 6 in. or 8 in. wide, ovate or elliptic, bright green and plumy in appearance. The pinnæ are oblong-elliptic, and inclined to be crested at the apex; and both pinnæ and pinnules are much imbricated. On the whole, the frond is three or four times pinnate, with the ultimate segments deeply cut or toothed, giving the whole a plumose or feathery appearance. First-class Certificate.

ATHYRIUM FILIX-FŒMINA SUPERBUM DENSUM.—The fronds in this instance are ovate, two or three times pinnate, and of a bright green. The pinnæ are ovate, much imbricated or overlapping, with the pinnules oblong and deeply cut. Award of Merit.

ATHYRIUM FILIX-FŒMINA REVOLVENS.—This variety was discovered at Strathalbane in July last, and is consequently quite new to cultivation. The fronds are lanceolate, 2 ft. long, and bipinnate with the pinnæ oblong lanceolate, and revolute or rolled backwards for the upper quarter of their length. The lower ones are much shorter than those above them. The pinnules are oblong and pinnatifid, or deeply toothed, but this character is disguised or greatly hidden by the edges being strongly revolute. Award of Merit. All the above three were exhibited by C. T. Druery, Esq., F.L.S., Fernholme, Forest Gate, Essex.

DAVALLIA ASSAMICA.—The rhizomes of this species are densely covered with pale grey scales, and about the thickness of those of D. elegans. The fronds are lanceolate, bipinnate, and deep green with a bronzy purple rachis, especially when young, and 8 in. to 15 in. long. The pinnæ are lanceolate-ovate, and the pinnules oblong and toothed. The species is dwarf and neat, suitable for basket culture. It received a Botanical Certificate when exhibited by Messrs. H. Low & Co., Clapton.

NEPHRODIUM PALEACEUM WILLSII.—The fronds of this British Fern are 2 ft. to 3 ft. long, oblong-lanceolate, and bipinnate, with a densely scaly rachis as implied by the name. The long, lanceolate pinnæ are deeply crested at the apex, and the oblong, blunt pinnules are similar to those of the type. The variety differs from the old crested one by its longer fronds being of a different form with longer pinnæ and deeper crests. First-class Certificate.

ASPLENIUM FILIX-FŒMINA LUNULATUM NELLIÆ.—This variety of the Lady Fern is remarkable for the heavy tassel or branched crest at the apex of the frond. The latter is about 18 in. long, with a few irregular pinnæ of moderate length at the base. All the other pinnæ are reduced to small, rounded or crescent shaped, deeply toothed processes, and each branch of the apical tassel is furnished with similar organs. First-class Certificate.

OSMUNDA REGALIS CAPITATA.—At first sight, this bears considerable resemblance to the old crested variety (O. r. cristata) both in habit and stature, but the cresting is much better defined and more decided. The fronds are 12 in. to 18 in. long, while the pinnæ and pinnules end in a roundish, lobed crest, which is much larger and more lobed in the fronds, which are produced late in the season. First-class Certificate.

ASPIDIUM ACULEATUM CIRCUMGLOBATUM. — The varietal name here seems to refer to the heavily-crested apex of the frond, the primary or secondary divisions of which are often coiled up like a helix. The stiffly erect fronds are about 2 ft. high and bipinnate; but with exception of the curiously coiled and crested apex, they do not seem to differ otherwise from the type. Botanical Certificate.

SCOLOPENDRIUM VULGARE SUPRALINEATUM MOONÆ.—The fronds of this variety of the Harts-tongue are about 15 in. long, oblong-lanceolate, deeply cut at the edge with rounded lobes. The name supralineatum refers to a curiously elevated line running from near the base to the apex of the frond on the upper surface and somewhat nearer the margin than the midrib. The form is both curious and ornamental, which is more than can be said of a large proportion of the forms of the Harts-tongue now in cultivation. First-class Certificate.

ASPIDIUM ACULEATUM HYBRIDUM.—This peculiar Fern is said to be a hybrid between A. angulare and A. aculeatum. The plant is a vigorous grower, with fronds about 2½ ft. long, nearly erect, and lanceolate-linear. The pinnæ are remarkably short, and of a deep shining green; they are pinnate at the base, while the upper portion is only pinnatifid or deeply lobed. The pinnules at the base are often very deeply cut, which is not the case in the ordinary typical form. First-class Certificate.

ASPIDIUM ACULEATUM ADRASTER.—The apex of the frond of this dwarf-habited form is developed into a heavy crest, while the pinnæ are very irregular in shape and sometimes a little crested. The fronds themselves are only about 12 in. to 15 in. long, bipinnate, and therefore very dwarf for A. aculeatum. Award of Merit.

SCOLOPENDRIUM VULGARE RAMO-INÆQUALE LAUDABILE.—The fronds in this instance are of remarkable length, especially for a pot-grown specimen, as those of the plant shown were 18 in. to 24 in. long, spreading upward, and often branched from near the base in a singular manner. The branches are also very irregular in length upon different sides of the same frond; they are also narrow and irregularly scolloped or indented at the edges with the brown sori often exposed at the margin. The upper surface is of a deep green, and the greater number of branches arises above the middle. First-class Certificate.

ASPLENIUM MARINUM CAPITATUM.—The peculiar characteristics of this variety consist in the branching the fronds, which are of moderate length for the species. The branching may take place near the base of the lamina, but more often it occurs towards the apex, and the different ramifications resemble short fronds of the ordinary type. The variety was found at Scarborough by Mr. Clapham. Botanical Certificate.

ASPIDIUM ANGULARE CRUCIATUM NYMPHA.—The fronds in this instance are linear-lanceolate, bipinnate, narrow relatively to the length which is 2 ft. to 3 ft. The name cruciatum refers to the lower pinnule, which is often but not regularly developed to a considerable size, resembling pinnæ, and being set on at right angles to the true pinnæ give the latter the appearance of a cruciform arrangement, such as occurs in several remarkable forms in the Lady Fern. First-class Certificate.

ASPIDIUM ANGULARE SETOSUM GRACILE. — The fronds in this instance are slender and gracefully constructed, lanceolate, bipinnate, and about 2 ft. long. The pinnules are lanceolate, deeply and acutely serrate. Both pinnæ and pinnules stand quite clear of each other, and this is what gives the plant its graceful appearance. Award of Merit.

ASPIDIUM ANGULARE GRANDICEPS CORONALE.—The pinnules in this case are short, unequally rhomboid and toothed, with the teeth and apex of the pinnæ all terminating in a bristle. The fronds are only about 18 in. long, erect, deep green, and heavily crested at the apex. Award of Merit.

ASPIDIUM ANGULARE PLUMOSE-DIVISILOBUM GRACILE.—One of the more striking features of this Fern is the uniform greenish-yellow hue of the

fronds, which are 18 in. to 24 in. long, spreading and three or four times pinnate as in the case of the plumose forms of the Lady Fern. Both pinnæ and pinnules closely overlap one another. Award of Merit.

ASPIDIUM ANGULARE GRANDICEPS TÆDA.—Most of the heavily-crested Ferns are of erect habit, as if it was a provision to support the head more easily. That is the case with the plant under notice, and the vigorous fronds are 2 ft. to 2½ ft. long. The pinnules are broadly-oblong, or unequal sided, pinnatisect, pinnatifid or merely toothed, with each ultimate segment tipped with a bristle. First-class Certificate.

SCOLOPENDRIUM VULGARE MURICATUM CRISPUM.—The margins of the fronds in this form are deeply lobed or scolloped, and crisped with overlapping lobes. The upper surface is irregularly and coarsely muricate in lines, that is, furnished with small tooth-like elevations projecting from the surface. Award of Merit.

ASPLENIUM CETERACH MULTIFIDO-CRISTATUM.—The apex of the frond of this form is once or twice forked, or slightly crested. Variation in this species may not be particularly common, but as it is the difference is hardly great enough to warrant so long a name. Award of Merit.

SCOLOPENDRIUM VULGARE PERAFERENS NEPENTHESOIDES.—As the last word of this lengthy name implies, this variety of the common Harts-tongue has been compared to a Nepenthes, or Pitcher plant. The allusion refers to a short saucer-shaped cavity at the apex of the frond. The variety is perhaps more curious than beautiful, and a Botanical Certificate was awarded it.

SCOLOPENDRIUM VULGARE CRISPUM DECORUM.—In this we have a bold and rather handsome form of the common Harts-tongue, with lanceolate-elliptic fronds, 6 in. to 10 in. long. The basal auricles are greatly developed and overlapping one another, while the sides are much undulated, crisped and lobed with short, triangular, and toothed or crenate lobes. All of the above eighteen varieties, commencing with Nephrodium paleaceum Willsii, were exhibited by E. J. Low, Esq., F.R.S., Shirenewton Hall, Chepstow. He was also awarded a Silver Flora Medal for a basket of numerous and curious forms of Scolopendrium vulgare, which were described as hybrid.

PICEA OMORICA.—Great interest attaches to this Spruce from the fact that it is the European representative of the North-west American Picea Menziesii, and of the Japanese P. ajanensis. In some books it may be found under the name of Abies Omorica, but Abies is now the recognised name of the Silver Firs, while the Spruces, of which this is one, are classed under Picea. A beautiful young tree of it about 3½ ft. to 4 ft. high, was exhibited by Messrs. J. Veitch & Sons, Chelsea. The leaves are bright green above, silvery beneath, of good average length, and rhomboid in transverse section, that is, they are flatly tetragonal. The young shoots are of a clear, pale, straw-yellow colour. It is a native of Servia and Bosnia in South-east Europe. Botanical Certificate.

CROTON GOLDEN RING.—The leaves of this Croton are linear, 10 in. to 14 in. long, involute at the sides, or undulated, and sometimes spirally coiled. The colour is golden-yellow throughout, slightly blotched with green, and suffused with crimson in places. Plants of a useful size for table decorative purposes are elegant and handsome. It received an Award of Merit, when shown by Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton.

GLADIOLUS SHEILA.—The flowers of this variety are large, and white, with the two lateral ones of the inner series bright purple along the centre. There were thirteen open flowers, and fifteen buds on a spike.

GLADIOLUS SIR ARTHUR SULLIVAN.—The bright scarlet flowers of this form are slightly flaked with a deeper hue towards the edge of the segments, and the midrib of the lower half of the lower segments is purple. Fourteen flowers were open, and ten in bud.

GLADIOLUS W. S. GILBERT.—The flowers in this instance are salmon-pink, and flaked with scarlet towards the outer edge. The inner segments are white on the lower half, with a purple midrib. Of twenty-six flowers on the spike, the half of them were fully expanded.

GLADIOLUS LADY BROOKE.—Of the hundreds of the G. gandavensis type in cultivation, a strong feature of them is the purple or crimson midribs sometimes extending into large blotches on the lower segments. That under notice is a new break entirely devoid of those characteristic blotches or lines. The three outer segments are white or blush, while the upper inner segment is similar in colour but marked with purple towards the edge. The two lateral ones of the inner series are creamy yellow on the lower half. Award of Merit.

GLADIOLUS GEORGE MEREDITH.—This like the last is also a new break after the same type. The three outer segments are very large and irregularly flaked and marked with purple on a white ground; the upper and inner segment is less distinctly marked in the same manner. The upper half of the inner and lateral two segments are of the same colour as the rest, but the lower half is creamy-yellow without blotches or lines. All the five were shown by Messrs. Kelway & Son, Langport, Somerset, and an Award of Merit was accorded each.

DAHLIA ARTHUR RAWLINGS.—The flower heads of this show variety are large, globose, neat, intense red or crimson-red, and well up in the centre.

DAHLIA MRS. KEITH.—In this we have a decorative Dahlia of medium size, and of a beautiful soft salmon-pink. The florets are short, broad, nearly flat or slightly concave.

DAHLIA WILLIAM POWELL.—This is a fine deep yellow self, and a show variety of a high order of merit. The shape is also good. All the three were were exhibited by Mr. J. T. West gardener, to W. Keith, Esq., Cornwalls, Brentwood, and were accorded Awards of Merit.

DAHLIA HARLEQUIN.—The blooms of this Dahlia are flaked and striped with crimson on a yellow ground in a novel and pleasing way. It therefore belongs to the fancy class of the exhibition type. An Award of Merit was accorded it when shown by Messrs. Paul & Son.

The under-mentioned Dahlias and Chrysanthemums were exhibited at the Royal Aquarium on the occasion of the Early Autumm Show of the National Chrysanthemum Society, held on the 9th and 10th inst. A First-class Certificate was awarded in each case.

DAHLIA EVELYN.—The heads of this single variety are very large and of a soft rose, with a broad, white zone around the golden-yellow disc.

DAHLIA LITTLE SNOW WHITE.—This also is a single Dahlia of medium size and good substance. Indeed, so firm are the florets that they have a somewhat rigid appearance, and are broad, overlapping, horizontal, slightly recurved at the apex, and pure white. Both were exhibited by T. W. Girdlestone, Esq., Sunningdale, Berks.

DAHLIAS MRS. KEITH AND ARTHUR RAWLINGS.—For description of these two Dahlias, see those certificated by the Royal Horticultural Society. Both were shown by Mr. J. T. West, gardener to W. Keith, Esq., Cornwalls, Brentwood.

DAHLIA JOHN RAWLINGS.—The heads of this show variety are large, very full and neat, of considerable depth and of an uniform soft lilac-purple.

DAHLIA GEORGE GORDON.—Here again we have a self or show Dahlia of a deep crimson-red. The heads are large and slightly flattened on the top but very neat. Both were shown by Mr. Arthur Rawlings, Romford, Essex.

DAHLIAS ST. CATHERINE, KYNERITH, AND BARON SCHRODER.—For description of these three varieties, see our issue for September 5th, p. 6.

DAHLIA LILIAN.—This is a small and beautifully neat Pompon of a soft pinkish-purple. A bunch of it was shown. Both this and the three previously named kinds were exhibited by Messrs. Keynes, Williams & Co., Salisbury.

DAHLIA BEAUTY OF ARUNDEL.—The heads of this Cactus variety are large, and of a deep crimson-scarlet. The florets are long, spreading, broad and nearly flat.

DAHLIA DUKE OF CLARENCE.—This also is a Cactus Dahlia of medium size for that class, and of a deep, velvety maroon-crimson. The florets are broad and flat, or nearly so. Both were shown by Messrs. J. Cheal & Sons, Crawley, Sussex.

DAHLIA SCARLET QUEEN.—The heads of this show Dahlia are very large, slightly flattened on the top, but very neat, and of a deep scarlet or scarlet-red.

DAHLIA TOUCHSTONE.—Being striped and mottled with crimson on an orange-salmon ground colour, this variety must be classed amongst the fancies. The heads are large, and flattened on the top, and the centre (by artificial light at least) appears of a purple hue before being fully expanded.

DAHLIA RAYON D'OR.—This decorative variety has small heads for the class to which it belongs, and the florets are white edged with clear orange-scarlet, giving the whole a pleasing and attractive appearance. All the three were exhibited by Mr. Charles Turner, Slough.

DAHLIA INDIAN CHIEF.—Here we have a show Dahlia of medium size, globose, compact, and neat in appearance, and of a dark, dull, crimson. Mr. Geo. Harris, Orpington, was the exhibitor.

CHRYSANTHEMUM MONS. JULES PAQUET.—The heads of this Chrysanthemum are moderately large for a Pompon, and pure white. The florets are somewhat recurved, and flat, or more or less revolute, at the margin. It will evidently prove a useful sort for early work.

CHRYSANTHEMUM MADAME EDOUARD LEFORT.—This also is a Pompon, but of smaller size than the last, and fimbriated. The heads may be described as of small or medium size for the class, and yellow at first, but soon changing to a beautiful deep bronzy hue, with yellow tips to the florets. Both the varieties were exhibited by Mr. Robert Owen, Maidenhead.

Gleanings from the World of Science.

British Plants near Charing Cross.—Lord Carrington's House, No. 8, Whitehall, within a quarter of a mile of Charing Cross, was pulled down in 1886 to make room for improvements. There was no garden attached to it, but merely a stable yard, and everything was carted away except some brick rubbish which strewed the surface. The flowering plants which sprung up on the site are somewhat remarkable in many instances, and afford matter of speculation as to how they got there. A list of them has been made by Mr. A. Cottam, Watford, in *The Standard*. The following are the more important, namely, the Burr Thistle (Carduus lanceolatus), Erigeron canadense, Senecis viscosus, Gipsywort (Lycopus europæus), Polygonum Convolvulus, Rosebay (Epilobium angustifolium), Great Willow Herb (Epilobium hirsutum), Epilobium parviflorum, Field Thistle (Carduus arvensis), Burdock (Arctium Lappa), Mayweed (Anthemis Colula), Coltsfoot (Tussilago Farfara), Cat's Ear (Hypochæris radicata), Corn Sow Thistle (Sonchus arvensis), Common Sow Thistle (S. oleraceus), Knot Grass (Polygonum aviculare), Polygonum Persicaria, the Black Poplar (Populus nigra), and the Eared Willow (Salix aurita). The Potato (Solanum tuberosum) and the Cherry (Prunus Cerasus) must have been conveyed by human agency and cause little surprise. Common weeds which spring up everywhere are, Stellaria media, Sisymbrium officinale, Sinapis arvensis, Capsella Bursa-pastoris, Arenaria serpyllifolia, Sagina procumbens, Trifolium repens, Matricaria modora, Senecio vulgaris, Taraxacum officinale, Plantago major, P. lanceolata, and Atriplex patula.

Aster Tripolium.—This, the only British species of Aster, affords an instance of the variability of the species of that genus. The typical form of the plant has large and conspicuous flower heads in corymbs, each head having long, purple or bluish rays, and a yellow disc. Individual plants occasionally occur with white rays, and others without any rays at all. This latter is the variety A. T. discoideus. All the three may be found in the muddy salt marshes overflowed by the tide, near the mouth of the river Brede, at Rye in Sussex. During the present month the plants there are quite showy, owing to the flower heads being mostly produced on the same level after the style of those perennial Asters which are grouped under the section Galatella. It is surprising that the cultivators of bog plants do not oftener attempt to cultivate our native Starwort.—*F.*

Introduction of the Potato Disease.—The most remarkable case in recent times of the introduction and wide distribution of a plant by wind currents is that of Phytophthora infestans, De Bary. Towards the end of July, 1845, this plant was first detected in the Old World in Belgium, and within two months thereafter it had spread itself over England, Scotland, and Ireland, over France, Germany, Denmark and Russia, doing serious injury everywhere to the Potato crops of those countries. Though so recently introduced the Phytophthora and the Anacharis must be reckoned as much members of our indigenous Flora as the others which reached us by agents free from the influence of man during the ages that have intervened since the glacial ice disappeared from our land.—*William Carruthers, F.R.S., in the proceedings of the Linnean Society.*

THE INTERNATIONAL SHOW AT EDINBURGH.

In our last issue the exigiences of time and space permitted us only to allude to some of the special features of the grand exhibition held in the Waverley Market last week, and which, thanks to a most liberal prize list, energetic management, and glorious weather, resulted in a great and unqualified success. The entries far exceeded those received at previous Internationals and the most sanguine anticipations of the promoters, while the competition in some of the classes fairly beat all previous records. The arrangements for utilizing the vast floor space of the market were admirable, and, except when crowded to such an extent as it was on the second and third nights, left plenty of room for an easy inspection of the exhibits. Fruits and vegetables decidedly took the lead in point of numbers and quality, and of Grapes alone the display was of an unusually extensive character. The groups or collections of plants were specially good, too, while the display of hardy autumn flowers was extensive enough, if not otherwise remarkable. The judging was got through at an early hour, and, as is customary at the Edinburgh shows, gardeners were admitted between 9 and 11 a.m. at a cheap rate, and availed themselves of the privilege in considerable numbers. At noon the exhibition was formally opened to the public by Viscount Melville, the Senior Vice-President of the Royal Caledonian Horticultural Society, who in a short address said he doubted whether since the days of the first gardener, Adam, in the Garden of Eden, such a display had ever been witnessed as that which lay before them.

The special prizes offered by the Turner Memorial Trustees for the best collection of fruit in the show, and the Silver Cup, value ten guineas, given by the Scottish Horticultural Association for award to the competitor taking the largest aggregate amount of prizes in some seven of the fruit classes, were taken by Mr. McIndoe, gardener, Hutton Hall, Guisborough, who also secured the first prize for a collection of twelve dishes of fruit, with very fine examples of Gros Maroc and Golden Champion Grapes, a good bunch of Bananas, Pines, Figs, Souvenir du Congres Pears, Golden Eagle Peaches, Nectarines. Mr. D. Murray, Culzean Castle, was an exceedingly close second; and Mr. Hunter, of Lambton, a very good third. In the second class, also for twelve dishes, Mr. Hunter staged very fine samples of Alicante, Barbarrosa, and Gros Colmar Grapes, lovely-coloured Worcester, Pearmain Apples, Peaches, Pears, &c., and secured premier honours; Mr. McKelvie, of Broxmouth Park, coming in second; and Mr. Fairgrieve, Dunkeld, third. Mr. Hunter also beat Mr. McIndoe and Mr. D. Melville, St. Boswell's, in another competition with twelve dishes; and the same exhibitors, with the places of the two first reversed, were successful in still another competition with a dozen. With eighteen dishes of hardy fruits Mr. Fairgrieve was well to the front, beating Mr. Day, of Galloway House, and Mr. Gray, of Perth, who secured the other awards with capital samples. For a similar collection grown in England, the awards went to Mr. Crasp, gardener to Lord Wimborne, Blandford, Dorset, Mr. Nicholson, Sewardstone Lodge, and Mr. S. T. Wright, Glewston Court, Ross, in the order named.

The Grape classes were unusually well contested, and a high average of quality prevailed in all classes, though there was nothing present to equal the grand examples we have seen from Glamis, Lambton, and Castle Kennedy in years gone by. For eight bunches, four varieties, and for six bunches, three varieties, the first prizes were well won by Mr. Kirk, of Alloa, who had splendidly finished examples of Gros Maroc, Black Hamburgh, Madresfield Court, Alnwick Seedling, &c., but there was a weak place in the absence of a white variety. In the eight class Mr. Taylor, gardener to Mr. Alderman Chaffin, Bath, was a good second, and Mr. Murray, Park Hall, Polmont, third; while for six similar honours went to Mr. McHattie, Newbattle, and his neighbour, Mr. Mackinnon, Melville Castle. The first prizes in the other Grape classes were awarded as follows:—Four bunches, Mr. W. Taylor; two bunches of Black Hamburgh, Mr. J. Witherspoon, Chester-le-Street; two bunches Muscat Hamburgh, Mr. James Day, Galloway House; two bunches of Madresfield Court, Mr. James Day; two bunches of Alicante, Mr. W. Murray; two bunches of Gros Colmar, Mr. W. Taylor; two bunches of Lady Downes, Mr. W. Murray; two bunches of any other black, Mr. James Day; two bunches of Muscat of Alexandria, Mr. McHattie; two bunches of Buckland Sweetwater, Mr. Potter, White Hall, Carlisle; and two bunches any other white, Mr. Copeland, Orwell Lodge. Single bunches: Black Hamburgh, Mr. Morrison, Archerfield; Black Alicante, Mr. W. Taylor; Lady Downes, Mr. John Laing, Blairgowrie; Alnwick Seedling, Mr. W. J. Green, Yester; Gros Maroc, Mr. John Leslie, Pitcullen House, Perth; Muscat of Alexandria, Mr. McHattie; Madresfield Court, Mr. W. Taylor; Mrs. Pince's Black Muscat, Mr. Stewart, Brayton Hall, Carlisle; Golden Champion, Mr. A. Chalmers, Dumfries; Duke of Buccleuch, Mr. McIndoe; Seedling not in commerce, Mr. McIndoe; Finest flavoured black, Mr. D. Murray; Finest flavoured white, Mr. McHattie; Finest bloom, Mr. James Day; Heaviest bunch black, Mr. Mattison, Currie; Heaviest white, Mr. Morrison, Archerfield. In a series of classes for exhibitors not competing in the above, there were also a fine lot of Grapes staged. Section five brought out a great variety of subjects, and especially a large display of hardy fruits, all very good for the season, but for the most part below the usual standard observable when warmer summer weather has prevailed.

The vegetables would of themselves have made a remarkable exhibition anywhere, so strongly was all the classes contested and so fine the quality throughout. The two classes for Potatos in particular were quite remarkable for the number of dishes staged, and the fine character of the samples shown. Hitherto size has been considered a strong point at Edinburgh, but on this occasion the judges followed the southern rule of attaching more importance to medium samples, other points being equal, and some amount of soreness among a few exhibitors was the result. The prize winners in the class for eighteen dishes were: Mr. John Sinclair, Harviston, Dollar, Mr. J. Robertson, Hartrigg House, and Mr. John Gentleman, Armadale; and in the smaller class for six (an extraordinary competition), Mr. Gentleman, Mr. McFarlane and Mr. E. S. Wiles secured the awards, needless to say with grand samples. The two classes for collections of vegetables brought out a magnificent lot of produce, numbers and quality being all that could possibly be desired. In the first class for twelve distinct varieties, all the prizes went to the South, the winners being Mr. Pope, Highclere Castle Mr. J. Muir, Margam, and Mr. Wilkins, Inwood House, Dorset; and in a similar competition with Tomatos, Mushrooms and Cucumbers excluded, Mr. James Cocker, Lochryan, Stranraer, Mr. W. J. Low, Stirling, and Mr. G. Potter, North Berwick, were the successful competitors in the order named. The classes for single dishes of Peas, Beans, Parsnips, Beet, Celery, Cauliflowers, Carrots, Tomatos, Parsley in pots, Onions, Yellow and White Turnips, Cabbages, Lettuces &c., were all admirable, representing a high order of cultivation throughout.

The plant classes brought out no great amount of competition, but included some remarkable individual specimens. The ten stove and greenhouse plants shown by Mr. Finch, gardener to G. Marriott, Esq., Coventry, which secured premier honours, were especially fine, while his single specimen of Ixora Duffei, which took the Veitch Memorial Medal and £5 for the best flowering plant in the show, was the finest example we have ever seen, splendidly bloomed and the trusses of enormous size.

The nurserymen's competition with a table of plants was one of the keenest contested in the show, and very fine. Messrs. Ireland & Thomson took the premier award with a massive and exceedingly effective arrangement of superbly-grown medium-sized specimens; Messrs. I. & R. Thyne coming in second, and Messrs. R. B. Laird & Sons a close third, both tables being of rare excellence. In the amateur class the awards went to Mr. McIntyre, of Darlington, and Mr. Wood, gardener to J. Buchanan, Esq., Oswald Road, both having very fine displays. The Orchids were very good for the season, and Mr. Sharp, Freelands, Forgandenny, took the premier for six. Mr. Curror, Eskbank, who came in second, had a superbly-flowered specimen of Oncidium incurvum with a dense head of bloom nearly 3 ft. through. All other classes were well represented.

Cut flowers were staged in great quantities, but for the most part call for no special comment as regards the competitive displays. The leading feature was undoubtedly the Dahlias, which were plentiful and good, especially the winning collections shown by Messrs. R. B. Laird & Sons and Messrs. H. B. Clark & Sons. Next in point of quality were the Roses of Mr. Hugh Dickson, of Belfast, and Messrs. Cocker & Sons, Aberdeen; a box of blooms of Mrs. John Laing staged by the former being remarkably fine.

The miscellaneous class was a heavy one, and added much to the general effectiveness of the show. The post of honour in this section was held by Messrs. W. Thomson & Sons, Clovenfords, who were awarded the Society's Gold Medal for a perfect trophy of flowers and fruits—an immense collection of admirably grown stove and greenhouse plants, cut flowers of Orchids, and grand examples of Grapes, Peaches and other fruits, set up with great judgment to bring out a pleasing effect. Other specially notable subjects were admirable groups of plants from Messrs. B. S. Williams & Son, Holloway; Messrs. John Laing & Sons, Forest Hill, Mr. John Downie, Edinburgh, and Messrs. Cutbush & Son, Highgate; Ferns from Messrs. Birkenhead, of Sale; Bertolonias and Sonerillas, a pretty group from Messrs. Ireland & Thomson; Conifers from Messrs. J. Dickson & Sons; a very fine display of Dahlias from Messrs. Cannell & Sons; herbaceous plants from Messrs. Cocker & Sons, Aberdeen; hardy flowers from Mr. J. Forbes, Hawick; Show Pansies, Marigolds and other choice things from Messrs. Dobbie & Co., and Mr. A. Lister, Rothesay; Gladioli and Hollyhocks from Messrs. Stuart & Mein, Kelso; collections of Apples and Tomatos from Chiswick, and of Apples, &c., from Mr. J. Walker, of Ham, Surrey, Messrs. G. Bunyard & Co., Maidstone, Messrs. Cheal & Sons, Crawley, Mr. J. Watkins, Hereford, &c. Hardy border Carnations also came from Messrs. Laing & Mather, Kelso; and a collection of plants, fruits and vegetables from Messrs. Cross & Sons, Glasgow.

In the evening of the first day about 120 gentlemen, embracing the members of the Royal Caledonian Horticultural Society, judges, exhibitors, &c., and representing probably one of the best gatherings of horticulturists ever brought together in Scotland, dined in the Waterloo Hotel, Edinburgh. Sir James Gibson Craig, one of the vice-presidents of the Society, occupied the chair; Mr. W. Thomson, sen., Clovenfords, and Mr. C. Stewart, the secretary, acting as croupiers. The toast list comprised: "The Royal Caledonian Horticultural Society," which was responded to by Mr. Thomson; "The Corporation of Edinburgh," proposed by Mr. A. Milne, and acknowledged by Baillie McDonald; "The Royal Horticultural Society," proposed by Mr. Dunn, Dalkeith Palace Gardens, and responded to by Mr. Barron, Chiswick; "The Judges," responded to by Mr. Bruce Findlay, Manchester, and Mr. David Thomson, Drumlanrig; "The Competitors," "The Officials of the Society," "The Visitors," and "The Chairman."

FRUIT NOTES.

MELON HALSTEAD FAVOURITE.

The fruit of this new Melon is globose, of medium size, with a pale yellow, pretty closely netted skin. The flesh is green, of great thickness for the size of the fruit, rich, very juicy, melting, and sweet. Two fruits of it were shown by Mr. Alfred Gibson, gardener to T. F. Burnaby Atkins, Esq., Halstead Place, Sevenoaks, at the meeting of the Royal Horticultural Society on the 8th inst., when an Award of Merit was accorded it.

PEAR QUINCE JARGONELLE.

The name given to this Pear is apparently meant to indicate the general appearance of the fruit and its relationship to the Jargonelle. As far as shape is concerned it most resembles the fruit of the common Quince. It is shortly pear-shaped or turbinate, thickest in the middle and suddenly contracted to a narrow neck-like portion. The long calyx lobes may be compared to those of the Jargonelle proper, and in flavour, earliness of ripening, and other qualities it may also be compared to the latter. It is a neat fruit of medium size, with a greenish-yellow, very smooth or even skin, minutely punctated all over with small russety dots. The flesh is white, very tender, juicy, and sweet without any grit. The crop has been a good one in the gardens of the Royal Horticultural Society at Chiswick, and is now in season, but does not last long in good condition.

APPLE DUCHES OF OLDENBURGH.

This early variety is usually regarded as a culinary Apple, but it is vastly superior to many of the kinds which are exposed on the fruit-stalls throughout the Metropolis and eaten by the London public. Seeing that it comes in early, keeps a long time, and looks well when properly coloured by good exposure, it should be more largely planted by the market growers. It is a heavy and constant cropper, and may be seen bearing well when other kinds around it are fruitless or almost so in bad seasons.

SPIRÆA JAPONICA COMPACTA MULTIFLORA.

UNDER this somewhat cumbrous name, we have the pleasure, thanks to the courtesy of Mr. T. S. Ware, to bring under the notice of our readers a variety of the old Spiræa japonica which promises to become as great a garden favourite as that most useful plant. Spiræa japonica, sometimes also called Astilbe barbata, and Hoteia japonica, was first introduced into Germany from Japan by the celebrated botanist, Siebold, some fifty years ago. From Germany it came to this country, and we believe was first grown in the Chiswick garden—at all events the first record we have of the plant being exhibited was at a meeting of the Horticultural Society of London (now the R. H. S.), held in Regent Street, on May 4th, 1841, when it was shown under the name of Hoteia japonica, and described in the *Gardener's Chronicle* as "a plant with the appearance of the Meadow-sweet, but prettier." We mention this circumstance, because it leads up to another interesting fact in connection with its history which is not generally known, viz., that the late Mr. McNab also obtained a plant from Siebold for the Edinburgh Botanic Garden, and at the March Exhibition of the Royal Caledonian Horticultural Society in 1842, exhibited the first forced specimen seen in Great Britain. As to the number which has been forced since in this country we need not now stop to speculate.

As to the origin of the new variety, so far as we have been able to ascertain, about ten years ago a golden-variegated form was introduced, and which is still occasionally seen. It, however, frequently reverts to the green leaved form, and from one of these reversions came the variety now illustrated, and known as compacta multiflora. Its habit of growth is in all respects the same as the typical Spiræa japonica, but the individual blooms are larger, and consequently the feathery plumes of white flowers are both larger and denser. It is a valuable acquisition, and as the roots are becoming cheaper as the stock increases, at no distant date it must command a large sale. In any case we can strongly recommend it to all who have to grow good subjects for decoration.

SPIRÆA JAPONICA COMPACTA MULTIFLORA.

STRAWBERRY CULTURE.

Now that the Strawberry season is nearly finished I have thought of giving you my opinion of the different sorts that we have had in growth here during the past few years, taking into consideration the sorts most suitable for keeping up a constant supply of fresh fruit during the season. With this object in view I will deal with the earlier sorts first, namely, Black Prince, King of the Earlies, and Early Gem. Among these three, grown side by side, scarcely a day of difference occurred in picking the first fruit from each, and two days later we had the Early Princess. These four must be looked to for the first week or two's fruit, and I think it important to decide which of the four is most valuable for that purpose.

The Black Prince is the oldest of the lot. I can remember its introduction over fifty years ago, when we were rather proud of our first gathering. But I think it has fallen off considerably since then, but even then only one gathering was really good, large fruit, and following gatherings became so small as scarcely to be worth picking. On this account I have discontinued its growth for over twenty years past until three years ago, when I planted a little plot of it along with the other sorts named, but find that it does not deserve a place, as others more fertile and equally as early are preferable. The King of the Earlies is altogether too insignificant to be worth cultivating, although in point of earliness it is equal to the others. It is small from the beginning, a poor cropper, and scarcely colours to be very suitable for table use. The Early Gem is very much preferable to any of the other two, being a fair-sized fruit and maintaining its size from beginning to end of a season extending over four weeks or so. The amount of fruit gathered from it would be fully three times that of Black Prince; the colour being a bright scarlet is preferable to even the first of Black Prince. The flavour, although somewhat peculiar, is very gratifying. Next in order we mention the Early Princess, as coming only a day or two behind the others. It crops fairly well, fruit of moderate size, but not so equally large as the Gem. The colour is fairly good, and a basket of them looks well in the market, but

they are very deficient in flavour, on which account I do not intend cultivating them further, but to fix upon the Early Gem as the best berry for taking the first place in the market. I would recommend a certain quantity to be planted yearly, so as to only take two seasons' fruit off them; as in a third or fourth year the plants get too coarse and big, and the berries so numerous that they become small.

Next in succession we have Laxton's Noble, Sir Joseph Paxton, The Templar, and Rivers' Eliza, the last of which might have come first as they are rather earlier than the others. We commenced among them nine days later than with the three earliest, Noble two days after, Templar one day later, and Sir Joseph Paxton three or four days later. Rivers' Eliza, Garibaldi, and Vicomtesse Hericart de Thury, also the variety known as Rifleman among the Blairgowrie growers, I have always considered to be one and the same berry, having grown them side by side year after year and been unable to detect any difference either as to earliness, cropping qualities or flavour; therefore in speaking of Rivers' Eliza the four are included, and as a berry coming in succession after the Gem I have never met with anything better. They want the fine rounded form of the earlier berry, but are rather larger in size during the first few pullings, but decline to the end. Their cropping quality is almost equal to any berry of the season; the flavour is all that could be desired; in point of colour the Gem and it would be about equal. Their only fault is getting small toward the end, and even that is not much to be objected to, as private families preserving their own fruit, whether rightly or wrongly, generally prefer the smaller fruit, and in any case they are always suitable for the confectioner's barrel.

Regarding Noble my first impressions were that it was a noble berry, but a little more experience leads me to alter my views of it a good deal. It certainly shows a pulling or two of fine-looking fruit, is a fair cropper, but the flavour won't suit the market at all, and I fear we must say of it that it has had its day, but before five years it will hardly find a place in a British garden. The Templar, like Noble, is a very large fruit, also a great cropper, and well flavoured, but most difficult to get coloured well, especially in a dark or wet season. Many of them are apt to rot before the colour comes up. I hardly think of growing them to any large extent nor to recommend them so much as I once thought of doing, unless on a dry bank exposed to the sun, where I think they would do pretty well, and with a dry season produce a large return of good, sweet fruit. Sir Joseph Paxton must still hold its place as a prince among Strawberries; we have no fruit so taking in the market. Their large size, fine glossy colour, and good flavour makes them a berry suitable for the market and for the best table in the country. As a cropper, when they do well, they have few equals, but are hardly to be depended upon alone, as they are sometimes subject to mildew, and when that sets in the season's crop is almost lost. With Sir Jos. Paxton and a few of MacMahon or Duke of Edinburgh that part of the season should be pretty well provided for and the succession well kept up. Both of the two last-mentioned are good croppers and good, large fruit, though not equal in flavour, firmness, or show to Sir Jos. Paxton.

For the later end of the season the principal Strawberry grown north here is Myatt's Seedling so called, but which I believe really is Myatt's Elton Pine. It is a fruit which astonished the inhabitants of Aberdeen and all the visitors to the good city, and through it Aberdeen got its character as a Strawberry growing county, and perhaps no other berry would fill as many barrels for the confectioner as Myatt's Seedling. I have, though not often, gathered at the rate of four tons per acre. They are a showy berry of no particular form. Colour rather dark, and flavour with an acidity in it which is not always liked. Still so far as we know at present they are the Strawberry for the late season, but we have been experimenting a little to see if we could find another that might at least in some measure take its place. Aberdeen Favourite is peculiar in flavour and some do not like it, besides it is too soft a berry to carry for the market. Of Oxonian I have pretty high hopes, although two or three years is too short time to be able to speak of it very decidedly. This year especially they have produced an excellent crop, a good few of which are still coming on. The berries are magnificent in form and size, ripen fairly well, even dull as the weather has been, and with less acidity and perhaps more sweetness than Myatt's Seedling, I have some hopes that they may ultimately take the place of the best Strawberry for the latest part of the season.—*J. Sim, The Temple, Drumlithie, September 5th*, 1891.

THE HERBACEOUS BORDER.

Choice Plants in Flower.

HEMEROCALLIS FULVA FLORE PLENO.—The Tawny Day Lily is now a conspicuous ornament in the borders of many gardens, and in proportion to the depth and richness of the soil will the beauty of the plant be, both in respect to the foliage and the flowers. The soil must also be fairly moist at all times, with, however, good drainage. Notwithstanding the amount of rain which has fallen, one sometimes sees specimens of this plant pining and wasting for want of moisture owing to its being planted in unsuitable positions, and growers who experience this are apt to be disappointed at the poor show made. When the large, double, bronzy-orange flowers of a well-grown plant expand the effect is handsome.

POLYGONUM AMPLEXICAULE.—A large number of the cultivated species of Polygonum have white flowers, while the rest are mostly pink. That under notice must rank among the dark-flowered kinds, and also amongst the more graceful of the tall kinds. The stems attain a height of 2 ft. to 3 ft., terminating in long racemes of deep rosy-red flowers. Blooming as it does in autumn, when choice flowers are giving place to hundreds of yellow composites, growers of hardy plants can hardly afford to lose sight of it.

CORNUS CANADENSIS.—The shrubby species of Cornus are very numerous and are spoken of under the name of Dogwood. That under notice is strictly a herbaceous plant like our own native C. suecica, and is more appropriately named the Dwarf Cornel or Bunch Berry. The latter name applies to the berry-like fruits which are borne in dense bunches or heads surrounded by the bracts which pass for the flower in popular speaking. New stems are thrown up all through the summer, and while the early ones bear fruit which ultimately become red, the younger ones come into bloom keeping up a succession till late in the autumn. The young bracts are white, the old ones rose or pink.

LILIUM LEICHTLINII.—Max Leichtlin's Lily is less seldom seen in gardens than it ought to be, considering its handsome appearance. The stems vary from 18 in. to 36 in. in height, are furnished with numerous linear-lanceolate leaves, and terminate in a short raceme of large and showy flowers. The latter have widely spreading segments, revolute at the tips, and of a clear, bright yellow spotted with blackish-purple on the lower two-thirds of their length. It has been flowering finely in a bed of Rhododendrons at Kew.

CALLIRHOE INVOLUCRATA.—The flowers of this North American perennial are large and showy, deep purple, and often measuring 2 in. across. Although closely allied to Malva the habit and general appearance is quite different. The stems are procumbent, rising at the ends, and the flowers arise from the axils of the roundish or reniform, three to five parted leaves. Propagation is effected by means of cuttings and seeds.

INULA HOOKERI.—In good soil this composite attains a height of 12 in. to 24 in., but great vigour does not particularly improve the appearance of the plant. The head is furnished with long, slender, yellow, and often twisted rays, while the bracts surrounding it are densely clothed with long, rusty, woolly hairs. The plant is a native of the Sikkim Himalayas, and is of the easiest culture and readily increased by division.

KNIPHOFIA MACOWANI.—MacOwan's Flame Flower is one of the prettiest and dwarfest, although not the boldest or most stately. The leaves are narrow and relatively short, while the flower scapes are only 12 in. to 18 in. high, and terminate in a close raceme of orange-red flowers. Those who are fond of this class of plants should not omit to add MacOwan's species to their collection. A covering of dry leaves round the crown of the plant would do much to keep it safe in winter.

TRITONIA POTTSII.—The flowers of this beautiful species have not the long, spreading segments of Crocosmia aurea, better known under the name of Tritonia aurea, but what they lack in size they gain in their rich orange-scarlet colour and greater number. The plant proves perfectly hardy in the south of England, and is really handsome during the late summer and autumn months. The bulb-like corms produce offsets in abundance, by which the plant may be propagated. It is easily grown in well-drained good garden soil, but likes plenty of moisture during the summer months.

SAPONARIA OFFICINALIS FLORE PLENO.—The double-flowered form of the common Soapwort is not to be despised while flowering during the summer months. The ordinary single form is also a beautiful and free-flowering plant when grown in gravelly soil, with perhaps a good supply of underground moisture. The double flowers last longer, and are of a soft, pale purple.

SEDUM SPECTABILE.—The ease with which this can be grown, and the uses to which it can be put, either as a border or rockwork plant or for culture in pots, should secure it a place in every garden. The pots could be introduced to the conservatory during September, or stood about upon balconies, terraces, and similar placee. It well repays good cultural treatment under any circumstances.

WATERING & SYRINGING, ITS USE AND ABUSE.*

THE subject of this paper is when, how, and to what degree should watering and syringing be applied to plants and fruits, under glass in general. We will take plants first, though I intend the lion's share of thought to be given to fruits, as the bulk of plants are treated now-a-days as annuals of the conservatory and stove, for furnishing and decorative purposes. Therefore any indiscreet use of water among plants is not likely to produce quite so much vexation as in the case of a spoiled crop of Melons, Grapes, or Peaches, or a batch of forced Strawberries. Of course, I advocate the happy medium to all subjects, and I do not forget that whatever the special feature of a garden, whether it be Orchids or Ferns, ornamental foliage or bulbous plants, if either are a favoured class, they of necessity demand the first and strictest attention, the only difference being that whatever goes short in the great majority of cases, fruit must be supplied for the table, and as free from defects as is possible to have it. If the fruits are not satisfactory, depend upon it flowers will lose their brightness in the eyes of employers. This, then, is my reason for the assertion that fruits hold the premier position over plants.

First we will notice soft-wooded plants, or greenhouse annuals, the majority of which delight in a moisture-laden atmosphere during their season of growth, and a light shading in sunny weather. Celosias, Cinerarias, Primulas, Calceolarias, and many others of this class are benefited by having their foliage judiciously moistened at closing time. The weather, of course, should always be considered in determining the degree of syringing, either to plants or fruits, and let me here remark that I strongly advise a much lighter mode of syringing than we are sometimes accustomed to see. I do not underrate the importance and advantages of a free use of the syringe on all favourable occasions, but let the free use be tempered by discretion. Imagine a man dashing at a batch of Primulas or Cinerarias almost as hard as he would the occupants of a Peach house, for then in a few days after, if the weather should be unfavourable, bruised and damaged leaves would be prevalent; and yet, he may have only syringed them. My faith in the good results of syringing soft-wooded plants is to the extent of gently applying the water in the form of a spray. Not long ago I saw an opposite extreme. Now I think all who have charge of Orchids will agree that a judicious use of the syringe with clean water, two or three times daily, is the very best means of watering whole houses of these beauties of nature, with an occasional immersion of the compost, whether it be moss, or peat, or both combined.

FERNS.

Though these are a moisture-loving family, I am strictly opposed to the practice of heavily syringing them overhead. I thoroughly believe in having the atmosphere frequently charged with moisture with the syringe about the plants, and in every conceivable nook and corner. Todea superba, and its close allies, are my exceptions to the rule of not syringing Ferns overhead, unless very sparingly done after a hot day. Shading by some favoured means from the influence of bright sun for eight months out of twelve is, I think, essential to the welfare of Ferns.

HARD-WOODED PLANTS.

Now for a brief glance at hard-wooded greenhouse plants. These are, generally speaking, understood to

*A paper read by Mr. Waters before the Preston and Fulwood Horticultural Society.

be rather difficult to manage. But from what source does this impression arise? Is it indeed a fact that they are really so difficult to grow, that we as gardeners feel justified in condemning them as unworthy of notice? Or is it because of the wholesale mania of the fashions of this age for cut-flowers in rooms, which has brought them down to such a low ebb, and well nigh ousted them from our midst? This atter is, I believe, one cause of defective cultivation; and if so, here is the key to the whole matter. We are not sufficiently versed in their simple requirements, because they do not supply the demands for cut-flower decoration. Camellias do still hold their own, Azaleas partly so; but these owe their existence possibly because they supply the wants of fashion, by adorning dead bodies and their graves; and I sometimes think that if flowers were only brought into requisition when the life of a person had been a fitting resemblance to the purity of flowers, there would be but a small demand, therefore we owe gratitude to fashion for the popularity of some of our best hard-wooded subjects.

But to return to our subject culturally, what is the cause of so many miserably grown specimens of Heaths and Epacris and Azaleas, Chorizemas, Libonias, etc.? In private gardens where they are permitted a place I find there is a prevailing idea amongst the majority of under gardeners that the family of Heaths and Azaleas must not be watered until the pots ring as though they were empty. This to me is a serious and mistaken notion, and the sooner we do our best to stamp out such belief and to advise some more reliable guide, the earlier I think we are likely to see better examples of this beautiful race of plants in private collections. Too scanty a supply of water at the roots has, I believe, been the cause of the majority of unsightly objects. Some may say the opposite is the more likely cause. Well! I beg to differ. My belief, which is formed by observation and a love of these plants, is, that they are more frequently than otherwise allowed to go unwatered several days after they require it, the result being that the very small fibrous feeders become withered and die; and when water is applied, and that liberally, it may be too late. In consequence of this a partial shedding of the foliage takes place, and as time goes on (if left to the discretion of the inexperienced) the same treatment is repeated, and the ultimate result is death.

I have recently had to deal with two houses almost full of such plants; many have been consigned to the fire, and many which remain are hardly worth shelter; but every plant has been overhauled since June, and the change of colour in those plants, and which is already giving evidence in their favour, has pleasantly surprised me though I expected it in some degree. I no more believe in a Heath or Azalea becoming dry, or any hard-wooded plants, than that forest trees should all be lifted and stored away in winter. My advice on this point then is, never allow the plants to become dry at the roots. Syringe Camellias and Azaleas all the year round, except when in bloom; Heaths and Epacris syringe only during the period of early growth. Soot water given alternately with other manures is beneficial to Camellias after flower buds are formed, but not during the period of growth, as it causes soft wood, which will only produce buds of short duration, and which will fall undeveloped.

STOVE PLANTS.

Dracænas are a class of plants which usually come in for a more liberal amount of water from the syringe than is good for them. That they grow and thrive under a fairly free use of the syringe cannot be denied, yet if anyone will test the matter for himself he will find that Dracænas will retain their foliage much longer under the practice of cleansing by the sponge than they do by excessive syringing. But do I hear some say, we cannot spare the time for sponging? If so, my answer is that you are compelled to sponge, or have dirty plants. Syringe as you will it increases the needy sponging, rather than diminishes it. Crotons you cannot very well injure by the syringing mode of cleansing; but examine the difference in the two plants just named. The foliage of Crotons is so constructed that it throws off any amount of water, while Dracænas will conduct the water direct to each leaf axil, and you only need to examine them after the customary deluge to find that each leaf is converted into a sort of reservoir at the base.

The Eucharis Lily is another of those subjects which become abused by a too liberal use of water, or it may be the opposite extreme of drying off, a system that a few years ago found favour in the minds of many. But this, which I am disposed to call a mad practice, is I believe, almost put aside. The Eucharis does require large quantities of water, providing the temperature in which the plants grow is well maintained, and that the soil is moderately porous. Anything like a stagnant compost, aggravated further by a low temperature, are the most favourable conditions for an attack of the so-called Eucharis mite, a creature. I never fear, so long as the required treatment is accorded the plants. Therefore, syringing of plants with discretion is beneficial, outside that limit it becomes abusive.

(To be continued.)

WHAT IS A FRUIT OR A VEGETABLE?

NOTICING in your issue of September 5th, pp. 4 and 5, as to what is a fruit or a vegetable, Tomatos and Cucumbers being alluded to, also as to how they should be classed at exhibitions, I myself have never seen the Tomato staged with a collection of fruits, neither should I think of doing so. As a general rule, we see them staged with good collections of vegetables, which I consider carries considerable weight in those exhibits, providing they are good. Neither have I seen a collection of vegetables disqualified through the Tomato being admitted, when judged by practical men. I have staged three collections recently, each time including a good brace of Cucumbers, and a good dish of Tomatos, and secured three first prizes. Considering the different ways the Tomato is used, and consumed as a vegetable, my decided opinion is that it is a vegetable, and not a fruit.—*J. Carter, Wombourn Gardens, Wolverhampton.*

The Tomato, I consider, has only two recommendations to be classed as a fruit, namely, because it is the produce of the plant, and secondly, on account of its colour, and in this there is nothing in the whole range of the finer fruits that can excel the Tomato in its beautiful glowing crimson. This is where exhibitors are betrayed by admitting them into their fruit trays; but exhibitors are not alone in this respect by any means. Amusing cases have come under my own personal knowledge where friends have been led to purchase them by their charming colour alone. Quality or taste is the predominating factor which consigns all to a proper place. Tomatos are acid and pungent in taste, and I unhesitatingly pronounce them a vegetable, more fitted for the culinary department, such as for soups, sauces, salads, pickles and other savory dishes, hot or cold, cooked or raw. Their want of a sufficient amount of saccharine matter, or sugar, prevents them competing with the commoner pastry fruits, as the Strawberry, Gooseberry, Apple, Pear, etc., leaving out the higher dessert fruits, such as Grapes, Figs, Peaches, Melons, and others. "J. F." is a capital vegetable expositor, knowing how to steer clear of the botanical and public expressions.—*B. L.*

SEEDLING CARNATIONS.

MR. WILLIAM WARDELL has sent me from Luton, on two occasions, a collection of blooms of his fancy Carnations, as he states in a letter accompanying them, for the purpose of enabling me to see what he is doing in the way of producing novel colours in this class of Carnations, one in which he takes the greatest interest. Every season Mr. Wardell raises many hundreds of seedlings—he obtains the best seeds he can procure, and perhaps in growing and blooming his plants in the open border, gets more genuine pleasure out of growing his Carnations than any other person in the county in which he resides. In the collection there are nearly 100 blooms, all fully double, and beginning with pure white selfs, they run up through many gradations of colour and variations in combinations and markings to rich deep maroon selfs.

Some of the Fancies have slaty blue grounds of various shades, with stripes of various colours, bright carmine preponderating; and they are extremely showy. Mr. Wardell grows nothing in pots, but all in the open ground. He does not thin out his flowers, nor card or dress them in any way; they grow and bloom according to their own bent, and make his garden a true Carnation parterre. He can cut hundreds of flowers without any difficulty, and many a friend experiences the delight of receiving a bunch.

There is one great advantage in growing Carnations in this way—there is an overflow of bloom, enough and to spare—and others can participate in the pleasure a sight of pretty flowers can impart. Mr. Wardell sows in autumn and spring both, and there is a long and plentiful succession of flowers during the blooming season.—*R.D.*

THE VEGETABLE GARDEN.

A MEETING of the Fruit and Vegetable Committee of the Royal Horticultural Society was held at Chiswick, on the 3rd inst., when the collections of Potatos, Turnips, Runner Beans, and Tomatos growing in the gardens were examined. Of Potatos the crop in general was found to be inferior, the tubers large and coarse, and most of the varieties greatly diseased. The following sorts were selected by the Committee for appearance, cropping, etc., and then cooked:—Malshanger Kidney (Kneller), Radclyffe Kidney (Selby), The Gentleman (Veitch), Lord Salisbury (Wiles), The Times (Ross), Ellington's Prolific (Ellington), Seedling (Studd), Mottled Beauty (Wiles), Market Favourite (Ellington), Crawley Prizetaker (Cheal), and Renown (Nye) Mottled Beauty, Ellington's Prolific, and Crawley Prizetaker receiving three marks (x x x) each.

Of Turnips, forty-eight lots were grown, the following receiving x x x:—The Early Milan (Veitch, Benary, Harrison), the Early White Strapleaf American Stone (Vilmorin), the Large White Globe Purple-Top (Vilmorin), the Large Green Globe (Vilmorin), and Early Snow Ball (Veitch).

Scarlet and other Runner Beans.—Forty-four lots. These were found to be scarcely in condition for examination, with few exceptions. A First-class Certificate was awarded to Sutton's Tender and True—a Runner Bean of the dwarf kidney section, with fine, long, straight pods.

Tomatos.—Of these 117 lots were grown under glass, the following receiving x x x:—Golden Sunrise (Veitch, Barr, Daniels), Golden Nugget (Sutton) Italian Wonder (Hooper).

GARDENING MISCELLANY.

IS SOIL INEXHAUSTIBLE?

THE *American Agriculturist* practically says no. This is how it arrives at this conclusion:—"One foot in depth of a fairly good agricultural soil contains 4,000 pounds of phosphoric acid, 8,000 pounds of potash, 16,000 pounds of nitrogen and lime, magnesia, soda, chlorine, sulphur and silica to afford food for all the crops which these three elements can feed per acre. After farmers, by careful and skilful cultivation, have exhausted all this great store of plant food in the uppermost foot of this soil, which will require several centuries, will the soil be exhausted? Not at all. As the land is gradually changed into vegetable growth, and the surface is removed as farm crops, as it gradually deepens, the subsoil which contains the very same elements becomes fitted for plant food. And thus the imperishable nature of matter applies to the soil, which can never be exhausted during all the ages which are to come. All that mankind has to do is to use its arts, under the instruction of science, to develop this latent fertility of the soil, and to go on feeding the human race until the end, if an end ever shall come, when the earth will no longer exist as a fit habitation for mankind."

CHELONE BARBATA.

IN the happily-reviving taste for herbaceous plants this old-fashioned perennial should not be overlooked. It comes freely from seed, and once established, holds on most persistently. At the foot of a hedge or paling, or anywhere where it can have something to cling to for support, it is happy. The long slender racemes of coral flowers make it a most charming subject to use for filling tall epergnes, and, if tastefully mixed with asparagus foliage, it is as bright and graceful a thing as the most fastidious could wish.—*Devoniensis.*

LABURNUM TREES IN TOWNS.

WHAT a pity it is that the pods of this, one of the very best ornamental town trees we have, should be rather poisonous. Scarcely a year passes in this locality but emetics have to be given to children through eating them. Go where we may in mos

suburban towns, Laburnums are planted in extravagant profusion, overhanging balustrades, boundary walls, and public causeways where children are continually passing. It is but natural that their inquisitive little heads should prompt the hands to pick them up, and taste what the pods or their contents are like. Gardeners and planters are not wholly exempt from blame in advocating the planting of them; but this is, I presume, because they are so cheaply raised, and will flatter the occupiers or owners by the sight of their pendulous golden flowers.—*B. L.*

LIMONIA TRIFOLIATA.

On some parts of the Continent this Japanese shrub flowers and fruits very freely in the open air. Hitherto it has fruited very sparingly or not at all in this country. Notwithstanding the bad summer a specimen in the collection at Kew is now bearing a number of fruits. At present they are globular, green, and about the size of large marbles; when ripe they are orange-yellow, and about 1½ in. in diameter, but whether the fruits in question will ripen here remains to be seen. Until recently it has been grown under the name of Citrus trifoliata, or the Three-leaved Orange, but has now been determined to be a species of Limonia. Pseudægle sepiaria is also a synonym, and judging from the latter name it is evidently used for making hedges in its native country. The strong axillary spines and the interlacing nature of the branches would render it serviceable for this purpose, but its growth at least in this country is slow. The three leaflets are elliptic, or sometimes the lateral ones are obovate, and always much smaller than those of the common Orange. The past winter was sufficiently severe to test its hardiness in the neighbourhood of London at at least, and it does not seem to have suffered in the slightest. As the plants in British gardens get older possibly they may fruit more freely.

MAULE'S QUINCE.

Every collection of shrubs should contain a few specimens of Cydonia Maulei, otherwise known as Pyrus Maulei. It is altogether of dwarfer and more compact habit than C. japonica, but like that may be grown either in the bush form or on walls. A low terrace wall would be most suitable for it as the surface would be covered. Small spaces could often be found for it in the angles between larger wall plants, and such an arrangement would be productive of good effects, both in the spring when the stems are covered with their clusters of bright red flowers, or in the autumn when laden with globular, clear yellow fruits about the size of a large plum. The strong and durable perfume of the fruit is remarkable, a few of them being sufficient to scent a large room. The fruit even when mature is too acid to make it pleasant eating, but it has been made into an agreeable conserve. It may be propagated from suckers in the same way as the Japan Quince.

THE SERVIAN RAMONDIA.

This pretty little Gesnerwort is not by any means so common or popular as the Pyrenean species (Ramondia pyrenaica), but there seems no reason why it should not find its way into every select collection of plants. Probably the best way to preserve it until it becomes more common, would be to grow it in pots in a cold frame or hardy plant house. The botanical name of the plant under notice is R. serbica, but it may occasionally be found under the names of Iancæa, or Iankæa Heldreichii. The true form of Ramondia is best typified by R. pyrenaica, which has rotate flowers somewhat similar in shape to those of a Verbascum; but the plant under notice has four-parted, bell-shaped, yellow flowers. The segments are obovate and about equal in size, and borne one or two together on a scape. The leaves are ovate, entire, covered above with silky white hairs, and with rusty, woolly hairs beneath, and arranged in radical rosettes, covering the soil in which the plant is grown much in the same way as in R. pyrenaica, only smaller. The plant is a native of Thessaly in Turkey, and also in Greece. We noted the plant in the nursery of Messrs. J. Laing & Sons, Forest Hill.

POLYGONUM CAPITATUM.

There are about 150 species of Polygonum, some of which are British, but others have been brought from various parts of the world to enrich our collections. Many of them are difficult to distinguish, but the plant under notice is remarkably distinct, and the pity is that it is not perfectly hardy. It comes from Northern India, and may be grown in a cool greenhouse, or frame where severe frosts are excluded. During the summer months it may do duty on the rockery, where the slender, procumbent or trailing stems cover the ground in an effective way. Cuttings should be taken and rooted, in order to preserve the stock in case a severe winter should kill the old plants. Seeds sometimes ripen, and dropping about, come up the following year of their own accord. The flowers are pink and borne in small dense heads on peduncles arising from the axils of the upper leaves. The latter are small, neat, and ovate or elliptic, and marked with a conspicuous V-shaped purple blotch. The plant may be seen in the nursery of Messrs. J. Laing & Sons, Forest Hill.

LILIUM CANDIDUM.

This fine old-fashioned Lily is a good thing when well done, but it is very often planted altogether too late in the season. Practically, it hardly ever has a period of rest. No sooner has the flower stalk withered than the bulb is at work again producing its radical leaves. Hence it is that it should always be planted in August—certainly not later than September. When planted deep it is well to let it alone for a few years, for it does not like being disturbed. It loves the sun, and should be placed where it gets the morning sun; if not, it stretches itself out in an ungainly fashion to catch the warm and quickening embraces of Old Sol.—*Devoniensis.*

ORCHID NOTES AND GLEANINGS.

Miltonia Bluntii Lubbersiana.

The pseudobulbs of this plant are oblong, greenish-yellow like most of the Miltonias, and spring from rhizomes that are inclined to run like those of Oncidium flexuosum. The scape is about 12 in. to 15 in. high, and bears four to six flowers. The sepals are oblong-lanceolate, spreading, and heavily marked with purple blotches, that run together in masses on a yellowish or dirty white ground. The petals are much broader, with a small portion of a clear purple at the base, and otherwise similar to the sepals. The lip is a conspicuous organ, with a large orbicular emarginate lamina, reflexed at the sides, and suffused with pale rose on a white ground; the basal portion is purple, with some brownish-purple bands around and in front of the five-ridged crest. A specimen was exhibited by Baron Schroder (gardener, Mr. Ballantine), The Dell, Egham, at the Drill Hall, on the 8th inst., when a First-class Certificate was awarded it.

Mormodes buccinator aurea.

In this we have a beautiful variety with golden-yellow sepals and petals, and a lemon-yellow lip and column. The sepals are lanceolate and reflexed, with the upper one again incurved. The petals are much broader, connivent, and arch over the column. The lip is bifid, strongly revolute at the sides, and curved up against the column as in other species. The peculiar form of the lip of this Orchid has earned for it the name of the "trumpeter." A Botanical Certificate was awarded a specimen shown at the Drill Hall, on the 8th inst., by Messrs. Hugh Low & Co., Clapton.

Catasetum fimbriatum.

This is evidently a highly variable species, both as to colour and form. A male plant was shown by Messrs. H. Low & Co., at the Drill Hall, on the 8th inst. A male and a female plant were also shown by W. Wright, Esq. (gardener, Mr. G. Parrott), Denmark Hill. The female plant bore two buds of what evidently were male flowers on the upper portion of the raceme, so that the plant practically speaking was monæcious, while the male plant was diæcious. The sepals of the male plant are lanceolate, the lateral ones being reflexed, and all are minutely dotted with purple on a greenish-yellow straw-coloured ground. The petals are elliptic, acuminate, and more conspicuously spotted with crimson-purple on a pale ground. The lip is large, somewhat three-lobed, pale green, and shallowly fringed all round the margin, with a wide, shallow and bluntly conical spur-like process behind; the small terminal lobe ends in an entire recurved tip. The female flowers are considerably different and less ornamental. The sepals are short, ovate, reflexed, and green, spotted with purple on the upper half. The petals are smaller, green, and spotted with purple at the very apex only. The lip is slipper-like or pouched, fleshy, green, and shallowly toothed round the edge, with a small, recurved tip. The column is short, stout, and green. Each of the two exhibitors received a Botanical Certificate for it.

Cattleya granulosa Dijanceana.

The sepals and petals of this variety are of a pale, shining brown. The lateral sepals are strongly falcate; while the spathulate, subfalcate petals are netted with darker veins. The lip is remarkably small and three-lobed, the tubular portion and the crenate lateral lobes being white; the terminal lobe is narrowly wedge-shaped, with a long claw, bifid, purple, and covered all over with tubercular outgrowths of moderate size, which are suggestive of the specific name. A Botanical Certificate was awarded it when shown by Messrs. F. Sander & Co., St. Albans, at the Drill Hall, on the 8th inst.

Dendrobium leucolophotum.

This beautiful Dendrobium was introduced by Messrs. J. Veitch & Sons, in 1882, from the Malayan Archipelago. Since then it has been found again, but this time in Northern Queensland, one of the native habitats of D. Phalænopsis, with which it is closely allied. The flowers are however smaller, resembling those of D. bigibbum. At first sight one might consider it a white form of the latter, but the stout ribbed stems preclude that idea. Moreover, the flowers are produced in long pendulous racemes from the nodes near the top of the old and leafless stems but not so nearly terminal as in that species. The affinity with D. superbiens is also close, so that the four may be considered as forming a very natural group. The flowers are of a beautiful white, with the throat of the lip green, and the upper part covered with short, fringed lamellæ or coarse hairs. A fine illustration in the *Lindenia*, pl. 291 shows a raceme bearing nineteen fully expanded flowers, and several unopened buds. The species has for some time been considered rare, but possibly it may become more plentiful at no distant date. If so, it is sure to become a favourite with growers who place a high value upon the other beautiful kinds above mentioned. It is probable that similar cultural treatment will suit all of them.

SOCIETIES.

National Chrysanthemum, *September 9th and 10th.*—The early autumn exhibition of this society was held in the Royal Aquarium, Westminster, on the above dates, and the competition in a few of the Chrysanthemum classes was very keen. Dahlias, however, were by far the most conspicuous feature of the show. Gladioli and miscellaneous exhibits made up the rest. The best flowered and the most effectively arranged group of Chrysanthemums was that of Messrs. Reid & Borneman, Sydenham Nurseries, which included a considerable number of early-blooming Japanese varieties. Mr. E. Vince, London Cemetery, Highgate, was second with a less effectively arranged group. Mr. H. J. Jones, Ryecroft Nursery, Lewisham, was third with a good group, but several of his plants were only partly in bloom. An extra prize was awarded to Mr. Norman Davis, Lilford Road Nurseries, Camberwell. For six plants in pots Mr. E. Vince was first, and Mr. W. Wells, Earlswood, Redhill, second. In the class for a collection of cut flowers of Chrysanthemums, Mr. R. Owen, Maidenhead, was first with a fine exhibit including twelve or more English raised seedlings, mostly of Japanese kinds. Mr. T. S. Ware, Tottenham, was second, showing thirty-six large bunches, mostly of Pompons. Mr. E. F. Such, Maidenhead, was third; and an extra prize was awarded to Mr. E. Vince. Mr. B. Calvert, gardener to J. A. Houblon, Esq., Great Hallingbury, Bishop's Stortford, had the best twelve blooms of Madame Desgranges; and Mr. J. Douglas, Great Gearies, was second with smaller blooms. Mr. W. Beach, gardener to L. Siligman, Esq., South Kensington, had the best six bunches of the same variety, and also the best six bunches of G. Wermig. For twelve bunches of Pompons Mr. H. Neary, gardener to the Rev. R. W. Powell, Hornsey, was first. Mr. Lindsell, Bearton, Hitchin, had the best collection of Gladioli; and Messrs. J. Burrell & Co., Howe House, Cambridge, was second, both exhibits being very fine.

In the nurserymen's class for sixty blooms of Dahlias, Messrs. Keynes, Williams & Co., Salisbury, carried off the first award with many fine blooms; Mr. F. W. Seale, Vine Nursery, Sevenoaks, came in second; and Mr. C. Turner, Slough, was a good third. There were seven entries. Mr. A. Rawlings, Romford, had the best thirty-six blooms, many of which were in fine condition; Mr. C. Turner was second; and Messrs. Keynes, Williams & Co., third. Mr. G. Humphries, Chippenham, had the best twenty-four and the best twelve blooms. In the amateurs' classes Mr. J. T. West, gardener to W. Keith, Esq., Cornwalls, Brentford, took the first award for twenty-four, and also that for eighteen blooms. The best exhibit of twelve blooms came from Mr. A. Ocock, Havering Park, Romford. Mr. T. Vagg, gardener to J. Theobald, Esq., Havering, Romford, had the best six. Pompon Dahlias, as usual, were showy, and the prizes for twenty-four bunches were taken by Messrs. Keynes, Williams & Co., Mr. C. Turner, and Messrs. J. Cheal & Sons, Crawley, in the order named. Mr. F .W. Seale had the best twelve bunches; and Mr. H. Glasscock, Rye Street, Bishop's Stortford. Messrs. J. Cheal & Sons had the best twenty-four single Dahlias and the best twelve Cactus varieties, as well as the best nine of the latter class. Mr. T. W. Girdlestone had the best twelve bunches of single Dahlias, as well as the best six bunches. Mr. H. Glasscock had the best six bunches of Cactus Dahlias.

In the miscellaneous class an extensive collection of the leading kinds of Dahlias was shown by Mr. T. S. Ware. Mr. G. Phippen, Reading, had a fine group of Cactus Dahlias and Lilies. Messrs. W. Paul & Son had a collection of 160 dishes of Apples and Pears, and cut Roses. A beautiful collection of Tea and H. P. Roses was shown by Messrs. D. Prior & Son, Colchester. Dahlias and other cut flowers were shown by Mr. W. Salmon, West Norwood, and by Mr. J. T. West.

Preston and Fulwood Horticultural Society.—The monthly meeting of this society was held on Saturday evening, Sept. 5th, in the Commercial Room of the Old Legs of Man, Preston. Mr. Alderman Walmsley occupied the chair. Mr. Atherton, the secretary, read a letter from R. W. Hanbury, Esq., M.P., accepting the office of President for the coming year. Mr. S. H. Stott exhibited twelve magnificent hybrid perpetual Roses and twelve Teas, said to be the best seen in the North this year. Mr. J. Wilding, Walton, had twenty-four show Dahlias, twelve Pompons, and thirty-six singles, and they were certainly a most creditable lot. Sydney A. Hermon, Esq., St. Anne-on-the Sea, sent twenty-four beautiful tuberous Begonias, single and double. Mr. Atherton contributed Hæmanthus puniceus and Eucomis Regi, and Crinum pallidium was brought by Mr. Wm. Morris, who is noted for his "back yard" exotics and greenhouse plants.

Mr. A. Waters, The Gardens, Hopwood Hall, read his paper on "Watering and Syringing, their use and abuse." In the discussion that followed Messrs. Troughton, Payne, Stott, Roberts, Whitwell and Spellman took part. The consensus of opinion was that more plants were lost through injudicious watering, generally by giving too much, than by any other cause, and that it was easier to teach a young man or a beginner every operation than watering, and that only patient observation and long practice would make a careful hand with the water pot.

Hawick Horticultural Mutual Improvement Association.—The monthly meeting of the above was held on Friday last. Mr. Geo. Wood, vice-president, occupied the chair. Mr. Robert Laird, of Messrs. R. B. Laird & Sons, nurserymen, Edinburgh, contributed a paper on "Ornamental Grasses." He dwelt at length on the uses they could be put to, for house and church decoration at festive seasons, enumerating the most useful and easiest grown, not forgetting to mention many of our native Grasses so familiar to every one interested in a country ramble. On the table was exhibited a very fine collection of dried Grasses, which helped to illustrate the subject. The paper proved to be very interesting and led to a useful discussion. Mr. Laird received the cordial thanks of the Association. The following exhibits were on the table, namely, from Mr. Johnstone, Sillerbithall Gardens, a fine lot of vegetables, comprising Marrows, Tomatos, Onions, Potatos, Leeks, etc. Mr. Forbes, Buccleuch Nursery, had a collection of ornamental Grasses, and Mr. Wood, Summerfield Nursery, had some fine Chrysanthemum blooms, and a spike of Agave coccinea. The exhibits were minutely examined, and their respective merits discussed. The usual votes of thanks followed.

WHAT TO DO IN THE GARDEN.

Flowering Stove Plants.—The temperature of the stove must still be maintained at a pretty high figure to the end of next month in order to prolong the flowering season of such things as Allamandas, Ixoras, Dipladenias, Vinca rosea, Bougainvilleas, and such things as have hitherto been the ornament of that house. The high temperature will also aid in ripening the wood, thereby enabling the plants to pass the winter in greater safety. A free circulation of air by ventilation will also preserve the flowers from damping.

Pandanus Veitchii.—A young stock of this plant should always be grown on to take the place of overgrown and unserviceable plants. If there are young plants of sufficient size, the suckers should be taken from the large ones and the latter thrown away to reduce the crowding in the stove, which always takes place towards the end of the season and in winter.

Dracænas.—Tall and leggy plants that are getting beyond being useful may be ringed or partly cut through just below the head of leaves, and a bit of sphagnum tied round the cut portion. Then prepare a compost of sandy loam and leaf soil, and, after splitting a pot in half and tying it round the portion covered by the moss, fill it with the compost. Keep the soil moist and roots will soon be emitted, after which the head may be severed as a separate plant.

Greenhouse Plants. — Preparations for the housing of such greenhouse plants as are now standing in the open air, should be made so that the plants may be taken indoors, or at least the more tender of them, by the end of the month. After that it becomes unsafe to leave them exposed. Thoroughly clean and wash the houses intended for their reception, and after the plants have been housed and properly arranged with regard to light and general appearance, attend carefully to watering and ventilation.

Tea Roses in Pots.—Those which were repotted or top-dressed some time ago with the intention of flowering them early, should now be removed to a house where growth will be gently stimulated. If the shoots are at all crowded, thin them out, and all weak shoots incapable of producing flowers should be cut away to allow plenty of light to those that remain, with a free circulation of air amongst them. Make the pots and plants neat and clean before taking them indoors. Dust with sulphur on the slightest appearance of mildew.

Chrysanthemums.—Plants intended for exhibition purposes will require almost constant attention in the matter of disbudding and looking after their insect enemies, such as aphides, both green and brown, and small green, four-winged insects, the plant bugs allied to aphides, which often do irreparable injury to the buds, causing the flowers to become deformed. Liberal but judicious feeding with artificial and other manures should be continued till the flower-buds begin to expand.

Propagating Roses.—Hybrid perpetual and other hardy kinds may be inserted as cuttings in the open ground in the south of England, but they do better in a cold frame in the northern counties. Tea and China Roses and Bourbons should receive the latter treatment all over the country. Select those shoots which are quite firm, pulling them off with a heel of the old wood. The heel should be dressed with a sharp knife, cutting off as little as possible, and shortening the shoots to 9 in. or 12 in., according to their strength and ripeness. This work is best done during the remainder of this month and the next, and no artificial heat should be given. Small pots may be used in the frames, inserting one cutting in each.

Trees and Shrubs.—Propagate such things as Hollies, Barberries, Yews, and other berried subjects by keeping the berries amongst sand for a year and then sowing them. By this process the ground that would be occupied for a year with the seeds may be utilised for something else, and the labour of weeding avoided. Privet, Aucubas, Weigelas, Cherry Laurel, and Laurustinus may be increased by means of cuttings in the open ground.

Auriculas.—Offsets and seedling plants may be potted on as they require it. Old plants should now receive their final potting, and after they have taken to the fresh soil they should be fully exposed to light and air. No more water should be given than is sufficient to prevent the leaves from flagging, otherwise the plants will start into bloom and probably throw up flower scapes later in autumn, thereby ruining the prospects of a good production of bloom in spring.

QUESTIONS AND ANSWERS.

Cubic Contents of Hothouses.—*Omega:* To find the cubic contents of a span-roofed house, measure (1) the length, the width, and the height from the ground to the eaves, multiply them together, and that will give the cubic contents of the lower part of the house. Then (2) find the half of the vertical height of the roof in the centre, measuring from a rod placed across the house between the eaves, multiply the length by the width of the house by this ascertained height, and add the product to that of the lower portion of the house, and the two sums will be the cubic contents. The cubic contents of a lean-to may be found in exactly the same way, only in this case, measure half the height of the back wall from a level with the eaves of the house to the point where the glass of the roof touches the back wall. Should the roof slope down to the ground, and the house be consequently without eaves, then find the length, width, and half the entire height of the back wall up to the glass, and multiply them together; the one product in this case will be the cubic contents. For a quarter-span find (1) the cubic contents of the roof from the eaves to the ridge, as in the case of the span-roofed house; (2) find the height of the front, and also the back wall; add them together, and divide by two to get the average height; then multiply this by the length and also by the width of the house. Add the contents of the roof to those of the basal part and the sum will be the entire contents of the house.

Hot-Water Piping.—*Omega:* For a greenhouse the temperature of which is not kept higher than 45° in winter, 126 ft. of 4 in. piping will be sufficient to heat 1,000 cubic feet of air. This is making allowance for a low outside temperature in winter. To keep it up to 50° use 150 ft. of piping. A vinery being forced in winter to keep it up to 65° will require 229 ft. of piping; and for 70° 259 ft. of piping will be sufficient for 1,000 cubic feet of air. To give an idea of what you intend doing you ought to find the cubic contents of your houses, and state what temperature you intend keeping up as well as the season at which you intend to start the house. Remember always that a few extra feet of piping will save driving your boiler in severe weather, besides being more economical in fuel. Three-inch piping would be quite sufficient for a very small greenhouse. To economise space, it would be best to place the pipes round the outside of the house, and less heat would be required by so doing. But there are other considerations to be dealt with and it would be necessary for us to know what you want to grow in the span-roofed house, and also whether you intend to have any staging in it.

Cyclamens for Winter.—*J. Carter:* You have done well in repotting your plants, and the soil used is a good one with exception of the rotted cow dung. Few good cultivators care about using it at all for Cyclamens. Some market gardeners who grow them well omit the leaf soil, using good fibrous loam entirely, with sufficient sand to keep the whole porous and open. Good drainage is also essential. Thomson's Vine Manure is a much better fertiliser than cow dung for Cyclamens. The latter should be kept on shelves or on front benches close to the glass during winter, in a temperature of about 50°, which will keep them growing slowly and flowering for many weeks together. They also delight in a free circulation of air, which prevents them from getting drawn. A higher temperature is often accorded them during the early stages, but they should not be hurried after they attain to flowering size.

Food for a Turtle.—*Frank:* The food of turtles is mostly of a vegetable nature, and when kept in captivity they are generally fed with Lettuce. Other vegetable food may, however, be given when Lettuces are difficult to obtain. Like other creatures of a like nature, however, turtles live a long time upon very little or no food at all in the winter time, provided they be kept in a dry, moderately warm place.

Orchids.—*H. T.:* Perhaps Mr. Lewis Castle's *Orchids: their Structure, History, and Cultivation* (171, Fleet Street) would suit you. We do not know of any cheap work on Orchids, with illustrations.

Names of Plants.—*G. Winter:* Achimenes tubiflora, sometimes called Dolichodeira tubiflora. *Nemo:* 1, Adiantum diaphanum: 2, Pteris longiflora; 3, Nephrodium molle. *R. L.:* 1, Polygonum cuspidatum; 2, Rudbeckia speciosa; 3, Helenium autumnale; 4, Campanula carpatica alba; 5, Sedum rupestre. *J. B.:* 1, Spiræa salicifolia; 2, Ligustrum japonicum; 3, Lilium tigrinum; 4, Cupressus nutkænis; 5, Lonicera flexuosa aureo-reticulata; 6, Jasminum revolutum. *H. Calder:* 1, Pernettya mucronata; 2, Veronica longifolia; 3, Physalis Alkekengi; 4, Rubus discolor. *Castra:* 1, Origanum vulgare; 2. Asplenium marinum. *H. B.:* 1, Lycium barbarum; 2, Eucomis chinensis punctata; 3, Cyperus alternifolius; 4, Juniperus variegata; 5, Euphorbia splendens. *W. M.:* 1, Cornus alba; 2, Picea orientalis; 3, Pinus Peuce; 4, Thuya orientalis; 5, Juniperus virginiana var.; 6, Cryptomeria elegans. *Miss Walsh:* 1, Corydalis lutea; 2, Lysimachia punctata; 3, Sedum Telephium; 4, Pentstemon campanulatus; 5, Lilium tigrinum; 6, Veronica Teucrium rupestris (V. T. prostrata flowers very early); 7, Phalaris arundinacea variegata; 8, Holcus lanatu

variegatus; 9, Dactylis glomerata elegantissima; 10, Pentstemon gentianoides var. (garden varieties we do not undertake to name).

MONSTERA DELICIOSA.—*Wm. Reid:* This plant may be grown in a warm greenhouse in this country, but thrives best in a moist, warm stove. It has frequently been fruited in the neighbourhood of London under the last-named conditions. The plant should be trained to some support and allowed to get to some size before it will produce fruit. It cannot be expected to grow in the open air under any conditions.

VINE SHOOTS.—*J. F.:* Would you be kind enough to send some fresh specimens, as the last must have disappeared in some unaccountable way, owing to the change of offices.

GLADIOLI.—*M.:* The Messrs. Kelway, of Langport, are by far the largest raisers of new varieties in this or perhaps any other country, and certainly have long been ahead of the French raisers.

CLEMATIS EATEN.—*H. D.:* The caterpillars seem to be those of the Pot-herb Moth (Hadena oleracea), and they do not confine themselves to Clematis but eat almost anything of a low-growing nature, whether herbs, or shrubs, and possibly trees. We tried them with Clematis, Convolvulus, Musk, and Trotœolum leaves, all of which they ate with apparent relish, devouring large quantities in a single night. The best remedy you can adopt now is to hand-pick them. This you can now readily do owing to their large size and conspicuous nature. The more of them you can destroy now the fewer will there be to lay eggs next year, when the pupæ, which lodge in the soil all winter, hatch out. The specimens you sent were nearly full fed so that the sooner you set about destroying them the better, before they bury themselves in the soil.

CEDAR UNHEALTHY.—*L. Imlah:* The soil in which it is planted may be thin and gravelly, or at all events poor. The best plan to adopt would be to remove some of the top soil, and replace it with richer material, such as a mixture of old potting bench soil, old hotbed manure, and partly decayed leaves. There should be a goodly proportion of good substantial loam, so that when it settles down it may be of an enduring character. This laid on the top of the roots without disturbing the latter, would encourage the development of fresh ones, and perhaps, give a fresh impetus to the tree next summer, and thereafter. You might also form a basin of some size round the tree, and give a heavy watering now and occasionally through the heat of summer while young growth is being made.

TROPÆOLUM TUBEROSUM.—*B. Warwick:* Properly speaking it is only half hardy but should outlive the winter in your locality by the sea side with a little management in winter. You should plant it in a soil that is dry and poor, rather than otherwise, in a sunny position, and when the stems are killed down in autumn, protect the tuberous roots with a layer of cocoa-nut fibre. It would afford additional protection if you placed a piece of slate in a slanting direction over it so as to throw off the wet in winter, and preserved the soil about the tubers in a moderately dry condition.

BROMUS BRIZÆFORMIS NOT FLOWERING.—*T. Reid:* The grass you mention is a biennial not annual like Briza maxima, so that you have probably received the proper seed. The plants will flower next year, and they will do so all the better if you thin out the seedlings so as to leave a little space between each. The thinning may be transplanted elsewhere if so desired.

MORELLO CHERRIES.—*F. S. G. A.:* It is quite true as you say that they are considered by most people to be fit only for preserving and culinary purposes, but others think highly of them for dessert purposes, the acidity being agreeable to their taste. The fruits must be allowed to hang on the trees till perfectly ripe, when they will be almost black. The trees must be netted in order to ward off the birds which are often very troublesome.

COMMUNICATIONS RECEIVED.—W. P. R.—I. T.—A. O.—J. C.—S. & S.—W. M.—W. D.—B. L.—A. P.—W. O.—W. P. R.—Frank—J. F.

TRADE CATALOGUES RECEIVED.

JOHN T. GILBERT, Dyke, Bourne, Lincs.—Bulbs and other Flower Roots.

CHANTRIER FRERES, A Mortefontaine, Par Plailly (Oise).—Aroids, Ferns, Bromeliads, Palms, Orchids, etc.

ANT. ROOZEN & SON, Overveen, near Haarlem, Holland.—Choice Dutch and Cape Bulbs.

THOMAS S. WARE, Tottenham, London.—Autumn Bulb Guide, and Autumn Plant Catalogue.

LONDON SEED TRADE.

September 14th.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Mark Lane Seed Market, report an improved demand for Trifolium incarnatum, stocks of which are almost exhausted. New Winter Tares and Rye offer at easier rates. Clover seeds steady. Rye-grasses unchanged.

COVENT GARDEN MARKET.

September 16th.

FRUIT.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.
Apples... per ½-sieve	1 0	3 0
Grapes .....per lb.	0 6	1 6
Kent Filberts 100 lb.	30 0	
Pine apples. —St. Michaels, each	2 6	5 0
Peaches .....per doz.	1 0	6 0
Plums..... ½-sieve	1 0	3 6
Tasmania Apples, per case	10 0	14 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.
Artichokes Globe doz.	3 0	6 0
Beans, French, per lb.	0 4	0 6
Beet..... per dozen	2 0	3 0
Cabbages ... per doz.	1 6	2 6
Carrots ... per bunch	0 6	
Cauliflowers, English, per doz.	3 0	6 0
Celery.....per bundle	2 6	
Cucumbers .....each	0 6	0 9
Endive, French, doz.	2 6	3 0
Herbs .....per bunch	0 2	0 6
Horse Radish, bundle	2 0	4 0
Lettuces ...per dozen	1 0	1 6
Mushrooms, p. basket	1 3	2 0
Onions.....per bunch	0 4	0 6
Parsley ... per bunch	0 6	
Radishes... per dozen	1 6	
Small salading, punnet	0 4	
Spinach, per strike ...	3 6	
Tomatos..... per lb.	0 6	1 0
Turnips .....per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Aralia Sieboldi ...doz.	6 0	12 0
Bouvardias...per doz.	8 0	12 0
Chrysanthemums, doz	6 0	12 0
Coleus.....per doz.	3 0	6 0
Cyperus .....per doz.	4 0	12 0
Dracæna term., doz.	24 0	36 0
Dracænaviridis, doz.	9 0	18 0
Evergreens, invar. doz	6 0	24 0
Ferns, invar., per doz.	4 0	18 0
Foliage Plants, doz.	12 0	60 0
Heliotrope, per doz.	4 0	6 0
Hydrangea, per doz.	9 0	24 0
Liliums, various, doz.	12 0	30 0
Marguerites, per doz.	6 0	12 0
Mignonette, per doz.	4 0	6 0
Palms in variety, each	2 6	21 0
Pelargoniums ... doz.	6 0	9 0
—scarlet .....per doz.	2 0	4 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arum Lilies, 12 blms.	2 0	5 0
Asters, doz. bunches	3 0	6 0
,, French ,, ,,	9 0	12 0
Bouvardias, per bun.	0 6	1 0
Carnations, 12 blooms	1 0	2 0
— per dozen bunches	4 0	6 0
Chrysanthemums, doz. blooms	0 9	3 0
Chrysanthemums, doz. bunches	4 0	9 0
Dahlia, doz. bunches	2 0	4 0
Eucharis ...per doz.	2 0	4 0
Gardenias 12 blooms	1 6	4 0
Gaillardia, doz. bun.	2 0	4 0
Heliotropes, 12 sprays	0 3	0 6
Lavender, doz. bun.	4 0	5 0
Lapageria, 12 blooms	1 0	3 0
Lilium Harrisii, doz. blooms	3 0	6 0
— various, doz. blms.	1 0	2 0
Maidenhair Fern, 12 bs.	4 0	9 0
Marguerites, 12 bun.	1 6	4 0
Mignonette... 12 bun.	1 6	3 0
Myosotis..doz. bchs.	2 0	4 0
Pansies, doz. bunches	1 0	2 0
Pelargoniums, 12 sps.	0 4	0 9
— scarlet ... 12 sprays	0 3	0 4
Poppies, various, doz.	1 6	4 0
Primula, double, bun.	0 6	1 0
Pyrethrum, doz. bchs.	2 0	4 0
Roses, yellow, dozen	2 0	4 0
— mixed... doz. bchs.	1 6	4 0
— Red..... doz. bchs.	2 0	6 0
— Saffrano...per doz.	0 6	1 0
— Tea ..... per dozen	1 0	3 0
Stephanotis, dz. spys.	2 0	4 0
Sweet Sultan, doz. bh.	2 0	3 0
Sweet Peas, doz. bhs.	1 6	3 0
Tuberoses, per doz.	0 3	0 6

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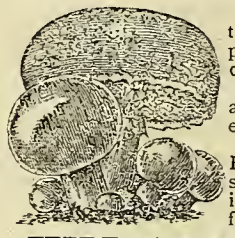

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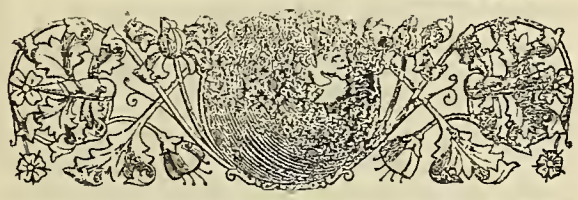

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Sept. 28.—National Chrysanthemum Society. Meeting of General Committee at 7 pm. Sales of Bulbs at Protheroe & Morris' and Stevens' Rooms.

TUESDAY, Sept. 29.—Sale of Stove and Greenhouse Plants at Mile Ash Nurseries, Derby (two days). Sale of Bulbs at Protheroe & Morris' and Stevens' Rooms.

WEDNESDAY, Sept. 30.—Sale of Nursery Stock at Messrs. John Waterer & Sons, Bagshot (three days). Sales of Bulbs at Protheroe & Morris' and Stevens' Rooms.

THURSDAY, Oct. 1.—Sale of Bulbs at Protheroe & Morris' Rooms.

FRIDAY, Oct. 2.—Sale of Messrs. F. Sander & Co.'s collection of Orchids at Protheroe & Morris' Rooms.

SATURDAY, Oct. 3.—Sale of Bulbs at Protheroe & Morris and Stevens' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, SEPTEMBER 26th, 1891.

GARDENERS' ASSOCIATIONS.—We are so near to the season of the year when gardeners assemble together at their association meetings for the purpose of obtaining fresh information, extending their professional knowledge and enjoying social intercourse with their fellows, that already those charged with the duty of providing the meeting with subjects, either in the form of lectures, papers, or discussions, are actively employed in a difficult function.

We have a legion of gardeners it is true, but only a very small portion possess literary ability. Without some power to put knowledge into a suitable shape, it is of little use for anyone to attempt to instruct or enlighten his fellows. He may have practical knowledge in abundance, but the power to express it may be absolutely absent. This fact, one which the spread of gardeners' associations has brought out in a marked manner, shows how much the gardening profession has lost by its numerous members' deficiency in literary talent. Even those who do accept the responsibility of preparing papers or lectures, as it is, too much travel over beaten ground, and anything novel or original is exceedingly rare. We mention these things without the slightest idea of discrediting gardeners' associations, but rather to show what are the chief difficulties they have to encounter, and to encourage greater effort.

We wish success to all such associations, and gladly learn of their extension. Even if but used as social gatherings they do much good, but if adding in any way to the members' professional knowledge and intelligence they do very much more. We hope the general range of topics will be extended, because it is of the first importance that the gatherings be made broadly educational.

CARPET BEDDING.—But a few years since and there was no form of garden embellishment in the summer so popular as carpet bedding. To such a pitch of excellence was this form of bedding-out brought that the term "carpet" seemed to very imperfectly indicate its real nature, and eventually we hear of it as mosaic bedding, because the designs worked out with various plants were so complex and involved. However, as the most beautiful of all creations, no matter what, eventually palls or leads to satiety, so also did this form of bedding, and a desire for something simpler, more natural and varied, grew up which led largely to a reversion to what is called mixed bedding, very like what was esteemed as the correct style of summer bedding half a century ago.

This mixed style of garden decoration is pleasing enough during warm, dry summers, but under cloudy skies and in dripping weather is rather apt to run riot. It did so last year, it has done so even more this year. The heavy rains have generated coarse growth, an excess of leafage, and a minimum of bloom, so that generally these mixed beds have been failures. On the other hand the carpet or mosaic beds, call them what we may, have proved to be remarkable successes. We have seldom seen them brighter, neater, or more efficiently filled than they are now. The result is a revival of taste for these carpet beds. They seem to set weather at defiance, and indeed appear brighter under rain than in sunshine. Like babes in a bath they do but seem to come out of their frequent moistenings more robust and beautiful.

We are thankful for the carpet beds this year. In many of our public parks and gardens these creations of the gardener's taste have been the brightest and most attractive objects, whilst flowering plants have largely been demoralized. It will be no matter for surprise if next summer we see carpet bedding enjoying a return to its former popularity.

APPLES AND PEARS.—How often, unfortunately, it happens that we fail to do the right thing at the right time. It will perhaps be pleaded in relation to the omission to which we specially refer that no one could have been assured that we should have such fine crops of Apples and Pears as are seen everywhere this year. That was the case even so recently as last spring, but at least we have known for a few months what the general crop was, and also that the product would be a very fine one. Yet does it happen that with this remarkably fruitful season we have no conference in London to bring together the best samples of both kinds of fruit in the country; neither have we any great exhibition of them in the Guildhall, or indeed anywhere, so far as we know, except at Manchester and at the Crystal Palace next month, where no doubt some fine collections will be shown.

Still it is to be deplored that such a splendid opportunity for comparison of

sorts, for verification of nomenclature, and for the exhibition of all the best varieties of these fruits, new and old, should have been lost. There can be no doubt whatever that we shall have presently as fully finished and as highly coloured fruits as we have ever at any time seen. A taste of what is to come was shown at Edinburgh, but a show in October would, with Apples and Pears, a long way excel all that the present month can produce. The fine weather has helped both to swell and colour up the fruits.

A show would not this year be all the nurserymen's, but would have far more of general interest. It is now too late to organise a great exhibition specially, but we hope that shows of Apples and Pears of unusual extent and excellence will be seen at Manchester and at the Crystal Palace in October.

The Harvest Moon.—We have so often enjoyed the delightful weather during the short reign of the harvest moon that it has been a peculiar disappointment to find that whilst very often the orb has looked down upon us at night through a clear or softened sky, the days have been cloudy, gloomy, or rainy. A very short spell of really summer-like weather did all too briefly lead us to hope that a beautiful autumn season had set in, and that the summer of our discontent was passed. Alas! the promise was as fleeting as was the realisation. A few days of sunshine, then a return to cloud and gloom, and now to look for a fine autumn is folly, unless indeed it be a late autumn.

All the joy of the summer now has departed. To revivify it is out of the question, and so far as the present year is concerned we shall have to write it down in meteorological history as one of the saddest and dampest we have known for a generation. Bad as it is for those who have to encounter all the misfortunes which a wet season brings, it is hardly less depressing to sit at one's table and gaze through the window at the persistent and saddening rain. How much of harm it is doing to the yet unharvested corn, how much to the Hops, to the Fruits, to the Potatos, to trade, to recreation, to everything. The season has been a veritable millennium for weeds, which the few fine days we recently had led to the hope would be broken up. The hope has soon perished, for weeds are rampant as ever, and their destruction presents a problem which no gardener or farmer can solve.

There is a strong sense of wrong somewhere pervading humanity—a belief that the times are sadly out of joint. We cannot help or cure, we can only endure. May our powers of endurance be not much longer tested, for the sake of gardening and agriculture.

Presentation to the Queen's Gardener.—The Queen has presented a handsome silver tea set to Mr. T. Jones, on his retirement from the Royal Service as Gardener at Windsor. Her Majesty's gift is in the Queen Anne style. Mr. Jones, who has had the management of the Royal gardens for over twenty years, was formerly in the employment of Lord Leconfield at Petworth Park, Sussex. He will be succeeded next week, as we have already announced, by Mr. Owen Thomas, of Chatsworth.

The United Horticultural Provident and Benefit Society.—It has been arranged for the annual dinner of this society to take place at the Cannon Street Hotel, on Thursday, October 15th, when Mr. George A. Dickson, of Chester, will preside.

Mr. William Brown, for fifty-seven years gardener at Merevale Hall, near Atherstone, died on the 5th inst., aged seventy-nine years. He had served four generations of the Dugdale family, and was greatly respected.

Mr. A. Hatwell, foreman at Wootton Gardens, Aylesbury, has been engaged as gardener to Captain Dymond, Brookland, Charminster.

Mr. A. Willis, late foreman at Davenham Bank, Great Malvern, has been engaged as gardener to Sir S. Baker, Sandford Orleigh, Devonshire.

Mr. George Reason has been engaged by Viscount Boyne as gardener at Brancepeth Castle, Durham.

Mr. G. G. Hartland, the esteemed Honorary Secretary of the Chiswick Horticultural Society, we regret to hear died at Worthing, on Saturday last, after a short illness. Mr. Hartland gave much attention to the Society's affairs, and to his assiduous labours its present prosperous position is largely due.

M. Jean Van Volxem, the famous Belgian horticulturist and traveller, died at Brussels on the 14th inst., aged sixty-two years. He was the discoverer and introducer of the beautiful Tacsonia Van Volxemii, and the noble Caucasian Maple. In his arboretum, near Velvorde, he had collected together a most interesting collection of choice trees and shrubs.

L'Orchideenne.—The annual general meeting of this Belgian Orchid Society will take place at 79, Rue Wiertz, Brussels, to-morrow (Sunday), at 10 a.m. In addition to the usual business a proposition will be brought forward to divide new orchids into two sections, giving diplomas of honour to those of really horticultural interest, and botanical certificates to the others.

Bournemouth Gardeners at Longford Castle.—The third annual outing in connection with the Bournemouth and District Gardeners Mutual Improvement Society took place on the 9th inst., when a party of about fifty paid a visit to Longford Castle, Salisbury, the seat of Lord Radnor. The party inspected the gardens and park, with which they were much pleased, and after partaking of luncheon in a marquee erected in the park played a game of cricket before leaving for home at 6.30 p.m.

Dielytra cucularia is the beautiful flower known to American children by the unpoetic title of Dutchman's Breeches. At first the name seems fanciful and utterly inappropriate; but turn the corolla upside down and what does it look like? Exactly like those funny pantaloons that the old pipe-loving nine-pin playing Dutchmen wore as we see them exhibited on the canvas of the Dutch painters. When New Jersey was settled by the pioneers under the governorship of old Peter Stuyvesant, these curious nether garments were worn; and when the children of succeeding generations wanted a name for this exquisite flower, they found out the resemblance between it and the pantaloons of their ancestors and christened accordingly, so that Dielytra cucularia becomes plain Dutchman's breeches.

The East Anglian Horticultural Club had a very successful Dahlia show at Norwich on the 10th inst., in aid of the Gardeners' Benevolent Fund which has been established in connection with the club. The exhibition was formally opened by Mr. Sheriff Buxton, and Mr. J. J. Coleman, M.P., in proposing a vote of thanks to the Sheriff, said "that it was long since he dressed a Dahlia. There was a time when he knew what was considered to be a good Dahlia, and when judges gave him silver cups for varieties he exhibited. But fashion had changed, and some varieties had been awarded prizes at this show which he should have been afraid to exhibit thirty or forty years ago. He was glad, however, to see that the show was one that would satisfy all tastes. Those who liked the miniatures or singles could take delight in them, though he regarded as the best those which had been produced during the past ten or twenty years."

A Hard Cement.—Under this heading an American paper recommends for covering terrace, lining basins, soldering stones, etc., a preparation which they say everywhere resists the filtration of water. It is said to be so hard that it scratched iron. It is formed of ninety-three parts of well-burned brick, and seven parts of litharge—the latter being a semi-virtreous oxide of lead, extensively employed in pottery, glass-making, etc.—these two made plastic with linseed oil. The brick and litharge are pulverised—the latter must always be reduced to a fine powder—the materials are then mixed together, and enough of linseed oil added. It is then applied in the manner of plaster, the body that is to be covered being always previously made wet with a sponge. This precaution is indispensable, otherwise the oil would filter through the body, and prevent the mastic from acquiring the desired degree of hardness. When it is extended over a large surface, it sometimes happens to have flaws in it, which must be filled up with a fresh quantity of the cement. In three or four days it becomes firm.

The late Mr. William Holmes.—Soon after the death of Mr. Holmes, a committee was formed in Hackney to raise a fund for providing a local memorial of his worth, and the esteem in which he was so generally held. With the concurrence of the widow, this took the form of a handsome headstone in white marble, continued round the grave to a suitable height, so as to admit of the surface being planted with flowers. The upper portion of the headstone is fully sculptured, showing clasped hands with the sentence "We shall meet again," with Chrysanthemums above and at the sides in bas-relief, and at the top of the two dark granite columns which support the upper sculptured portion, a bunch of Primroses. The inscription between the two columns sets forth the date of Mr. Holmes' death, September 18, 1890, and goes on to state that "This memorial was erected by a number of friends of the late William Holmes, as a token of their affectionate regard for his manly Christian character, and to mark their sense of his valuable services to the people of Hackney, as one of their most trusted and zealous representatives upon the various Local Boards; also in grateful remembrance of his unceasing labours in the world of horticulture, especially in connection with the culture of the Chrysanthemum." In spite of the wet weather a considerable number of friends were present at the Abney Park Cemetery, and after a short service, conducted by the Rev. Mr. Langhorne, the Chairman of the Committee, the erection was formerly handed over to the widow, Mrs. Elizabeth Holmes. Several members of the National Chrysanthemum Society were present, which was officially represented by Mr. Robert Ballantine, the Chairman, and Mr. R. Dean, the Secretary.

Lespedeza bicolor.—The habit of this shrub is closely similar to that of a Desmodium, but the leaflets are narrower than in that genus as a rule. The genus Lespedeza contains about twenty-five species, of which a number of them are herbs. That under notice is a slender shrub of bushy, upright habit, well furnished with leaves, consisting of three elliptic, light glaucous, green leaflets. The flowers are deep rosy-purple, and produced in racemes from the axils of the leaves all along the upper part of the stems. The latter are freely branched in the upper portion, with the short side shoots as freely flowered as the main ones. A considerable amount of growth is produced during the summer months, hence the shrub appears much of the same habit as a herbaceous plant. This accounts for the great length of the shoots which is furnished with leaves.

Cytisus nigricans longispicatus.—This shrub varies from 3 ft. to 6 ft. in height, but in this country is more near the former than the latter stature when planted in the open ground, either amongst other plants of shrubby nature or in beds by itself. The length of time it continues in bloom by throwing up fresh or late shoots is much in its favour, and planters would do well to find it a place in their collections. The flowers are bright yellow, and produced in long racemes terminating upright shoots. Their peculiar form may have had some weight with the author who made a separate genus of it under the name of Lembotropsis nigricans. The wings are closely applied to the keel, while the standard is strongly rolled back and away from the other parts of the flower. The variety under notice differs from the type merely in the racemes of bloom being considerably longer.

IXORAS.

The varieties of garden Ixoras are now pretty numerous, but, as a rule, gardeners are content with comparatively few kinds, it may be only one or two. They are amongst the most constant blooming of stove plants when properly treated. To keep them growing they like plenty of heat and moisture, and when started in spring after having been cut down, they come away all the more freely if the pots are plunged in cocoa-nut fibre with bottom heat. If cut flowers are the desideratum, then the mere fact of removing

the flowering shoots causes the more rapid development of the lateral and later ones, which in their turn keep up a succession of bloom.

The undermentioned kinds we noted a short time since in the gardens at Gunnersbury Park, where Mr. Hudson manages to secure a considerable amount of bloom from small plants. Specimens under two years old, and in small pots, were bearing from six to nine trusses of bloom. Prince of Orange is a particularly free flowering kind, and had the latter number of trusses all open at one time. The flowers are of a bright orange with very short and broad segments giving them a rounded outline. I. Morsei has short and broadly obovate segments of a darker orange. The bulk of the Ixoras in cultivation, whether species or varieties, are characterised by orange, scarlet or red flowers in varying shades, so that a softer shade affords a pleasing variation in a collection of kinds. This contrast is afforded by I. Westi, which bears large trusses of flowers which are pure white on first expansion, but gradually change to pink. At certain stages the flowers on a truss show a pleasing mixture of pure white and soft pink.

A free growing and perhaps more popular kind is I. Williamsii, which has large orange flowers shaded with red, and long, obovate segments which give to the flowers a more cruciate appearance. I. Fraseri is of the same type as the last, with regard to the form and size of the flowers, but the latter are of a decided orange hue. When these trusses are cut, others are developed on the laterals. Then in spring, if the flowers have been removed in this way with a small portion of the shoot, little remains but to repot in the same or a larger size, and introduce them into strong heat, with the assurance of a good harvest of bloom in due time.

THE HYPERICUMS.

There are something like 160 species of Hypericum scattered over various parts of the world, although the greater part of them are to be found in the northern hemisphere and on the mountains of tropical regions. Some of the latter are both neat and beautiful, but unfortunately few of them are able to withstand severe winters in this country. Some of them are strictly herbaceous, while others are as decidedly shrubs; but a number of them are of an intermediate character, and while they might most properly be classed amongst shrubs in their native country, they are liable to be killed to the ground in Britain during winter, and appear then more akin to herbaceous plants. All are of the easiest culture, and the hardy ones when planted in well drained soil require comparatively little attention of any kind except a slight pruning in winter to keep them compact and bushy, or to cut away any dead wood. The smaller and neater of them are useful for planting on the rockery. Several of the half hardy, shrubby kinds are useful for pot work, either in the conservatory or hardy plant house; but we shall concern ourselves here with the hardy shrubs or sub-shrubby kinds only. Several of them are highly ornamental, and suitable for planting in beds upon the grass; and that is a use for which we should like to see them more largely employed. They flower continuously during the summer months whether wet or dry. Propagation is readily effected by means of cuttings, seeds and in the case of the creeping species by suckers.

Hypericum Moserianum.—This is the most recent acquisition to the genus, and is the more remarkable from the fact that it is a hybrid between H. patulum and H. calycinum, the latter being the pollen parent. The leaves are large, ovate, and of the same texture and dark green colour as the pollen parent. The clear bright yellow flowers are much larger than those of H. patulum, showing the influence of H. calycinum, but the drooping or spreading habit is that of the former. The numerous yellow stamens are very prominent, and are rendered more so by their red anthers. It was raised by Mr. Moser at Versailles, and recently received a First-class Certificate from the Royal Horticultural Society. A bed of it at Kew has been flowering most profusely all the summer, and will apparently do so until checked by frost. Our illustration will give an idea of the form and appearance of the flowers and leaves.

H. calycinum.—Description is hardly necessary in the case of this useful old-fashioned subject. The large yellow flowers, numerous long stamens, dwarf habit and creeping underground stems are the chief features of this species. Popularly it is known as the Rose of Sharon and Aaron's Beard. Though not strictly a native it has become naturalised in several parts of Britain and Ireland. It is admirably adapted for covering banks, the ground under trees, and for game covert in woods.

H. patulum.—In its native country, Japan, this species is stated to grow 6 ft. high, but here it seldom exceeds 18 in., and is of slender, spreading, very graceful habit. The flowers are of medium size, but very neat, and are produced in corymbs terminating the shoots, which are developed in succession all through the summer in the same profuse way as in the case of H. Moserianum. It forms a beautiful margin to beds of larger shrubs, or may be used in small beds by itself, or planted on rockwork for which its habit proves highly suitable.

H. Hookerianum.—The stems of this species rise to a height of 2 ft. to 3½ ft., and become branched and bushy at the top. All the stems and shoots assume an upright habit, so that old plants are well adapted for planting in beds with an undergrowth of something else such as tuberous Begonias, Fairy Roses, Heliotropes, or even bulbous plants, including

Hypericum Moserianum.

Narcissi, Hyacinths, Crocuses, and others. The flowers are of large size, conspicuous and like those of others, bright yellow. The species is best known under the name of H. oblongifolium, and is a native of Nepal.

H. elatum.—The specific name means tall, and in this country the stems vary from 3 ft. to 5 ft. in height. It is a North American plant and perfectly hardy, flowering profusely from July onwards. Young plants form close, dense habited bushes, and old ones may be made so by cutting down the old stems, thereby causing a vigorous growth of young stems from the base.

H. Androsæmum.—The stems of this plant are only of a sub-shrubby nature, but the species notwithstanding is best classed with shrubs. Popularly it is known as Tutsan or Sweet Amber, and is a true British native. The flowers are both numerous and attractive, although not very large, and are followed by red or crimson fruits of an equally attractive nature in autumn. The leaves and other parts of the plant are of a strong-smelling nature, especially when bruised, but it is more of a resinous nature than disagreeable.

H. hircinum.—The odour of this plant has earned for it the title of Goat-scented St. John's Wort; but notwithstanding this it is of a highly ornamental character owing to the dark shining green hue of its leaves, and dense bushy habit. It comes from the Mediterranean region and is generally seen about 2 ft. high, although it may ultimately reach 4 ft. The flowers on a shoot are few but large. The front of the shrubbery border is the best place for it.

H. uralum.—There is a considerable resemblance between this plant and H. patulum, but it is of a more upright and freely branched habit, and the slender, compressed shoots are terminated by corymbs of neat yellow flowers. It is a native of Nepal, where it attains a height of 2 ft. on the top of the mountains, and from whence it was introduced in 1823. A dry, well-drained soil is the best place for it, and some dry bracken might be placed amongst the stems in the case of a severe winter.

H. prolificum.—The usual height of this plant is 18 in., and old specimens may even get taller. It was introduced from North America in 1758, and has linear-lanceolate leaves, giving the plant a totally different appearance from any of the above-mentioned kinds. The flowers are moderate in size, but pretty owing to the numerous long stamens.

H. Kalmianum.—The stems of this North American plant are square, and frequently attain a greater height than those of H. prolificum. The leaves are linear-lanceolate, and the flowers are borne in showy corymbs terminating the branches. Collectors of choice shrubs consider it a plant of great ornamental value.

SCOTTISH NOTES.

Blair Castle, Culross.

Being on a holiday tour, I took advantage to call at this beautiful place, where good gardening is so ably carried out under the supervision of Mr. Stenhouse, who has made great improvements since taking charge there. The glass houses are seven in number, and are first-class in every respect, being light in construction, well heated and giving an abundance of light, thus making them well adapted for fruit or plant growing.

The plant stove is a model in itself, and the occupants looked at home. The centre table was filled with tall graceful Palms, while Dieffenbachias, Crotons, and Dracænas of medium height helped to brighten up the sombre green which was so prominent in the Palms. The side stages were filled with smaller stuff suitable for table decoration. Amongst the many Crotons which find favour at Blair are Countess, Mrs. Dorman, Interruptum Aurea, Princess of Wales, Warrenii, Augustifolium, Pictinatus, and Weismanii. Dracænas are of the choicest sorts, including Mrs. Laird, Miss Glendinning, Duke of Teck, Lord Wolsley, Baptistii, Lindenii and others. Panicum variegatum was also freely used as an edging, imparting a finished look to the house.

The late vinery was carrying a full crop of Grapes, Black Alicante being very fine. Lady Downs was also good, while Gros Colmar was late, as it generally takes a long time to finish properly. The conservatory was gay with Fuchsias, double and single Begonias, and a host of other kindred subjects which loaded the air with fragrance. Chrysanthemums are well grown, and to all appearance their culture is pretty well understood at Blair Castle. The flower garden was gay with Calecolarias, Pelargoniums, and a host of other flower-garden plants. I may say that border Chrysanthemums are freely used, and are most effective in every respect. The lawns were well kept, walks clean and edges trim, in short, a credit to master and servant.—*W. Angus, Dumfriesshire.*

Distinguished Scottish Gardeners in America.—It will doubtless interest many of our northern readers to know that the newly-elected President and Vice-president of the Society of American Florists are both natives of Scotland. The President, Mr. James Dean, of Bay Bridge, New York, is the son of a former gardener to the Marquis of Queensberry, at Kinmont Castle, Dumfriesshire, who went to the States in 1850, when the subject of this note was only five years old. Mr. James Dean served his country with distinction during the Civil War as a lieutenant in the 72nd New York Volunteers, and was twice wounded. He has been in the Florist business since 1875, and enjoys a high reputation for sterling integrity and professional ability. The Vice-president, Mr. William R. Smith, was at Kew in the time of the late Sir William Hooker, and for the last quarter of a century or more has been curator of the Botanical Gardens at Washington which enjoy a high reputation.

FLORICULTURE.

The Auricula in October.

So many enquiries reach one in reference to the Auricula that it is easily perceivable the flower is steadily attracting public attention. What is required is that those who are embarking upon the task of growing Auriculas should start on right principles. This is a matter of supreme importance. The autumn is the time for obtaining plants of Auriculas. They can be had in pots—young stock, potted up, we will say, in May, and now nicely established; or he may receive plants out of pots, with the soil shaken somewhat from their roots. It would be well for the beginner in Auricula culture if he could have his plants in pots, provided they had been potted in suitable soil. If he has a cold frame in which to keep them, he should form a sort of stage, if the depth of the frame will admit of it, so as to bring the plants pretty near the glass and admit of air passing underneath them. They need an abundance of air; and a gentle rain will not injure them, but they need to be screened from heavy showers. Unless they are very pot-bound they should be bloomed in the pots in which they were received. During the autumn and winter water is required very sparingly; any decaying leaves may be removed, and the surface soil stirred occasionally. But on no account should the plants be allowed to become dry enough to flag.

If the beginner in Auricula culture receives his plants shaken from the soil, he should procure some good fibry yellow loam, some leaf soil, and a little sand, mixing them together to the proportion of one third of the vegetable mould to two thirds of the loam, and pot the plants with it when it is nicely moist, but not wet and sticky. They will do for a week or ten days without water, indeed, none should be given until the plants show signs of requiring it. During severe frost the lights should be closed and the frames covered up, not because the Auricula is not hardy, but because the action of frost is to promote an expansion of the soil, which will sometimes burst the pot in which the plant is growing.

I find that the caterpillar, a small green fellow that is often very destructive among Auriculas at this season of the year, is unusually active this fall. It matters not whether it be Auriculas or any kind of Primula in pots, the caterpillar is among them, working its evil purpose. It does not matter much to lose a few of the outside leaves, but it is exasperating to have the heart of a promising plant pierced, and the heart eaten out of it. This is a calamity indeed, because it makes a good truss of bloom in the spring impossible. No quarter should be given to such a marauder.—*R. D.*

PRETTY ANNUALS FOR CUTTING.

An annual has been described as a plant the seeds of which are sown, blooms, and dies in one year. It is quite true that some annuals may be converted into biennials by sowing the seeds in August and September, and then blooming in April and May, but the ordinary span of their life is not prolonged much beyond the summer period. Some biennials, and perennials also will bloom the same year if the seeds be sown early in a little heat, but they are nevertheless biennials and perennials.

Sweet Peas.

Now many who have small gardens like annuals because they can get a good variety of form and colour in a small space, a few plants of one variety sufficing; and then, as they come very quickly from seed, a succession of bloom can be had with a little care. But a very large number of those who grow a few flowers do so mainly with a view of having something to cut from for the decoration of the sitting room; and they should endeavour to grow only such as are of a fairly enduring character when cut. Foremost among these place the Sweet Pea, Lathyrus odoratus—that fragrant and interesting stranger from Sicily, where it grows as a wildling, which came to our shores about 1700, and has proved a most valuable addition to our gardens. How easily grown! How free! How beautifully sweet! And how delightful in vase, epergne, posy, or bouquet! But those who grow Sweet Peas should aim to cultivate the larger and more varied varieties raised by Eckford during the past ten years, especially so of pale rose, pink, and salmon shades, like Princess Beatrice. I saw, at the last Warwick Flower Show, a bouquet made wholly of this variety, and a more fitting floral present from a lover to his sweetheart could scarcely be conceived. And as the Edible Pea is much bound up with the traditions of love and the action of lovers, the Sweet Pea, with its manifold varieties, can be appropriately substituted for it. The Pea is sacred to the patron of marriage, and probably this has led to their use in divination concerning love affairs.

Annual Chrysanthemums.

Then there are the annual Chrysanthemums—the varieties of C. tricolour or carinatum, and of C. coronarium, with the golden yellow oxeye or corn marigold, C. segetum—a British wild flower that is now largely grown as a cultivated plant for cutting from. The double varieties of C. coronarium are well worthy of being grown, not so those of C. tricolor, for they are ugly and uncouth, though the varieties shown by Messrs. Hurst & Son, at the last meeting of the Royal Horticultural Society, show a decided advance towards something better; while the single varieties are varied and very beautiful. Conservatives can proudly grow Lord Beaconsfield, crimson-maroon with golden ring and dark disc, while Liberals will wax jubilant over W. E. Gladstone—crimson and violet—described in one seed catalogue as "brilliant but erratic;" but I should grow both, for they are equally delightful to me as flowers, and one is quite as erratic as the other as seen in their disposition to sport.

Garden Marigolds.

By these I mean the cultivated varieties of the common orange Marigold, Calendula officinalis, a native of the south of Europe, which has been grown in this country for over four centuries. There are single and double varieties ranging from sulphur white to the darkest orange. Some of the single varieties are very pretty, and if any one would take the trouble to seed from the best of them—and I have seen in cottage and allotment gardens in Ealing some charming varieties—they could, in course of time, obtain some of a distinctly beautiful character, and fix them—that is, they would eventually come true from seed. There are three very fine double varieties that come quite true from seed—viz., Meteor, with lemon and white stripes on the petals; Prince of Orange, rich orange, sometimes self-coloured and sometimes striped with white; and Sutton's miniature orange, a dwarf-growing type, with very large deep orange flowers of great beauty.

Clarkias.

Then there are the Clarkias,—hardy annuals from California and North West America,—named after Captain Clark. I think that ladies who study home decoration with flowers would do well to grow some of the Clarkias for the purpose. They are charming for vases and epergnes, and if the flowers are a little fragile—though if cut young they will last a good time—they are yet produced with remarkable freedom, so that one can cut and come again. But they should prefer to grow the entire petalled varieties of C. pulchella integripetala, and not the type with its clawed petals. The best are integripetala, deep rose; integripetala marginata, margined with white; and the pure white variety also.

Poppies.

Poppies are very quick growing hardy annuals, and very showy; but the flowers should be cut young, as they are more lasting. If allowed to remain until fully expanded, the petals soon fall. The Shirley Poppies, now so popular in gardens, are simply improved varieties of our common scarlet field Poppy, so plentiful among the wheat crops. The French or Ranunculus Poppies are double forms of these, but both single and double present many variations in colour. The Carnation Poppies are double varieties of the Opium Poppy, which produces the large heads seen in the windows of druggists' shops. They are large, very double, and strikingly handsome; but the flower should be cut when half expanded, and the plants kept clear of seed pods. P. umbrosum, a dwarf species with crimson flowers, spotted with black, is an excellent annual variety also for cutting from.—*R. D.*

Stevia Eupatoria.—This Mexican herb is much more ornamental than several other species which one meets now and again in cultivation. The leaves are small and lance-shaped, or oblong, while the small flowers are at first pink, changing to white, and are borne freely in terminal panicled corymbs, not unlike those of a Eupatorium. It may be propagated by seeds, cuttings or division.

THE VEGETABLE GARDEN.

An Open-air Trial of Tomatos.

The greater part of the Peach border in front of a south aspect wall, in the Royal Horticultural Society's gardens at Chiswick, is this season occupied with a very extensive collection of Tomatos on trial. The cold and generally sunless nature of the past summer has been very unfavourable to the ripening of the fruits, and latterly the wet weather has favoured the spread of fungoid diseases. A fair quantity of the fruits have, however, already ripened, and what remaining fine weather we may have will greatly assist in bringing a considerable quantity of it into usable condition. By placing the fruits near the hot water pipes of a vinery or other heated structure, it has been determined that Tomatos grown out of doors become equally as good in quality as those which have been ripened under glass. It can hardly be said that Tomatos out of doors this season have had a fair trial, yet it may be urged that all have been on the same footing, and that the conditions have been a suitable test to determine the fruiting capabilities of the varieties under unfavourable circumstances.

About twenty sorts belonging to the old collection at Chiswick are planted at one end of the border by themselves; while we counted something like ninety lots forming a new trial, and which have been brought together from various sources. A large proportion of them must of course be very similar to other kinds in cultivation, and some there are which it is impossible to distinguish from sorts grown under different names. In their present condition as to ripeness it would, however, be impossible to arrive at a definite conclusion as to the distinctness or otherwise of a considerable number of them. It will be sufficient here to indicate their general appearance, fruiting capabilities, and utility for out-door purposes. We noted them on the 12th inst.

The undermentioned kinds constitute the new trial, or those that were specially obtained for the purpose last spring. That named Acquisition is dwarf habited, with compact and conspicuously flat leaves, whereas most other kinds have more or less curled leaves, or infolded at the sides. The fruits are medium sized, pinkish-red or ruby red, reminding one of the colour of Dedham Favourite, and borne in large heavy bunches near the base of the plant. There are two other kinds so like this in every particular that it seems impossible at present to separate them. They are Champion and Dwarf Champion, the latter from three different sources. The colour of the fruit would be somewhat against it, otherwise it crops well. An early kind is Dicksons' Cestrian, with medium to large sized, flattened, scarlet fruits, but the crop is not heavy. Northern Beauty has medium to large sized deep red fruits, and appears to crop well. Sutton's Abundance crops well, and has red fruits similar in size and shape to those of Ham Green Favourite. On the other hand Sutton's A 1., has a remarkably deep fruit resembling that of Chemin, and is a beautiful Tomato. Abundance (Hooper) bears larger fruits than those of Sutton's Abundance, but they are more or less corrugated. Several sorts have oblong fruits, resembling the old Chiswick Red; this applies to Italian Wonder, Merveille d'Italie, and Yorkshire Wonder. American Hybrid has medium sized red fruits, but only a fair crop. Two plants only of each kind are grown, and in the case of Mitchell's New the fruits were different on the two plants from some unacountable cause. An even crop is borne by Heaton House, a globose red fruit, above the medium size. The fruits of Volunteer are medium sized, globose, red, smooth, but not produced in great quantity. Sutton's Earliest of All is a dwarf sort with a heavy crop of medium sized red fruits, the lowest bunch of which was ripe. A fair crop of medium sized, flat, red fruits is borne by a sort named Empress, and Stevens' W. B. A. is only moderately fruited.

A large number of kinds may be characterised as strongly resembling the Perfection type as seen at present. The fruits vary from a medium to a large size, smooth or without ribs, and although the crop is generally a good average one, yet it is late in ripening during such a season as the present. The quality would probably be equally good in each case provided the fruits were ripe. Some of this type are New Stone, Bryson's Excellent, Daniels' Harbinger, Long Keeper, Daniels' Scarlet Perfection, Daniel's

Crimson Queen, May's Favourite, 490 (Cooper) Devonian, Waite's Glenhurst Favourite, Clibran's Tomato, Perfection Surpassé, Turner's Hybrid, and perhaps Barr's Long Keeper, but the latter seems earlier, having one or two of the lower bunches ripe, and a heavy crop. The unripe fruits of Daniels' Harbinger are remarkably pale in colour compared with the others while yet in the green state.

Cooper's Luscious proves to be identical with the Peach, and is notable for its downy skin and sweet though not always very rich flavour. The peculiar red colour proves objectionable to some, but colour is not always a guide to quality. The Flying Dutchman is a heavy cropping sort, dwarf, slender stemmed, with medium sized flattened scarlet fruits, of which about two of the lower bunches are ripe. It would evidently prove suitable for cottagers. The same might be said of Barr's Early Ruby, which is similarly dwarf, and early. Challenger and Race Americaine are other sorts with fine, deeply globose fruits comparable to those of Chemin. It bears heavily. Mayflower bears an even crop of medium sized deep red fruits; but Jackson's Favourite is rather thinly fruited. The same may be said of Bountiful, a fruit of the Ham Green Favourite type. Courtet has small, globose fruits apparently similar in colour to those of Dedham Favourite, but the crop is only fair. Gilbert Surpassé and the Hovey are others of the Ham Green Favourite type, cropping heavily, and one or two of the lower bunches are ripe. Arlington crops well and has globose or slightly flattened smooth fruits. Scovill's Hybrid has medium to large sized, red fruits, but few of them are yet ripe, although the crop is sometimes good.

A large number of sorts have more or less corrugated or ribbed fruits of the old Large Red type, and although they cannot compare in appearance with the smooth fruited kinds yet they are generally hardier in constitution and fruit more freely in the open air in many cases than varieties of the Perfection type. Smooth varieties of hardy constitution and free fruiting qualities may yet however drive them from the field. Earley's Defiance crops well and is only slightly ribbed. A larger fruit perhaps of the same type is Carter's Market Favourite, which crops well. Early Evesham Prolific is a small or medium sized kind with the lower two bunches ripe. Sutton's Main Crop is medium sized, ribbed, free fruiting sort. Dobbie's Prolific and Glamorgan are dwarf, heavily cropping sorts, with one or two of the lower bunches ripe when we noted them. Harefield Grove Selected has much larger fruits, but the crop is not a heavy one. Goldfinder is perhaps less deeply corrugated and the crop only a fair one. Orangefield and Rouge Nain à gros fruit are dwarf kinds with small, ribbed, red fruits. Those of Rouge Monstreuse d'Enigma are much larger but very ugly and deeply fluted. Rouge à gros fruit is evidently simply the well known Large Red. Rose Fruited Giant bears heavily, and probably differs from the last chiefly in colour. The Shah is a deep-red kind, but is only a moderate cropper, judging from the plants here. The same may be said of President Garfield, which has very large, ribbed fruits. Broad Leaved Dwarf is a large fruited, late kind. Abundance (Barr) has medium to large sized fruits and crops well. The same may be said of Hundred Day; but New Puritan fruits thinly.

A number of varieties are characterised by their small fruits, which might be useful in certain cases by way of ornament or variety. Yellow Pear-shaped, so called, has oval, golden-yellow fruits about the size of a small plum, and very pretty, but the crop is thin. Queen of Tomatos is red and truly pear-shaped. Sutton's Cluster and Cherry Red have small red fruits about the size of Cherries, but do not crop heavily. Sutton's Golden Nugget has small, oblong golden-yellow fruits and bears well.

Yellow varieties are now pretty numerous, but few of them bear heavy crops in the open ground at least in bad seasons. Carter's Harefield Gem is exceptional, and bears a heavy crop of large flattened, somewhat ribbed fruits close to the ground. Webb's Sensation is a stronger grower, with smoother fruits but later in ripening. The fruits of Daniels' Golden Eagle are flattened, deeply ribbed, and plentiful. Williams' Golden Queen bears large shallowly ribbed fruits, but few of them. The fruits of Sutton's Golden Perfection are of medium size and fine shape, but the crop is poor. On the contrary Sutton's Golden Queen is dwarf with a heavy crop of slightly ribbed fruits. The crop of Golden Eagle is thin; while the slightly ribbed fruits of Daniels' Golden Sunrise are large and late. Daniels' Golden Drop seems rather uncertain in character. A fair crop of large, slightly ribbed fruits are borne by Dicksons' Yellow King. Round Yellow is a medium-sized, globose, often ribbed fruit, produced in fair quantity. The same may be said of Golden Sunrise, but the fruits are smooth, with one or two of the lower bunches colouring. Barr's Golden Surprise has large, smooth fruits in fair quantity and just beginning to colour. That named Golden Rod has large, ribbed fruits rather thinly produced. A few of the kinds having been destroyed by disease are not included in the above new trial. The old sorts on the same border we may discuss on a future occasion.

JAPAN ANEMONES.

Hardy border flowers are still moderately plentiful in our locality, but a large proportion of them consist of the autumn flowering Phloxes (hybrids of P. paniculata, P. accuminata, and P. decussata), also perennial Sunflower, Golden Rod—species of Solidago, late-flowering Aconites, and some others of that class. Anemone japonica and its varieties, therefore, take a leading place as the choicest of hardy plants either for beds or borders. Comparatively a few years ago the ordinary rosy-purple form was the commonest in the northern counties, if indeed it was not the only one obtainable. Now the white variety (A. japonica alba), often styled Honorine Jobert, is gradually finding a place in every good collection of herbaceous plants. This will no doubt continue to be so, as summer bedding plants are getting less popular than they used to be on account of frequently recurring wet seasons, which entirely spoil such things as Pelargoniums and Lobelias of the dwarf or Cape type. Our moist climate induces a great amount of growth, but flowering is reduced to a minimum.

Some years ago the old Anemone japonica was considered worthy of a place as a bedding plant on the outskirts of the flower garden, but although not ousted by A. j. alba, the latter is more than a rival for it, on account of its more graceful and freer flowering propensities. The great size of the flowers in each case may well be compared to single Dahlias, than which they are hardier and cost much less expense, both in the matter of labour and artificial heat, the Anemones being perfectly hardy and easily propagated either in winter or spring. The rosy-purple flowers of A. japonica are rather smaller than those of the white one, but they have much more numerous and narrower sepals; and the plant is as a rule the dwarfer of the two, although that may be a matter of cultivation or richer soil sometimes.

For cut flowers the white one is the most popular, being well adapted for vases either by itself or mixed with other flowers with which it associates well. The long flower stalks enable it to be inserted without crowding, and the purity of the flowers when not spoiled by storms of wind and rain is very telling amongst blooms of a darker hue. The neat cluster of yellow stamens in the centre improves rather than detracts from the beauty of the whole. I cannot pass over another variety which, although less common, is yet highly ornamental and distinct. I allude to A. j. elegans, rightly so named, for the long flower stems are elegantly branched, and show off the rosy flowers to advantage. It is highly suitable for cut flower purposes, and exhibits an intemediate shade of colour between the two already mentioned. All the three blend together very well in mixture, and when set up with a few orange and scarlet single Dahlias, with sufficient foliage of some kind or other, the effect is charming. The rosy variety resembles the white one to a certain extent in having but a few broad sepals to each flower; but the plant grows taller than either of the other two.

All may readily be propagated by division in the autumn or spring, but the tall does not increase very rapidly, at least with me. In the spaces between the old stools and on the margins of the beds plenty of suckers may be found, and which if dug up may be transferred to nursery quarters, or new plantations may be made with the stronger ones during the present or next month. They will have plenty of time to establish themselves before winter, and they will flower fairly well next autumn. Japan Anemones are gross feeders, and will repay the mulching of the beds during winter with old hot-bed manure.—*S.*

Gleanings from the World of Science.

Vitality of a Fritillary Bulb.—In the year 1876, Mr. C. Packe, F.L.S., visited the Maritime Alps in quest of a yellow Fritillary which was found there by Moggridge, and coming across it in June of that year he collected five plants, three of which he dried for his herbarium, while the other two he planted in his garden. This occurred about four years previous to its introduction to this country for commercial purposes. In the spring of the two following years Mr. Packe visited his garden with the object of seeing whether his plants had come up, but there was no sign of them, and he concluded that the removal of them from their alpine home had caused them to die, as often happens when alpines are transferred to an uncongenial soil and climate. Thirteen years later, on the 5th of May, 1889, his attention was called to a yellow Fritillary which had made its appearance, and on examination proved to be the identical plant which he had collected. One of the bulbs carried a flower, while the other had leaves only. There were no other yellow Fritillaries in the garden, so there could be no doubt that the bulbs had lain dormant in the soil for a period of thirteen years. Various names have been applied to the plant, but F. delphinensis Moggridgei is the correct one.

Miraculous Berry.—There are about sixty species of Sideroxylon scattered through South Africa, Australia, New Zealand and one in Madeira. There are several of them in West Africa, known for their remarkable sweetness, and of these S. dulciferum is the most important, to which the name Miraculous Berry is applied. The fruits when eaten are so excessively sweet that it is possible to drink lime-juice, vinegar and tartaric acid without any unpleasant sensation. Several of the plants have been introduced to this country and grown in the economic houses of botanic gardens chiefly, but they are of no value for horticultural purposes, and can consequently never become popular here. They are either trees or shrubs, and require to get to some size before they will bear fruit.

The Crests on Odontoglossum.—The crests on the lip of different species of Odontoglossum are usually well marked and very varied, so that they often assist greatly in discriminating between one species and another. The function these crests perform is generally spoken of as an aid to fertilisation, that is, in compelling insects to enter the flower in a particular way when in search of food. In a very large number of them the crest is regularly forked in the centre of the middle line of the lip and also right in front of the main body of the excrescence, no matter how many branches or rays it may have on each side of the central fork. While the flower is in the bud state this central fork has evidently a function to perform; for it will be found that the gland to which the pollinia are attached, as well as the projecting rostellum on which the gland rests, fit nearly into this fork, and are thereby protected from undue pressure either by the lip in front or side ways. The depth of the ridges of the middle fork is sufficiently great to allow of the projecting rostellum and gland to be accommodated without being squeezed, and thus one of the most delicate pieces of mechanism of the flower is protected trom injury. —*J. F.*

Proliferous Sheep's Fescue.—The Brecknock Beacons are covered with vegetation to the very top. On the brow of the cliffs on one side, just above a perpendicular face, are several uncommon plants and some comparatively rare ones. On the top of the peaks the turf consists largely of Festuca ovina, and that to a great extent by the proliferous variety (F. o. vivipara), in which what should be seeds are replaced by plantlets bearing small green leaves capable of becoming plants when brought in contact with the soil. The reason probably why this particular variety is so common would be that the great altitude and exposure are unfavourable to the ripening of seeds. Being a long lived and durable grass the turf would not require very frequent renewing, and the plantlets of this proliferous variety would be quite sufficient to refill vacant spaces as they occurred. The wind would be quite sufficient to disperse the little plants. Some other mountain plants are occasionally or habitually proliferous, such as Saxifraga stellaris.

WHAT IS THE TOMATO?

THE future status of this remarkably popular product is largely dependent upon the acceptance of it as a fruit if also equally accepted as a salad vegetable. We may be told that as no man can serve two masters, so cannot a Tomato be two diverse things. A man can, however, serve two masters under certain conditions equally well; but he cannot equally serve God and the devil. Equally a Tomato may because of its homogeneous character serve two distinctive purposes, but if it be one thing only then it cannot be the other. Now those who have discussed this topic in these columns seem to have done so from the narrowest, that is the Exhibition point of view. The general public, who constitute the chief consumers of Tomatos, however, view the topic in a very diverse light. Whilst the gardener has been vowing thick and thin that the Tomato is and can only be a vegetable, the public have made it a cherished edible fruit, and eaten it as a ripe fruit uncooked, practically universally.

It is doubtful whether in the history of the development of fruits and vegetables there is to be found any case in which a variety or kind has burst into popularity with such astonishing force as the Tomato has, and that popularity is far more due to its acceptance as a ripe edible fruit by the public than to any other cause. Why is this? The fruits when ripe are soft, semi-sweet, handsome, richly coloured, and are esteemed especially enjoyable by all endowed with natural palates. Some of our best fruits are too sugary, some too acid, some too insipid, some too strong-flavoured. Probably the best, most wholesome, and least unduly acid, sweet, or strong-flavoured fruit we have is a good ripe Apple. The Tomato comes near to it in its comparative freedom from strong features of any sort. It is soft, mild, and pleasant.

Had we not throughly dammed its reputation by making it appear as a vegetable only it would long since have graced our dessert tables. As it is, efforts are being made to produce varieties which shall, by virtue of their clustering beauty and excellence, win their way to the dessert table. A very beautiful form for this purpose is Sutton's Golden Nugget—a plum-shaped cluster variety, the which it would be utterly absurd to class as a vegetable, and merits a high place in any fruit collection. But the smaller fruits of Perfection, Conference, Golden Gage, and many others, are delicious for ordinary eating. I have never enjoyed Tomatos in a cooked state with one tithe the zest that I have when gathering them from the plant and eating them deliciously fresh.

I am astounded that anyone should write of ripe Tomatos as being acid and pungent in taste. There is not one half the acidity in Tomatos that there is in Gooseberries, Currants, or many Strawberries; there is no pungency whatever. Of that element the Tomato is peculiarly innocent, whilst it is generally far more piquant than are nine-tenths of the Melons eaten as fruits. A good Turnip is better than a poor Melon, whilst a good ripe Tomato is worth more than a thousand of such fruits. Are apples less fruits because we make sauce of them, or Pears less so because some are excellent, indeed only eatable, when stewed.

Let us look at the matter in a common sense way and determine it as sensible people. The fact is the Tomato is as much a fruit as an Apple, a Pear, or a Melon, and it is as much a vegetable as a Cucumber, a Marrow, or the fruit of the Egg Plant. Obviously we must allow it to be exhibited in either sections, for it is both a fruit and a vegetable without doubt. —*A. D.*

TREGULLOW.

THE pretty illustration published recently in *The Garden*, together with Mr. Conybeare's lucid observations on the Yews, Conifers, and Rhododendrens at Tregullow, Cornwall, recall happy reminiscences of my travelling days. Such specimens, however, are not rare in the fine old gardens of the West of England. To most people all that country, anciently known as Corinia, especially west of the Tamar, is a terra incognita so far as gardening is concerned, nevertheless the district is quite an Eldorado in the rarer kinds of half hardy subjects, Mr. Conybeare's neighbourhood being very rich in luxuriant specimens. Here the Camellias assume the dimensions of trees, and the Desfontainea spinosa is a common free flowering shrub; there also are the finest trees in the land of Benthamia fragifera, as well as a famous specimen of Sciadopitys verticillata, whilst the Azalea indica is hardy in many of the deep, calm, sleepy dells.

In addition to the above I have noted some of the most noteworthy plants, which, when planted in favourable positions, thrive in the open air in those parts, as follows:—Agaves, Aloysia citriodora, Aponogeton distachyon, Azara microphylla, Berberidopsis corallina, Buddleia globosa, Chamærops humilis, Choisya ternata, Clianthus puniceus, Colletia cruciata, Daphne indica, Diplopappus chrysophylla, Dracæna indivisa, Elæagnus japonicus, Embothrium coccineum, Eriobotrya japonica, Escallonias, Erythrina crista galli, Eulalia japonica, Eugenia Ugni, EurybiaGunniana, Fabiana imbricata, Griselinia littoralis, Hedychium Gardnerianum, Lapageria rosea, Lardizabala biternata, Leycesteria formosa, Magnolias Metrosideros floribunda, Mitraria coccinea, Myrtles, Olearia Haastii, Orange trees, Ozothamnus rosmarinifolius, Philesia buxifolia, Photinia serrulata, Phormiums, Pittosporums, Swammerdamia Antennaria, Tropæolum tuberosum, Veronicas, &c.—*W. Napper, Chelsea.*

THE BON CHRETIEN PEAR.

OUR most popular Pear is Williams' Bon Chrêtien. Ask a Londoner what is his ideal of a good Pear, and he will at once say Bon Chrêtien. No Pear is so largely hawked about the streets of London as this. It is largely grown in the numerous fruit gardens which form a fringe to suburban London; and enormous quantities of it come into the Metropolis, and this season more than for years past. It is an uncertain bearer—that is the worst of it. But then who would not grow it. As a melting pear, rich, buttery, juicy, it is perhaps without a rival. But it will not keep any length of time; it mellows rapidly and soon decays. It should be gathered before it begins to turn yellow, and then it will keep for a few days. But several of our best early Pears will not keep very long.

To show the popularity of this well-known Pear and the high estimation in which it is held generally, if anyone will turn up the report of the Pear Congress held at Chiswick in 1885, they will find that in the various tables of lists of varieties selected by the exhibitors as best suited for cultivation, arranged in the order of selection, Bon Chrêtien stands at the head of the September Pears in almost every case. In the return made from Scotland it comes into the July and August, as well as into the September Pears. In the poll taken for the whole of Great Britain, it came third; Marie Louise coming first, and Louise Bonne of Jersey second. In the selection for orchard culture it heads the poll, being selected fifty times. In the case of the Scotch Apple and Pear Congress, held also in 1885, Bon Chrêtien stands fourth in the list of the best thirty dessert Pears; second in the list of the best thirty for bushes; and also in the list for the best twenty for Orchards. In the last case the popular Hessle—the Hazel Pear of the London fruit growers—heads the list by a large majority. This variety takes its name from the village of Hessle, in Yorkshire, where it is said to have been first discovered.

Dr. Hogg, in his *Fruit Manual*, gives us an interesting history of our popular Bon Chrêtien Pear. He states that, "This esteemed Pear was raised a short time previous to 1770 by a person of the name of Wheeler, a schoolmaster at Aldermasten, in Berkshire, from where it was obtained by Williams, the nurseryman of Turnham Green, Middlesex, and being by him first distributed it received the name it now bears. In 1799 it was introduced to America by Mr. Enoch Bartlett, of Dorchester, near Boston, through whom it became generally distributed, and has ever since been known by the name of the Bartlett Pear. There it attains the highest perfection, and is esteemed the finest Pear of the season."

As far as can be ascertained it would appear the cultivation of the Pear in this country did not begin as soon as that of the Apple. It is also held that the Pear is less hardy than the Apple, and cannot accommodate itself so readily to varied soils. The uses of the fruit are also less multiform, and very few of the sorts allow of being kept through the winter. Mr. Leo Grindon tells us that seedling Pears take a much longer time to become fruitful than seedling Apples. "They require," it is said, "fifteen to eighteen years." This being so, it is the work of a lifetime to raise seedling Pears, requiring as much patience as that of seedling Tulips. But, as Mr. Grindon further remarks, this may be connected in some degree with the long lease of life, the duration of the Pear being equal to that of many timber trees.—*R. D.*

WHAT IS A HARDY PERENNIAL?

THE word perennial simply means lasting through the year; but when used in a botanical sense it means lasting more than two years, in contradistinction to annual and biennial, lasting one and two years respectively. Now, it follows that a perennial plant may mean anything of more than two years' duration, whether herb, shrub or tree. Further there are all degrees of hardiness, so that the question becomes very complicated. Your correspondent Mr. J. Kipling, p. 17, is quite correct when speaking of Hydrangea paniculata grandiflora as hardy in the south after such a severe and protracted winter as the past, but whether it is hardy in the north of Scotland is another question. It has been known to some southern growers as a hardy plant for many years past, while the majority of gardeners probably know it only as a pot plant for conservatory decoration. There seems a want of enterprise amongst gardeners of the present day, to test the hardiness of favourite plants, otherwise the true nature of this Hydrangea would have been well known over the length and breadth of the land, since its introduction dates back to 1874. It is perfectly admissible in garden borders, because it associates well with the usual occupants of that part of the garden, and is occasionally so grown. I perfectly agree with the judges, however, for disqualifying it in a stand meant for herbaceous perennials.

The garden Hydrangea (H. hortensis) is not strictly hardy even so far north and inland as London, although it may be considered so along the west and south coasts of England, where it flowers to perfection in the open garden every year. Exhibitors from those parts might show it in London, Liverpool, Manchester, or elsewhere, and affirm it to be hardy. The compilers of schedules, if they wish to limit the term hardy to the behaviour of plants in their own locality, should say so; and if judges from a distance were employed they might be empowered to ask the advice of a good local referee in case of any dispute as to a point of hardiness.

When hardy herbaceous perennials are meant, it should so be stated in the schedule, and there could be no dispute as to the inadmissibility of Hydrangeas, for they are clearly shrubs. Some judges object to Lilies in an exhibit of herbaceous plants, on the ground that they are bulbous plants, while others admit Daffodils and Fritillarias; but all bulbous plants are as clearly herbaceous as the Meadow-sweet (Spiræa Ulmaria). Hardy border flowers as a limiting term is not sufficient to define what is usually meant by the framers of schedules; because the Moutan Pæony (Pæonia Moutan), Polygala Chamæbuxus, Lavender (Lavandula vera), species of Thyme, and many others are often grown in herbaceous borders, yet they are truly shrubs. A herbaceous plant is often described as one which dies down annually to the roots; but many truly herbaceous plants are strictly evergreen, including species of Arabis, Aubrietia, Candytuft, Saxifraga, Sedum, Helleborus niger, Achillea tomentosa, A. umbellata, Alyssum, Armeria, Arenaria, Dianthus, Wallflower, Cerastium, and others too numerous to mention.

What then is a herbaceous plant? some may feel inclined to ask. The term herbaceous includes all plants whose tissues are too soft to come under the term of woody. In other words the stems of herbaceous plants contain a relatively small amount of woody matter, or it may be no lignified tissue at all. Nature places no exact limit between the two classes, herbaceous and woody plants, for there is every degree of gradation between the one and the other. For instance the wallflower in a wild state has stems of a truly woody character. This, however, need not trouble the framers of schedules; and when defining what they want, it would meet the case to say "hardy herbaceous perennials," limiting the term if they so desire by adding the words "exclusive of bulbous plants," "alpines," or otherwise, as the case may be. Exhibits coming within the meaning of those words should not be disqualified, and it would then rest with the judges to determine which was the best or most appropriate exhibit.—*Taxus.*

WALLICH'S LILY.

The ordinary form of Lilium Wallichianum bears as a rule a single flower, or occasionally two or three on a stem. The variety Superbum, when well grown, bears five, seven or nine, as may be seen in Messrs. Hugh Low & Co.'s nursery at Clapton. One strong bulb in a pot threw up three stems bearing in the aggregate seventeen flowers. The stems vary from 3 ft. to 6 ft. high, and are closely furnished with linear leaves from the base close up to the flowers; in fact when numerous flowers are produced, the greater number of them arise in the axils of the upper leaves in a subverticillate manner. The flowers themselves are similar in shape and formation to those of L. longiflorum, but longer, measuring 7 in. to 9 in. long. They are white with the basal portion of the tube externally inclined to be green, while the interior from the throat downwards is a clear pale yellow. The long anthers are of a dark brownish-orange. The large specimens are grown in 24-size pots under glass, while a large quantity of much dwarfer plants are stood in the open air. A notable fact about the Lily is that large quantities of bulbils are borne in the axils of the leaves, by which the plant may be propagated to any extent by those who like to take the trouble. The species is a native of the sub-temperate central Himalayas, and would probably prove hardier than is generally suspected if the bulbs were planted 6 in. below the surface, and surrounded with a handful of silver sand. Some bulbs planted out in the open air at Clapton survived last winter without protection other than that afforded by the soil.

Vanda Hookeriana *(See p. 58.)*

THE POTATO DISEASE.

In an exceptionally dry summer, such as that of 1887 (Jubilee year), we never heard of Potato disease, but taking the average of seasons it is more or less present, and in a wet season like this we may always look for its appearance. A new remedy having been tried with success in France, we determined upon trying it here.

In our Hoopern Nursery we selected a fine open piece of ground, of an oblong-square shape, and planted ten varieties of Potatos side by side, in rows running the short way of the piece. We staked off eight feet at each end, right across the rows, leaving a large piece in the centre. The eight feet at the top we treated on the high-moulding method, that is, casting up the soil from between the ranks and covering the haulm with it to prevent the disease going from the foliage to the tubers. The eight feet at the lower end we treated according to the French method, and the middle piece we left alone. We have now dug all the sorts but one, which we have left standing for anybody interested to see for themselves.

The result is remarkable. The middle piece, which was not treated in any special way, is very much diseased; the top piece, which was high-moulded, and had the haulm buried, was a little diseased; while the bottom piece, treated on the new system, was, practically, not diseased at all, there being only a few diseased tubers, they being only two of the varieties (the Dean and the Village Blacksmith), which seem to suffer most all through the piece. The proportion of sound Potatos yielded by the three courses was, roughly speaking, for the French method, 6; for the earthing up the haulm method, 4; and for the "leave alone" course, 3; thus proving that the chemical treatment yielded twice the weight of tubers that the "leave alone" course did.

The cost of the mixture, of which we only applied one dose on the 24th of July, was about 5*s*. per acre, the prescription being—3 lbs. of sulphate of copper and 1 lb. of quicklime to 20 gallons of water, the solution to be applied at the rate of 140 to 150 gallons per acre. (Dissolve the sulphate in water in a wooden tub, slake the lime in another tub and mix it with the copper solution; the stuff can be applied with a syringe or a spray pump.) Potatos with curly leaves, such as Veitch's Ashleaf Kidney, should be treated with a rather weaker solution, because they retain on the foliage much more than the smooth-leaved sorts (such as Puritan) do.

As a remedy the new treatment is a success, but it was something more than that. Where it was applied the haulm remained longer green, grew more vigorously, and yielded a much heavier crop, apart from the great advantage of the tubers being practically free from disease. It thus acted as a stimulant and fertilizer, as well as a preventive. —*Robert Veitch & Son, Exeter.*

Plants Certificated in Ghent.—At the meeting of Society of Belgian Horticulturists at Ghent on the 15th inst. Certificates of Merit were awarded to Mr. L Desmet for Caraguata Peacocki, to Mr. A. Van Imschoot for Cattleya velutina, and to Mr. Jules Hye for Odontoglossum species.

WHAT IS A FRUIT OR A VEGETABLE?

At p. 4, "Francis" makes a statement that "all plants in the vegetable kingdom produce fruit." If such statement applies to flowering plants only, then it would be correct, and it would also include all the more highly developed of the flowerless members of the vegetable kingdom. There is a large section of lowly developed vegetable organisms, however, which have never been known to produce anything comparable to fruit, but increase by dividing into two equal pieces, each the counterpart of the other, or by the liberation of organisms which are termed zoospores. Probably, however, "Francis" referred merely to flowering plants.

The edible portion of the Potato plant is the underground tubers, which are not fruits in any sense of the term either botanically or popularly speaking, and it was probably an oversight when Potatos were referred to as fruits. They are really thickened or tuberous portions of underground branches, and arise in the same way as normal branches except that they are developed beneath the surface of the soil, and serve as a means of continuing the life of the plant after the rest dies away; but they are no more fruits than the runners of a Strawberry plant are. The fruit of the Tomato corresponds to the fruit of the Potato, which is popularly termed a "plum" or a "berry" in different parts of the country.

The real fruit of the Potato is of no use as human food, and this is the point dwelt upon in discussing the question as to what should be considered a fruit or a vegetable. Furthermore, the method of using them is, by a consensus of public opinion, held to determine as to what class any particular product should belong, independent of any botanical view of the matter. Now, "Francis" considers Tomatos are vegetables, but that the decision should be left to the common sense of the judges at shows. The use of the Tomato is still a growing one, and it does not yet appear to what extent the British public will consume it in the raw state, so that there is still some uncertainty as to whether it will yet be largely employed for dessert purposes. This may, and does cause a little hesitation on the part of the judges as to whether it should be admitted in a collection of fruit. Many buyers of Tomatos prefer small or medium-sized fruits in order that they may use them for dessert purposes, and there seems no reason for discouraging a growing taste in that direction. Why then should they be excluded from a collection of fruit at exhibitions?

I quite agree with "An old Judge" that the Tomato is not (as yet) generally accepted as a dessert fruit; but I should not on that account disqualify an exhibit containing it. On the contrary, however, I should not give a dish of Tomatos the same number of points as a Pineapple, Melon, Grapes, Peaches or other fruits of that high order of merit. In a large collection of fruit the Tomato would, however, find a place, and increasing popularity in its favour should sanction this use. A class is sometimes set apart for Tomatos in exhibition schedules, under the heading of fruit; and when this is the case they can be judged upon their own merits. The arrangement is a just one, and greatly to be recommended.

At p. 39, "J. Carter" is also strongly of opinion that Tomatos should be classed as vegetables where they have considerable weight with the judges. The question hinges on the fact of the wide-spread use of them in a cooked state. But the same might be said of Apples, Pears, Plums, and Cherries (and even the Morello is now used for dessert purposes and relished by some), Gooseberries, and other fruits which are cooked and preserved in various ways, both in a ripe and unripe state. The Tomato stands almost alone amongst berried fruits in being classed as a vegetable. The Globe Artichoke is eaten before it reaches the fruiting stage. The fruiting part of the Mushroom is the only part eaten, yet it goes with vegetables. Rhubarb, which is only utilised in the same manner as cooked or preserved fruit and in the form of pastry, is classed amongst vegetables, and sounds rather paradoxical.

"B. L." objects to the taste of Tomatos, but almost every one does so at first acquaintance; and the liking for them grows with use, and frequently becomes strong. At the same time, there are people who cannot relish Melons or Figs; and some who like the latter in the dried state seriously object to them when presented to them in a fresh state.—*J. F.*

THE HERBACEOUS BORDER.

Choice Plants in Flower.

ANEMONE JAPONICA ALBA.—Only those who grow this plant in quantity can understand or realise the effect it is capable of producing. Its stature depends to some extent upon the latitude in which it is grown, but when planted in good soil and accorded liberal treatment it varies from 2 ft. to 3 ft. high, producing a proportionate amount of bloom. In dry summers the ground should be mulched with cocoa-nut fibre, or better still old hot-bed manure, and liberally watered with the hose occasionally. None of this treatment, or at least no water, was necessary during the past summer. Propagation may be effected by means of the numerous suckers thrown up from the roots.

ASTER NOVI-BELGI LÆVIGATUS.—The stools of this beautiful variety increase with moderate rapidity, and while it is not strongly inclined to become weedy, there is no difficulty in getting a stock of it for private garden decoration. The flower heads are large, rosy-pink, and freely produced; but not the least of its valuable properties as a garden plant is its dwarf stature. Healthy, well-grown plants vary from 12 in. to 18 in. high, while the type grows 5 ft. to 6 ft.

ASTER ACRIS.—Notwithstanding the fact that this species is a European plant, and introduced as early as 1731, it is yet one of the most conspicuous and ornamental of the dwarf kinds. There are several forms of it, and amongst others a dwarf kind about 12 in. high, and a tall one about double that height. Both are useful for border decoration, but the tall one blooms in the greatest profusion, and is therefore the most conspicuous and ornamental. A bed of it upon the grass is by no means to be despised during the autumn months.

LYTHRUM ALATUM.—Of the smaller species of Loosestrife, none of the erect growing kinds are more choice or ornamental. The slender, twiggy, upright stems are four-angled and red bearing ovate leaves, which are very small and neat compared with the more common kinds in cultivation. The large purple flowers are borne in the axils of the leaves all along the upper part of the stems. Cuttings may be struck during the summer months, or the old stools divided in spring.

ANDROSACE LANUGINOSA.—The continuous flowering nature of this plant make it one of the most desirable of all the species of Androsace. The low trailing stems, together with the leaves, are covered with silvery white woolly hairs as the specific name implies. The flowers are pink with greenish-yellow eyes changing to red, while old flowers fade almost white. There is also a white flowered variety showing the same changes in the colour of the eye as in the type. Cuttings root freely under a hand glass during the summer months, in sandy soil.

PLUMBAGO LARPENTÆ.—The pleasing dark blue flowers of this species are very acceptable during the autumn months; and so long as the weather is fair a succession is kept up for a considerable time. During stormy weather not a flower may be seen, yet after a few hours' sunshine on a still day a fresh set of flowers expand, making the plant look as fresh as ever. Cuttings are easily obtained during summer, and the plant is hardy and long-lived. The rockery is a suitable place for it.

HYPERICUM REPTANS.—The habit of this Himalayan plant is that of our native H. humifusum, but enlarged several times, with a solitary, and clear yellow flower of relatively large size for the plant terminating the stronger of the shoots. The latter are perfectly procumbent, forming a carpet covering the ground, red, and furnished with spathulate leaves. It is well adapted for tolerably moist ledges on the rockery, or for pot culture. It is propagated by cuttings or division, the latter method in spring.

GERANIUM WALLICHIANUM.—The length of time over which this continues to flower should make it a favourite with everybody who has a moist bank in a tolerably sunny position on which to plant it. The stems are procumbent, and continue to lengthen and produce flowers all through the summer and autumn months. The flowers are of good average size and rosy-purple with darker veins, and show a blue shading, sometimes a considerable amount of it either when at their best or when fading.

COLCHICUM SPECIOSUM.—Those who like the autumn flowering species of Colchicum should not omit the present one from their collection. The flowers are of very large size, and rich rosy-purple with a white centre, and in several respects bear a considerable resemblance to a large flowered species of Zephyranthes unaccompanied by foliage.

CAMPSEA ASHE.

CAMPSEA ASHE, the seat of the Hon. W. Lowther, Wickham Market, is one of those grand old English homes which all Englishmen are so proud of, for they give almost as much, if not more real pleasure to those who have the privilege of looking round them than they do to their owners. You may talk about magnificent scenery and the thousands of wonderful things to be seen in foreign countries, but it is questionable if there is any scenery in the world so pleasing and grateful to the eye as a park like that at Campsea Ashe, studded as it is with stately trees, grass such as can only be seen in the British Isles, deer roaming about at their own sweet will, rabbits frisking about and enjoying themselves like a half-starved man at a wedding breakfast, and to sum up all these sylvan delights, accompanied by the glorious music of our feathered songsters. You may call it high faluting or low faluting, but the fact still remains, that a real old English Park is bad to beat. I do not think that there is anyone who likes herbaceous plants better than I do, that is when they are grown in their proper places; but to see these plants grown in small beds, and in other places totally unsuited to them, almost makes me wish that swearing was added to my vocabulary.

There are places in the Eastern Counties where herbaceous plants quite ruin the looks of the place through growing them in places unsuited to their requirements. Now, if people would only take a common-sense view of these plants and treat them in the same manner as they do at Campsea Ashe, these lovely plants would soon become far more popular than they are. Do not run away with the idea that Campsea Ashe is only noted for herbaceous plants, for a glance at the prize lists of horticultural shows will quickly prove that the gardener (Mr. Andrews) is equally successful in other branches of his profession. I shall only be able to give a short list of plants grown. It may be as well, though, in the first place, to give you Mr. Andrews' advice in a nut-shell—if you have any plants that do not thrive, try and find out if the position for them is wrong, if the soil is not suitable, etc.—and remember that the more trouble you have with a plant, so much more will be your enjoyment when you are successful, for the more difficulty a thing is to attain the more we enjoy it.

The first plant that struck our attention was Lobelia cardinalis, hundreds of it growing in the greatest luxuriance, with stems as large as asparagus heads. They were growing in a rich moist loam. Alstrœmeria aurea, with bright orange-coloured flowers, quite hardy, splendid for cutting, was very fine. Asphodelus ramosus, with stems from 3 to 4 ft. high covered with white flowers, a grand plant for shrubberies and mixed borders. Bocconia cordata, one of the most beautiful hardy ornamental plants that can be grown; it grows from 5 to 6 ft, high, with very peculiar brownish-white flowers. Campanulas were a perfect host, especially the chimney Campanula (C. pyramidalis). Carnations we need not mention, for Campsea Ashe has always been noted for these beautiful flowers. Centaurea macrocephala, a bold growing perennial with deep yellow flowers, was very fine. Chelone Lyoni, with spikes of purple flowers, is another grand plant for a border. Dracocephalum Ruyschianum japonicum, with whorls of light blue flowers, was very beautiful. Echinacea purpurea, an autumn flowering perennial with flowers from 3 to 4 in. across, of a deep reddish purple colour with a black centre, should be in every collection.

The Doronicums were over, but they must have been quite a feature in the spring. What to do I don't know, for I have not mentioned two per cent. of the good things that I saw, for my space is almost taken up, so I must give a list without any comment. Erigeron aurantiacus, Eryngium giganteum (ivory thistle), Erythræa diffusa, Eupatorium purpureum, Funkias, Galegas, Gaillardias, Gentians, Geums, Gypsophilas, Helanthus, Heleniums, Heuchera sanguinea (a perfect gem; get it at once), Inula glandulosa, and Lychnis chalcedonia, fl. pl.—*R. McIntosh, gardener, The Lodge, Felixtowe, in East Anglian Times.*

FRUIT NOTES.

THE PEAR CROP.

Can it be doubted now that after all the fruit crop of the year is that of Pears, for a finer, heavier, or more general one has hardly been known in the memory of man. We shall have Pears so plentiful that presently the markets and streets will reek of them, and they will be too cheap to be worth the gathering. It is an odd contradiction no doubt, but it is so, that many who grow Pears largely have so much reason to deplore these very abundant crops, but it is so for the simple reason that with a glut of any fruit the ruling prices are so low that labour in gathering and marketing seems to eat up all the returns. Those who have good crops of keeping Pears this year, and that again means almost everybody but the ordinary market grower, may by careful gathering and storing find in November some more satisfactory prices for the fruit than will be found for the next two months. Beyond the fact that prices must be low, there is also the unpleasant fact before us that such heavy crops must produce considerable exhaustion in the trees, and it will be some two or three years hence before an ordinary crop will again be had. That is a fact that cannot be too strongly deplored, and can only be mended by very severe thinning of the fruits in an early stage of growth, a very costly process, because necessarily a slow one. I have seen some wonderful crops of Pears this year, on trees which very seldom bear good ones. The Pear trees at Chiswick, all fairly close pruned pyramids, handsome and now getting rather old, are neary all carrying unwonted crops, and are for once full of interest for Pear growers. One of the finest Pear crops I have ever seen is just now hanging on the huge trees in Mr. R. D. Blackmore's garden at Teddington in the Thames Valley, where trees of all sorts and sizes are grown literally by thousands, and present a Pear gathering which is almost unique.—*Doyenné.*

PEAR BEURRE GIFFARD.

The lateness of the season has had the effect of retarding the ripening of this variety, which is now in season, whereas in ordinary summers it ripens in August. The fruit is about medium size, regularly pear-shaped, with a smooth greenish-yellow skin, finely dotted with russet. The flesh is white and possessed of a sweet aromatic flavour, without any grit, and having a very small core. The flavour improves near the stalk. The tree is a moderate grower and therefore is well suited for working on the Quince stock. It is said to be a shy bearer, but a pyramidal tree at Devonhurst, Chiswick, fruits well in most years.

HOMAGE TO A WEED.

BEFORE despising the meanest and least conspicuous of our native weeds, it would be well to take into account their uses, if they have any (and who can deny that they have?), their visitors to which or to whom they afford food, amusement, or serve to draw out or educate the finer perceptions of human nature. All of these uses can be ascribed to the Wild Chamomile (Matricaria Chamomilla), and indeed to the weediest and least conspicuous form of it, namely, that in which the rays are wanting, and the flower-heads at their best are only greenish yellow. Some young ladies, with a bunch of scarlet Tropæolums and similarly coloured Pelargoniums in their hands, evidently considered that something was wanting to tone down the glaring colour of the flowers. Coming to a broad patch of the rayless Wild Chamomile, they collected a quantity of the weed with its finely cut leaves, and having mixed it with the flowers, apparently felt satisfied. A little later on a flock of young ducks busied themselves in squatting amongst the Wild Chamomile plants, nibbling at them with evident enjoyment, as the same class of fowl may be seen to do with the true Chamomile (Athemis nobilis) on Reigate Common. The Wild Chamomile has a similar but fainter odour than the latter, and this smell may probably be the agency that influences the class of visitors just mentioned. The same patch of plants was the object of attention from great flocks of sparrows, when ripening its seeds a few days ago the sparrows were in quest of the seeds, for which they showed a great relish. In all this, we have an abundant evidence of sincere homage to an inconspicuous British weed.—*Viator.*

WATERING & SYRINGING, ITS USE AND ABUSE.

(Concluded from p. 39.)

No one is more in favour of having the vineries well charged with moisture than I am; and during the long winter nights, and well nigh into the spring months, when the forcing of Vines incurs constant and hard firing, I have worked more from ten to eleven at nights with the syringe in damping forced houses of every description, much more freely than in any hour during the afternoons at the same time of the year, and with good results. Depend upon it, there is no worse practice amongst Vines than that of a man on duty fetching in large tins of water and dashing the contents five or six times daily carelessly upon any available surface of the borders, and then shutting the door until six in the morning, with the foliage parching under the influence of hot pipes.

But some may say, I would not saturate the foliage of my Vines at nights under any circumstances. Quite so, neither would I; but saturating the foliage would not be judiciously damping it; and to such I would say you had far better give a little to the foliage and a great deal less to an already saturated border, brought about by the too common practice of so-called damping down. If Vine borders and Peach borders are properly and freely watered from the time the fruit is cut until the foliage is shed, it is astonishing how little is required during the early periods of growth. This applies to forced houses especially. Mid-season houses also should receive much less water up to the month of June than we are aware of. Root action is slow for the first two months, and the supply of water should be moderate accordingly; and when we consider the frequent dampings each day (some three times or more), and ventilators seldom opened on account of cold sunless weather, it will not be difficult to find out when, and at what period, fruit borders are in danger of becoming much too wet, and root action much slower in consequence. This result of sluggish root action in the early stages brings us face to face with the very probable cause of shanking in Grapes—a problem that has never yet been satisfactorily solved by any of the most successful fruit growers.

To-day they say it is through sour and too wet borders; to-morrow they will say the crop is too heavy; and if you assure them that neither is at fault they will then fold their arms, and declare it to be a very mysterious affair altogether. But my own opinion is that the more evenly balanced root action is with the advance of growth above, the nearer we shall be to the rightful interpretation of this mysterious shanking. Heavy cropping will undoubtedly produce it; but the fact remains that the most serious cases of shanking are found in houses where the crop is light or only a fair one. I am satisfied of this, that where root-action is good and the bulk of the roots within the first foot of the surface, we may crop fairly heavily and with no fear of loss. But do not misunderstand me on the point of light crops faring the worst. What I mean and strictly adhere to is, that if Vine borders are in an unfavourable condition through excessive waterings at the wrong period, thereby incurring the certain unhealthy state of the roots, you may leave six bunches only on such Vines and they will shank more or less. Given a healthy and vigorous Vine, you may leave a dozen good bunches and all will finish well. Therefore, I believe to avoid shanking we must aim at constitution in the plant; and to get constitution we must look well to the compost of borders; and where the borders are of the right texture do not poison them by treating the roots as though they were drunkards; because for a period of four or five months they are very moderate drinkers, while for the other seven they need a good extra supply.

Peaches will take any amount of water; we are not so likely to injure the roots of Peach trees as those of vines, some one says. Well, perhaps not; but any amount is outside of the limit with me; a good supply when they require it, and less at given periods is quite sufficient. I am quite as much opposed to excess of water to Peach trees as to an Erica. Excess in anything can only have one effect either with the vegetable or animal kingdom, and that a bad one. If you direct me to a Peach house where a gardener delights in copiously watering and manuring, I will show you a border with cankered roots and suckers constantly springing up. What, then, is a safe indicator to all these stipulations? The principal and safest guide begins with a knowledge of the constituents and formation of borders, whether shallow or deep, whether drained effectually or badly, whether the compost is light and porous or heavy, and lastly whether the trees are growing under the influence of the winter months and early spring or under the more favourable conditions of light sunny weather.

All these conditions must of necessity be taken into earnest consideration before we can expect to get at anything like a safe principle on which to work. As with Vines, so with Peaches; from December or earlier, when our first houses are started, it is, I repeat, astonishing how little watering is needed until the stoning period; but after that time increased supplies are safe, and as the ventilators are more frequently opened so will evaporation increase and extra water become essential according to the strength of the trees, and the state of the border. Manure with discretion, and when the crop is approaching its full size water should be modified to prevent over-development and damping of fruit. Syringing should almost cease when fruit is ripening, and after the crop is gathered syringing can be done freely and liberally, and at this period when ventilation is constant night and day frequent waterings are beneficial and manure water also. This is the period when very large numbers of gardeners used to bring failure upon themselves by neglecting the needy water from the time the crops were gathered until forcing began again; and then to their great dismay wholesale shedding of buds used to follow. Happily this old practice of resting Peach trees (but what in reality was ruining them) has been superseded by a more common-sense plan, that of never allowing the trees to become dry at any period of the year.

That Melons require careful and good management none will deny, and more particularly during a dreadfully wet summer such as we have had this year. Of late years I have not been requested to grow them, but in earlier years of my practice Melons were always wanted over as long a period as possible. I have cut them from April to November inclusive, but October generally saw the last of them. "How have your Melons done this season?" is a common inquiry amongst gardeners. From the very fact of such an inquiry being made we at once comprehend that Melon culture is sometimes a tedious affair, if not perplexing; and it is so very frequently. Those who have had to produce good Melons, and keep up a constant supply during such a season as this, under conditions not so favourable as they might be (unsuitable quarters for instance), know something of the perplexing points in their culture without asking what I mean. Damp and canker are the most troublesome destroyers known to me, therefore to ward off the possibilities of being overtaken by this state of things is what we have bear to in mind.

The weather, which rules so much, has great influence upon the well-being of Melon plants. I have known what it is to squat under glass, in high temperatures, dressing wounds upon the stems of Melons, trying to save this fruit and that fruit, sometimes with success and others not; but our business is to avoid all this. How to do it is the problem. My opinion on this may not be worth much, but here it is. Prepare the bed or mounds in which the plants are to grow in such a way that the roots may find sufficient food to support a plant until it attains a good strength with as few waterings as is possible and until the crop is well advanced. Let the syringe be used with caution. When young men are entrusted to syringe a miscellaneous range of houses, in which Cucumbers and Melons are included, make them understand that while the former are benefited by a liberal use of the syringe that Melons are opposed to the same amount of drenching. Nothing will bring about the unfavourable conditions so soon as wet foliage during a spell of cold and sunless weather and the temperature correspondingly low. Have the temperature regularly and well maintained, with no excess of water either at the roots or foliage. If these latter conditions were followed out I do not think damping off would be so troublesome as it sometimes is.

Such are a few statements upon the dangers and unpleasantness brought about by excessive watering and syringing, or *vice versa*. Many other subjects might be discussed under this head, but enough has been said to show that I am strongly of opinion that fruits in borders are abused very much by excessive watering and syringing at wrong periods, and that hard wooded plants generally suffer more from an insufficiency than an excess.—*A. Waters, Hopwood Hall Gardens, Preston.*

GARDENING MISCELLANY.

STREPTOCARPUS SAUNDERSII.

The leaf of this species is solitary, as in the case of S. Dunnii, and equally if not more striking than the flowers. It is roundly cordate, and attains a large size even when the plant is grown in pots, but those who wish to see what the leaf can do should cultivate the plant in the border of a dry and moderately warm stove, as it is treated in the succulent house at Kew. There the leaf varies from 18 in. to 20 in. in length and as much in breadth, and is much wrinkled with long, incurved ribs. There are several scapes from each plant about 12 in. high, bearing cymes of tubular white flowers, faintly tinted with blue, and having two blue blotches in the throat. Although smaller than those of S. Rexii, which bears only one or two flowers on a scape, they make some amends for this by their numbers. The habit of the plant may be compared to that of S. polyantha, but the flowers are of a different shape. The species is a native of Natal, and was introduced in 1860.

DAPHNE LAUREOLA PURPUREA.

The Spurge Laurel is pretty common throughout British gardens in its ordinary green form, but the purple-leaved form is not yet widely disseminated There is a specimen in the nursery at Kew which shows the leaves to be of a blackish bronzy-purple above and deep purple beneath. It should find a place in beds of fine foliaged shrubs, which might more often be utilised than they are for producing striking effects by the contrast of different coloured leaves, different form and habit. Being of a slow growing nature the Purple Spurge Laurel should be planted near the margin of beds or shrubberies.

EPILOBIUM HIRSUTUM VARIEGATUM.

The Great Herb Willow is an ornamental subject on the margins of ponds or rivers, but is as a rule more common in a wild state than planted. The variegated form has its leaves much blotched and variegated with white, and would on that account make a conspicuous object planted amongst other semi-aquatics on the margins of ornamental water in pleasure grounds. The variegation keeps good to the end of the season even in an ordinary herbaceous border, but should even be better where it can get a plentiful supply of moisture.

GLADIOLUS MILLERI.

If hybridists would take this plant in hand, there is no saying what might be made of it in evolving a dwarf race with large flowers. The sword-shaped, glaucous leaves are only about 6 in. or 8in. high, while the flower scape ranges from 12 in. to 18 in., bearing a one-sided raceme (sometimes branched) of funnel-shaped flowers of larger size than those of G. Colvillei. The colour varies somewhat in different individuals, and this hint might be taken of the capability and tendency to vary still further. One variety has flowers of a pale bronzy-red externally, deepest on the nerves, and creamy-white internally with narrow purple midribs. Another has flowers of a deep red externally, fading towards the margin, and white internally with red ribs shaded with purple. The species is a native of South Africa, and has been flowering for some time past at Kew.

TRACHYMENE CŒRULEA.

Occasionally this West Australian plant turns up in establishments, and undergoes all sorts of treatment, sometimes as a stove plant, sometimes in greenhouses, and lastly in the open air, where it may be seen to as good advantage as anywhere. Seeds should, of course, be sown under glass as in the case of other tender or half hardy annuals, potted off singly in small pots or transferred from the seed pans into boxes where they may be accorded more room, and finally planted in the open border about the beginning of June. It may be planted in a bed or in large patches according to the convenience or fancy of the grower; and the plants will come into bloom during August and continue through September. The flowers are much more durable, and continue to be produced in succession for a much longer period, in the open ground than when grown in pots. The individual flowers are small as in the case of most other Umbilifers, but they are of a bright blue, with white anthers, and being pro

duced in umbels make up in the aggregate what they lack individually. The fruit is of a deep reddish-purple, and begins to show itself on the margin of the umbel, long before the flowers in the centre have dropped. The leaves are three-parted and lobed, while the stems in the open ground, as seen at Kew, vary from 12 in. to 18 in. high.

SOLANUM ROBUSTUM.

In a wet summer like what the past one has been the utility of foliage plants for effect is brought into prominence. The plant under notice is well characterised by the term robust, as implied by the specific name, for it has a robust and bold appearance when planted in a mass. One desideratum by which it might be improved would be larger plants when put out in spring in the sub-tropical garden. Beds of it are usually if not always flat topped, but there seems no reason why beds should always be flat topped. A few old plants might be preserved and planted out a second season, the tall ones being placed in the centre, while the others might be graduated in height towards the margin. When the ground gets covered the whole bed, if circular and not very large, might appear as if occupied with one conical specimen. The ovate-elliptic and lobed leaves, covered as they are with spines on both surfaces, have a formidable and striking appearance. The rusty, woolly hairs on both surfaces add considerably to the general effect.

MICE EATING SCALE.

Last week, on entering a house where I have a Peach tree trained against the wall, I noticed the leaves moving. I stood still a few feet off and opposite it, and saw a mouse engaged very actively in clearing the tree of scale. It would run up and down the stem and along the thinnest twigs searching for and devouring the scale. It would fix its hind feet and run its nose along the midrib of the under part of each leaf, eating its prey wherever it could find them. It never ceased for a second during the ten minutes I watched it, and I left it as busy as I found it. I shall be glad to hear if any of your readers have noticed a similar habit. Hitherto I have considered mice one of the gardener's constant enemies, and I have suffered much from them in the spring.—*William Jenkin, Roschill Cottage, Falmouth, Sept.* 17, 1891.

AMICIA ZYGOMERIS.

The foliage of this plant is even more ornamental than the yellow flowers, although some cultivators attach importance to the latter. Properly speaking it is a greenhouse plant; but in the warmer parts of the country it may be grown against a wall with even more success than under glass, for the simple reason that space cannot well be afforded to grow it to proper dimensions. Although the soft-wooded stems get cut down annually, yet if the root-stock is strong and vigorous, stout stems 3 ft. to 5 ft. long or even more will be thrown up in the course of a single season and flower towards autumn. The leaves are of a deep glaucous hue, and consist of two pairs of obversely heart-shaped leaflets of striking appearance and considerable ornamental value. The plant is used to some extent for mixing with other subjects in the sub-tropical garden, and is easily propagated from cuttings. Its native home is Mexico.

ULMUS CAMPESTRIS UREDII

The name here given is applied to a golden-leaved Elm, a variety of that which used to be known as the Exeter Elm and botanically as Ulmus montana fastigiata. The shoots and the whole tree has a rigid upright habit, and what increases its rigid appearance is the curious behaviour of the leaves. All the normal-habited Elms have spreading branches with the leaves arranged in two regular rows, one on each side of the shoots of the current year. The erect habit of the Exeter Elm and also of the golden variety under notice, has disturbed the usual arrangement of the leaves, so that instead of spreading out flat in the usual way they stand closely up against one side of the shoots and partly curl round them. They are further strongly feather-nerved with boldly projecting ribs and rigid texture all of which combine to give the tree a characteristic appearance. The green form is very popular as a street tree in some of the towns along the south coast, including Eastbourne. The golden variety under notice will commend itself to those who like the fastigiate, or pyramidal-habited Exeter Elm.

DELPHINIUM CARDIOPETALUM.

Like the Common Larkspur (D. Ajacis) this species is an annual, but a pretty one, and keeps on flowering from June till autumn. At the present time it seems as gay as ever. The stems range from 12 in. to 15 in. high, and are more or less branched in the upper part. The flowers are deep blue and sufficiently large to be of an ornamental character when the plant is fairly in bloom. The sepals are lanceolate and as highly coloured as any other part of the flower. The petals are five in number, of which the three lower ones are heart-shaped as implied by the specific name, while the two upper ones are spathulate; all have long claws, and they are moreover variable in shape in different flowers on the same plant, but always considerably smaller than the sepals.

THE NATURAL HABITS OF SOME N. S. W. ORCHIDS.

I do not claim any great attraction for Australian Orchids as compared with those from other parts of the world, at the same time many are interesting and pretty, and they have much to recommend them for their delicious fragrance. It is not my intention to enter into details with respect to many difficulties attending the collection of Orchids; my chief object is to show under what conditions they are found, and how they grow in their natural state in these parts. The collecting of Orchids is no childish work, whatever the young enthusiast or the lover of nature who has had no experience in collecting these gems may think. Apart from malarious swamps, mountain ravines, and dangerous precipices, there is the deadly reptile, and the collector well knows what one plunge of its poisoned fangs means. The very nature of the collectors' search leads them into its most secluded domain, and not unfrequently so intent are they upon the object of their search that they are within the grasp of these monsters before they are aware of their presence.

One very important fact in connection with the cultivation of Orchids from these parts is that the epiphytal section imbibe more moisture in the form of vapour than is generally supposed. I am convinced of this from observations made. It is not an unusual thing in this country of periodical droughts for them to be without even a shower of rain for from two to six weeks, and that during their growing period. During this time they get nothing but dense vapour during the night, arising from the creeks running through the less elevated ground, and varying from 200 to 600 yards below them, in what I may term the region of Palms and Ferns, where you will search in vain for a Dendrobe, a Cymbidium, or a Bulbophyllum.

By no chance have I found an Orchid in these dense jungles of Palms and Ferns; much however, there is to admire in such a spot, from the most minute filmy Fern, Hymenophyllum tunbridgense antarcticum, to the gigantic Tree Fern, and Palms in the same way, from the seedling a year old and only a few inches high to the majestic full grown tree of fifty years and fully eighty feet high. Here nature again teaches us a very important lesson, which is that heat, moisture, and shade, with an oppresive atmosphere, are not essential to the well-being of Orchids, or they would be found associated with Palms and Ferns where these abound. On the contrary, they must have light and air, and as we ascend the side of the mountain (always skirting the ravines formed by rushing torrents during heavy rains), we see that the trees grow further apart, and, instead of having to cut our way step by step we can move about with comparative ease. Here and there we get gleams of sunshine penetrating through the dark green leafage above, rendering the surroundings light and airy, but not arid.

It is here that we get the first glimpse of what we have been toiling to reach, for glancing round on all sides we see vast numbers of Dendrobium speciosum. This species confines itself entirely to rocks of a gritty sandstone formation, where it spreads its roots on the flat surfaces or perpendicular sides. Some have a little moss and half-decayed leaves among them, but more frequently they are entirely bare. On a closer examination the largest specimens will invariably be found on the edges of fissure rocks, where the roots penetrate into every crevice. In this position they obtain more moisture in a prolonged drought than those growing on the flattened surface, which is incapable of retaining any moisture save what is absorbed by the rock itself. The species varies considerably in the colour of its blooms, from bright orange to ivory whiteness, with the lip more or less spotted or barred with rose. Its variety, Hilli, grows in the same way as the species, always selecting the warm districts for its home.

We extend our search, and entering a more densely wooded part of the forest, we are not long in finding another species (Dendrobium tetragonum) fondly embracing what is known here as the Myrtle tree (Eugenia). So exclusively does it confine itself to this one species of tree that it is useless searching for it among any others. It grows about one foot high and continues to flower freely from the same stems for many years. The blooms are orange and brown and have a delicious fragrance. A gorgeous Cattleya will please the eye, but this will more than gratify the olfactory senses of anyone partial to sweet smelling flowers. After we have helped ourselves to a few plants we make another move, but find we are too near the mountain water course and find nothing.

Making our way again to the higher ground, we soon make our acquaintance with another kind, Dendrobium Kingianum. This is also a tree loving Orchid, and some immense pieces meet our eyes. It has not the peculiarity of the last-named kind but appears to be at home on almost any kind of tree. The pseudobulbs of this species attain the height of 2 ft., and it continues to bloom from the same stems for several seasons. Its flowers are of a dull yellow colour. After mounting a little higher all trace of Dendrobes cease. The atmospheric conditions suited to their growth exists no longer; but another genera appears in Cymbidum sauve, which are seen in immense masses higher up among the arms of the trees. This species evidently delights in a much more light and airy situation than any Dendrobe that I am acquainted with.

We seldom see a Dendrobe nearer the ground than 4 ft. nor higher than 20 ft., whereas this Cymbidium suave is often met with 50 or 60 ft. higher. I have felled several trees to obtain specimens of it, and always found the roots so deeply imbedded in the living bark as to almost assume the character of a parasite. On one occasion finding the tree was a hollow one, I cut it open and found that the hollowed centre (which was 8 in. in diameter) was completely packed with roots to the depth of 6 ft. from the base of the plant. The flowers, which are borne on spikes about 15 ins. long, are of a yellowish-brown colour, and are delightfully fragrant. It confines itself entirely to a species of Melaleuca. There is a peculiarity about this species which is worthy of a student's consideration. In a natural state it seeds very freely, and in the natural course of events one would expect that, through the agency of wind currents, the seeds (which are very fine and dust like) would be pretty evenly distributed among all the genera represented in the forest, and there are many, yet I can find no evidence that the seeds ever germinate save on these soft barked Melaleucas. Again, why it germinates on the highest parts of these trees in preference to the lower branches and about the trunks, is one of Nature's problems hard to solve.

After searching around this spot and finding nothing more of interest, and after having heard a friendly remonstrance from accompanying friends as to the slavish mode of spending what I was pleased to call a holiday, we commence our return journey by nearly the same route we ascended, but stepping aside into the ravine whose sides we had skirted on our way up, we come upon on a patch of Calanthe australis, which happened to be in bloom at the time, and appeared to be revelling in their compost of drift soil, composed mainly of decayed leaves and fragments of sandstone. From this position we scan the trees above, and espy one solitary plant, a species of Oberonia, with a small spike of almost microscopic flowers. This I appropriated together with the branch on which it was growing. After placing it in a small house with Cattleyas, Saccolabiums, &c., it bloomed for two seasons, then disagreed with its companions and departed this life. Again glancing over the rocks which we had previously passed, we discover another pigmy, Bolbophyllum exigum, mingled with Polypodium serpens, and the whole forming a dense carpet. Searching another ravine on the other side of the valley, we came across some nice patches of that pretty little dwarf species, Dendrobium æmulum. One huge fallen tree is worthy of especial notice, having over a hundred plants studded

about the lower parts of the trunk, and in full bloom, filling the still forest air with its delightful fragrance for a great distance around. Here also were a few pieces of that curious little species, Dendrobium lingueforme, adhering to the trunks of trees. Speaking of growing Orchids on fallen trees and decaying branches, I am tempted to remark that the general experience is that they soon lose substance and decline in health with the decay of the wood, and ultimately perish altogether.

Dendrobium teretifolium, unlike any of the previously named species, is chiefly found in the low-lying marshy swamps bordering on the lakes, and almost exclusively confines itself to one species of tree known here as the Swamp Oak (Casuarina torulosa). This spring, after a six mile ride through a dense bush, I came across a thinly studded area about one mile long, in full bloom. The flowers, were borne on branching pendulous spikes about 1 ft. long, and 8 ins. through, carrying from forty to sixty flowers very delicately perfumed. They had a singularly pretty effect as each feathery-looking spike waved to and fro with every motion of the air. Very noticeable in this forest was the evenness with which the plants were distributed throughout its entire length. One plant to each tree was the rule, and two the exception, and almost every plant was within a measured line of from 5 to 7 ft. from the ground. The roots have a very straggling habit. Some I measured, and found to be 4 ft. down and 3 ft. 6 ins. up the trunk of the tree on which it grew, taking the base of the plant as the point of measurement. This is difficult to establish after being torn from its native home.

In concluding these notes I can only express my astonishment at the success of English cultivators, seeing that each species has its own peculiarities and favourite localities, which are all very marked in their natural state. It may not be out of place to say here also what a great advantage to growers it would be if one here and there of the many English gardeners scattered throughout the world would relate in THE GARDENING WORLD some account of what they see of the natural habits of the members of this most interesting family. By so doing they would furnish their professional friends at home with a mass of information, which would be alike instructive and interesting.—*G. H. K., Palmdale, Ourimbah, New South Wales*, 1891.

ORCHID NOTES AND GLEANINGS.

Orchid Growers' Calander.

IT is a general practice about this time of the year to go over the cool house Orchids and top dress them. This practice is often carried to excess, doing damage —rather than good—to the plants. If the material in which the plants are growing has become sour and so prevents the sphagnum growing, it will be found better practice to re-pot the plant in fresh sweet material than to place fresh material on the surface and leave the evil at the roots alone. This is where the danger of top dressing arises, so that where the system is practised it ought to be done with great care, and then only to those where the material at the roots is in good condition. Where the sphagnum is growing luxuriantly it should be pressed firmly down, so that the pseudo-bulbs are exposed to the influence of the light and air.

The syringe may be used in the morning and afternoon of fine days, closing the house early, and admitting a little air again towards evening, which may be allowed to remain on during the night in mild weather. The temperature of the cool house will remain the same, 55° at night with a rise of 10° during the day. The Cattleya house 65° at night with a corresponding rise of 10° or 15° during the day with sun heat. Shading of all kinds can now be dispensed with, except for a short time during the early part of bright days, which unfortunately at present are very few.

Odontoglossum grande, which is now in flower, should be kept a little drier, but at no time should the plants be allowed to suffer. I am inclined to keep the plants moist when at rest and with good results, several of the flower spikes carrying seven flowers each. The Dendrobes, such as D. Wardianum and nobile, which finished their growth early and were removed to a cool house will now be showing their flower buds, and where a succession of flowers are wanted a few plants should be placed in heat from time to time. Cypripediums will now demand attention, and where the sphagnum has decayed it should be removed and replaced with fresh material, which enhances the appearance of the plants, and helps to keep them in better health. —*A. W.*

Stanhopea inodora.

THERE seems no difficulty in growing and flowering this plant every year, nor indeed of most of the species. When once established in a basket it should be disturbed as little as possible. The object should be to secure as good a growth as possible every year so as to ensure flowering, and afterwards allow the plant to go to rest by keeping it cool and on the dry side, but not so much as to cause the pseudo-bulbs to shrivel. A basket is certainly most suitable for the Stanhopeas on account of the habit the flower scape has of pushing down through the soil in which the plant is grown. The sepals and petals of this species are straw-yellow, faintly marked with purple. The basal saccate portion of the lip is of a deep golden yellow, but the rest is more nearly white and minutely dotted with purple. The horns are long and very prominent in this species. The column is greenish along the centre, but the wings are of a transparent whiteness. On the whole the flowers are large, showy, and conspicuous, and show an approach to white; they are described as scentless, but are fragrant notwithstanding at certain stages of growth. A plant now flowering at Devonhurst, Chiswick, has been there for some years, and was obtained from Mexico along with other Mexican Orchids.

Cattleya Gaskelliana.

THERE is a considerable amount of variety in this summer and autumn flowering type, but the prevailing colours show a delicacy of tint compared with the darker hues of C. Trianæ and C. Percivaliana. Fresh importations may, however, reveal varieties of a richer hue. At present a lively display is produced by a batch of plants in Messrs. Hugh Low & Co.'s nursery at Clapton. Many of them are of this year's importation, and are flowering for the first time; others have been established for longer periods. The rosy-mauve blotch on the anterior of the lip is most liable to vary both in size and intensity, but the sepals and petals also range from a pale blush to a warm rose. The tawny yellow striated throat is also a peculiar feature of this form. The usual flowering season of C. Gaskelliana is from the middle of June to August, and those flowering now may revert to that period next year. As a type of C. labiata it is intermediate between C. Mossiæ and C. Luddemanniana.

Angræcum articulatum.

A NUMBER of the species of Angræcum from Madagascar show a considerable amount of affinity to the casual observer, because no doubt they are closely allied. That under notice is of dwarf stature with oblong or wedge-shaped unequally bilobed leaves from 3 in. to 6 in. long. The flowers are creamy-white or pure white, and borne in two ranks upon a long pendulous, wavy raceme having a jointed appearance as implied by the specific name. They also show a marked approach to being perfectly regular, and would practically be so were it not for the spur. Both sepals, petals and lip are lanceolate, but the two latter sets of organs, which really form the inner series of three, are incurved at the sides on the upper half, thus adding greatly to the symmetry. The long drooping slender spur varies in length, but those of the plants we noted in the nursery of Messrs. Hugh Low & Co. were 4 in. to 5 in. in length. The plant is therefore both highly conspicuous and ornamental, and flowering as it does at this season, when Orchids in bloom are by no means plentiful, it deserves a place in collections of choice Orchids. It should be grown in baskets and suspended near the glass in the East Indian house.

Vanda cœrulea.

ONCE more this fine old Vanda is in season, and its fineness will depend very much upon the amount of sunshine we receive during the autumn months. Of course those growers in districts removed from large towns have an advantage over those who live in or near smoky towns, in that their flowers will be more highly coloured. In the nursery of Messrs. Hugh Low & Co., Clapton, where the stock is extensive, including plants of all sizes, flowering commenced about a month ago, and will continue for the next two months. Individual plants keep in bloom for a long time, while others develop their scapes later on, thus prolonging the season well nigh into winter. The flowers vary greatly in size upon different plants, and even at different times upon the same plant; for unlike the flowers of other Vandas, those of V. cœrulea are relatively small when they first expand, but continue to enlarge until they reach their full development. They also vary in colour according to age, for the sepals and petals are nearly white at first and afterwards develop that rich sky-blue for which they are noted, particularly on the veins and cross veins, which produce that tessellated appearance. The lip is always of a richer and deeper blue, but even that varies in different plants. There are specimens in different houses, and two large, old plants grown in baskets are notable for the number of flowers they carry, one having forty-two blooms and the other sixty-eight.

Vanda Kimballiana delicata.

THE sepals and petals of V. Kimballiana are white or sometimes tinted with blush. A peculiarity of the species is that the upper sepal is twisted in front of the petals which on the contrary are reflexed and twisted. In most other Vandas the petals are brought to the front. The lip is three lobed, the lateral lobes being yellow and blotched with tawny-brown; the middle lobe is transversely oval, emarginate, toothed at the edge, and rosy-purple in varying shades on different individuals, with five ridges at the base of a darker hue than the rest. From five to fourteen flowers are borne on a scape. The foliage is similar in type to that of V. Amesiana. The variety under notice differs in having white sepals and petals, with a rosy midrib, a white lip mottled with soft rosy-purple, the ridges being darker; the lateral lobes are also white, blotched with tawny-brown. A large quantity of the type may be seen in the nursery of Messrs. Hugh Low & Co., but the variety V. K. delicata is very scarce.

SOCIETIES.

Royal Horticultural, *September 22nd.*—The bulk o the exhibits on Tuesday last consisted of Dahlias in their various sections. Compared with many other subjects they seem to have suffered relatively little as yet from the rain. A large collection was exhibited by Messrs. J. Cheal & Sons, Crawley, for which a Silver Flora Medal was awarded. Singles and Pompons as usual were very bright, but considerable attention is being centred in the Cactus varieties, which are now getting numerous. A large group of Cactus Dahlias set up on stands and arranged with Palms, Maidenhair Fern, &c., was exhibited by Mr. G. Phippen, Reading, and was accorded a Silver Gilt Flora Medal. A high bank o Cactus Dahlias, with single ones and Pompon Chrysanthemums at one end and a group of Carnation La Neige at the other, was shown by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, and a Silver Banksian Medal was awarded the exhibit. A rather extensive exhibit of show and fancy Dahlias was made by Mr. Arthur Rawlings, Romford, Essex, for which a Silver Banksian Medal was awarded. A similar but smaller exhibit was made by Mr. J. T. West, gardener to W. Keith, Esq., Cornwalls, Brentwood, and a Bronze Banksian Medal was accorded it. Pompons and Cactus varieties were also included in his group.

A group of Chrysanthemums including Pompons and numerous Japanese varieties was shown by Mr. R. Owen, Maidenhead. The Pompons were set up in bunches with their foliage. A small group of Dahlias was exhibited by Mr. C. Turner, Slough, including several new kinds. A Bronze Banksian Medal was awarded to Mr. J. Walker, Thame, Oxon, for a collection of quilled German Asters. Some Cactus Dahlias were exhibited by Messrs. H. Cannell & Sons, Swanley. A small collection of Dahlias was shown by Mr. G. Humphries, Chippenham. A group of hardy shrubs was exhibited by Messrs. J. Veitch & Sons, Chelsea, including various variegated species and varieties of Elæagnus, and Desmodium penduliflorum. A yellow Lily flushed with green and named Lilium claptonense was exhibited by Messrs. H. Low & Co., Clapton. A cultural commendation was awarded to W. Marshall, Esq., Bexley, for a well-flowered pot of Nerine flexuosa. A Bronze Banksian Medal was awarded to Messrs. W. Paul & Son, Waltham Cross, for six boxes of cut flowers of Roses. Some handsome panicles of Hy-

drangea paniculata grandiflora were shown by Mr. C Noble, Bagshot. Some seedling Dahlias were shown by Mr. G. S. P. Harris, Orpington, Kent. In connection with the afternoon lecture, there was a fine exhibit of Nepenthes, Sarracenias and other insectivorous plants by Messrs. J. Veitch & Sons.

Orchids were fairly represented by some small groups. Baron Schroder (gardener, Mr. Ballantine), The Dell, Egham, showed cut flowers of Cattleya Hardyana and C. Dowiana. C. J. Lucas, Esq. (gardener, Mr. G. Duncan), Warnham Court, exhibited a scape of Vanda Sanderiana bearing eight blooms; also Cattleya Schofieldiana, Aerides Rohanianum, and others. Grammatophyllum Seegerianum was shown by Messrs. Seeger & Tropp, East Dulwich. Messrs. W. S. Lewis & Co., Chaseside, Southgate, exhibited Masdevallia Gaskelliana, etc. A small group of Orchids, consisting of Cattleya maxima, Lælia Eyermanii, and others was shown by Messrs. Pitcher & Manda, Hextable, Swanley. T. Statter, Esq. (gardener, Mr. R. Johnson), Stand Hall, Manchester, showed Cattleya intermedia alba, C. Loddigesii splendens, Miltonia moreliana atrorubens, and others. The largest exhibit was that of Messrs. F. Sander & Co., St. Albans, who had Cattleya Hardyana, C. Gaskelliana alba, C. grandis tenebrosa, and the rare and beautiful Vanda Hookeriana, of which we give an illustration, by the courtesy of Messrs. Veitch, on p. 53., for which a Silver Banksian Medal was awarded.

At a meeting of the Fruit Committee a Silver Banksian Medal was awarded to Messrs. Wm. Paul & Son, Waltham Cross, for a large collection of Apples and Pears. Some fine Peaches were shown by Mr. J. Silbert, gardener to the Rev. L. R. Flood, The Rectory, Merrow, Guildford. Some seedling Apples and Plums were shown by Messrs. Laxton Bros., Bedford. Some Melons were staged by Mr. G. Wythes, Syon House, Brentford, by Mr. Tubbs, gardener to Col. W. Walpole, The Lodge, Teddington, and by Mr. Gilmour, gardener to the Earl of Shrewsbury, Ingrestre Hall, Staffs.

WHAT TO DO IN THE GARDEN.

Shading.—Stove plants of the hard-wooded and flowering types will now require very little or no shading at all, except the weather is unusually bright. A maximum of light with a certain amount of direct sunshine is absolutely necessary to the proper ripening of the wood, and this should be accompanied by a high temperature, with a certain amount of ventilation according to the state of the weather, and a moderately dry atmosphere. Where the shading consists of movable blinds, the latter can be let down or pulled up as occasion requires, but permanent shading or whitewash should be entirely washed off, except where soft-leaved, fine foliaged plants are standing beneath.

Azaleas, Camellias, &c.—Before housing these subjects, they should be thoroughly cleansed from filth and insect enemies, such as thrip on the Azaleas and scale on the Camellias. The latter frequently get covered with a black substance, the excretion of the scale together with fungi growing upon it. This black slimy filth together with the scale should be washed off with a sponge, using a solution of soft soap or Gishurst Compound in water to facilitate the work and render it more effectual. Azaleas should be laid on their sides on a board over a tub or similar vessel and thoroughly syringed with a strong solution of Gishurst Compound, especially if they are at all affected with thrip. The liquid may be used over and over again by the use of a tub placed underneath the plants to receive it.

Ferns.—Gold and silver leaved ferns of such genera as Gymnogramme, Nothochlæna and Cheilanthes should now be kept in a dry atmosphere, otherwise they will soon assume a rusty appearance. Lomarias, Woodwardias and similar subjects are very liable to be attacked by thrips, which soon spoil their appearance for the rest of the year if the pest is allowed to become established. Most Ferns will now require less water than hitherto, but in no case must they be dried off.

Plants for the Conservatory.—Early flowering Chrysanthemums will now be found useful, and those who have them in the open border may lift and pot them up, keeping them close for a few days, till they take to the fresh soil. A pleasing display can be made up with Begonias, tuberous or otherwise, Fuchsias, Pelargoniums, Petunias, Salvias, Ferns, Mignonette, and any annuals which may be at command.

The Rose House.—Those who have the advantage of a Rose house should use it for planting out their Roses to come on without forcing, as much finer and more durable flowers are obtained thereby. The house should be freely ventilated night and day at the present time, in order to mature the wood and check growth as much as possible. As the weather becomes colder, of course, the house should be closed at nights. Give sufficient heat merely to exclude severe frost in winter, and by judicious ventilation and other necessary treatment in spring, Tea Roses will come into bloom during April and May, continuing thence through the summer. Roses for forcing should be grown in pots, which can be placed in a pit, vinery or other house at work, and so save the permanent specimens.

Melons.—Where the fruits are now ripening a high temperature must be kept up with a dry atmosphere, otherwise they cannot be expected to attain their proper flavour. Ventilate freely, to further this end, when the sun shines. In order to avoid creating too much moisture in the house, or causing the fruits to crack through excess of sap, the roots and soil might be protected by a covering of old hot bed manure, to preserve the soil in a suitably moist condition.

Cucumbers.—Young plants intended for winter fruiting should now be growing vigorously, and to encourage them a tolerably moist atmosphere should be maintained, while at the same time ventilation is freely given in fine weather to keep the plants sturdy. Pinch away the lateral shoots and all flowers for a time, so as to build up strong, healthy specimens which will be all the more able to bear fruit during dull and sunless weather later on.

Fruit Trees.—Any trees that are growing too vigorously should be root pruned after the crop is gathered, if there be any. Take out a wide trench around the tree at a sufficient distance from the trunk according to the size of the specimen and shorten back the strong rambling roots, also be more particular in cutting those roots which penetrate the soil perpendicularly. In the case of large trees having numerous strong roots it would be advisable to cut away only one half of them this year, and the other half the next autumn.

Cauliflowers.—Preparation should be made at an early date for transplanting a sufficient stock of plants into low frames where they can be protected for the winter. Some may be planted in groups of four or six, to be protected with hand-lights on the borders where they are intended to remain. If the larger number is used they can be employed in spring for filling up gaps. Keep the hand-lights or frames close for a few days until the plants show that they have taken fresh root, after which full exposure should be given all through the winter when the weather is fine.

QUESTIONS AND ANSWERS.

Pear Trees Diseased.—*Mardy:* The samples labelled No. 1 show that your trees are very badly affected with the Rust of the Pear tree (Rœstellia cancellata). Judging from the specimens sent, the swollen and gouty stems and the excrescences on the leaves must give the trees a picturesque appearance, but it augurs badly for their success in fruit production. Trees only slightly affected might be cured in the course of a few years by promptly removing and burning all diseased leaves and shoots which make their appearance. We are afraid, however, that your trees are in a rather hopeless condition, and that the best remedy would be to uproot and burn them entirely, so as to destroy the fungus. A safe plan would be to plant Apple or Plum trees in place of Pears, giving the latter a place at some distance from where the diseased trees are now growing. No fungicide applied to the trees would be of any avail in killing the fungus, although it might prevent its spreading by frequent applications. The leaves labelled No. 2 are much affected with the Pear-leaf Gall Mite (Phytoptus Pyri). Almost the same remedies given for the Rust of the Pear tree will apply here. Soon after the leaves unfold in spring you will notice that they are covered with greenish-yellow blisters. By removing the leaves and burning them at this time you will destroy the mites which are still in the leaf. We fear the mites have left them by this time. If the trees are bad all over the best plan would be to replace them by younger ones.

Flowers for Bees.—*Wm. Reid:* Favourite annuals with bees are Collomia coccinea, Mignonette, Lupins, Impatiens Roylei, Borago officinalis, Limnanthes Douglasii, Nemophila insignis, Common Bean (Vicia Faba), Mustard (Sinapis nigra or S. alba), Malcolmia maritima, Erysimum Perowfskianum, Scabiosa atropurpurea. A large number of Crucifers might be added as they are favourites generally with bees, at least the conspicuous and showy flowering sorts. There is also a host of bee-plants either biennial or perennial, some of which might be more serviceable than the above. For instance, those who go in for bee-farming would find that Crocuses, varieties of C. vernus and others, would be useful in spring. Later on several species of Clover (Trifolium incarnatum, T. pratense, T. repens, and T. hybridum), Sainfoin (Onobrychis sativa), and Melilot (Melilotus officinalis) would be found to supply a large quantity of honey. There are numerous trees that might receive particular attention by bee-keepers.

Annual Composites for Cut Flowers.—*Wm. Reid:* All of the following are good, namely, Chrysanthemum carinatum and its varieties, C. coronarium and varieties, C. segetum grandiflorum, yellow, Ursinia (Sphenogyne) speciosa or U. pulchra, yellow and black zone, Swan River Daisy (Brachycome iberidifolia), blue, purple, and white varieties, Calendula officinalis, orange, C. pluvialis, white, Coreopsis Drummondi, golden yellow, China Aster (Aster or Callistephus chinensis), various, Zinnia elegans, various, Cosmos bipinnatus, purple, Layia elegans, yellow and broad white edge, Anthemis tinctoria, golden yellow, Centaurea suaveolens, yellow, and Crepis rubra, red. The above comprise twelve genera, several species of some of which are highly meritorious. Venidium calendulaceum is really a perennial, although usually grown as an annual in this country.

Cultural Treatment for Orchid.—*J. M.:* The specimens you sent us were those of Xylobium squalens. There are about sixteen species of Xylobium natives of Tropical America and allied to Maxillaria. None of them are very ornamental, and the flowers seldom exceed in size those you sent us. They are by no means common in gardens at the present day, and the chief recommendation they have is that they are uncommon. Your species is a native of Brazil, and requires a temperature of 60° to 70° degrees while making its growth, but 50° would be quite high enough while resting in winter. At that time less water will be required, but on no account must the pseudobulbs be allowed to shrivel by keeping them too dry.

Names of Plants.—*Thomas Hunter:* 1, Thuya pendula; 2, Jasminum nudiflorum; 3, Thuya orientalis; 4, Jasminum officinale; 5, Retinospora plumosa aurea; 6, Cedrus Libani; 7, Cedrus Deodara; 8, Euonymus japonicus latifolius aureo-marginatus. *J. D. W.:* 1, Selaginella uncinata; 2, Begonia parviflora; 3, Epidendrum next week; 4, Varieties of Chrysanthemum we cannot undertake to name. The Apples are not known to us. *Omega:* 1, Onoclea sensibilis; 2, Gleditschia triacanthos; 3, Rudbeckia purpurea.

Currants.—*T. Hunter:* Your bushes are attacked by the Currant-bud mite, and there is no remedy but cutting off the shoots on which the buds are attacked in spring and burning them.

Apple Measures.—*T. Hunter:* A sieve of Apples in Covent Garden contains seven imperial gallons. The diameter is 15 in., depth 8 in.

Edging.—I have about a mile of edging to do in the coming winter. Can any of your readers tell me where I can get a neat edging of tile or stone? Locality twelve miles south of Manchester.—*T. H.*

Names of Fruits.—*A. Gardener:* 1, Red Astrachan; 3, Hunt's Early; 4, Old English Codlin; 5, 8, William's Bon Chrêtien; 6, Bishop's Thumb; 7, Beurré Bosc.—*T. P.:* Apple New Hawthornden. Pears: 1, Beurré Clairgean; 2, William's Bon Chrêtien.—*W. Davis:* 1, Lord Suffield; 2, Gloria Mundi; 3, Mother; 4, Manks Codlin.

Pinks and Carnations.—*Laced Pink:* Lift the plants carefully with good balls, and pot them in sweet, sandy loam and leaf soil, with a little well-decayed manure. Put them in a close frame for a few days until the roots have got hold of the new soil, and then remove them to a cool greenhouse, from which you can keep out the frost. The seedlings sent are of no commercial value.

Helichrysum argyrolepis.—*J. J. W.:* Try Mr. W. Thompson, Tavern Street, Ipswich.

Communications Received.—F. J. S.—R. H.—Sir C. J.—D. P. L.—W. C.—Scot.—Garbrand.—W. G.—T. S.—St. Rollox.—S. B.

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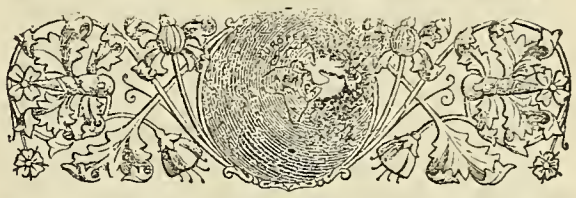

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Oct 5.—Clearance sale at Mr. C. Noble's Nursery, Bagshot (six days). Sales of Bulbs at Protheroe & Morris and Stevens' Rooms.

TUESDAY, Oct. 6.—Royal Horticultural Society:—Meeting of Committees at Chiswick at 11 a.m. Aster Conference at 2 p.m. Bulb sale at Protheroe & Morris' Rooms.

WEDNESDAY, Oct. 7.—Conifer Conference at Chiswick at 2 p.m. Clearance sale of Plants, &c., at Farm Lane, Walham Green. Bulb sales at Protheroe & Morris' and Stevens' Rooms

THURSDAY, Oct. 8.—Crystal Palace Hardy Fruit Show (three days). Conifer Conference at Chiswick at 2 p.m. Sale at Lee's Nursery, Isleworth, by Protheroe & Morris.

FRIDAY, Oct. 9.—Orchid sale at Protheroe & Morris' Rooms.

SATURDAY, Oct. 10.—Bulb sales at Protheroe & Morris' and Stevens' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, OCTOBER 3rd, 1891.

INSECT-ABSORBING PLANTS.—If we refrain from using the now common appellation for the plants referred to, viz., the carnivorous or insect-eating, it is because these terms, if in a sense true, are misleading, for the simple reason that eating is a term applicable only where mouths exist, and plants have no mouths. Still there can be no question that certain plants such as Sundews, Sarracenias, &c., have unquestionable insect destruction properties, and having also considerable nervous irritability created by the friction arising from the contact of the insects with the tiny but intensely sensitive hairs contained in certain organs of the plants, do, being otherwise incapable of ejecting the insects, get rid of them by mastication, and then absorbing them into the plant system.

Plants have ample powers of assimilating flesh when in a decomposing form through the roots, but the knowledge that so can they do this through vegetable organs, does undoubtedly add as it were a link in the slight chain which connects the vegetable with the animal world. No wonder then that the announcement that a paper on carnivorous plants would be read at the recent meeting of the Royal Horticultural Society from the able pen of

Mr. Lindsay, Curator of the Edinburgh Botanic Garden, attracted the largest and perhaps the most deeply interested audience that we have seen at any of the Drill Hall meetings.

Mr. Lindsay's paper was one of great clearness and excellence. It laid bare all that is known about insects absorbing plants in an unpretentious but in no sense a dogmatic spirit. The observations which fell from that distinguished clerical scientist, the Rev. George Henslow, as well as from Dr. Masters, all helped to make patent to everyone that plants have remarkable absorbing powers as to which it is very possible we even yet know very little. Stripped of the sensationalism which attaches to the term carnivorous, the theme is one of exceeding interest and merits the attention of all vegetable physiologists.

Small Fruit Culture.—We mean by this heading not necessarily the culture of small fruits, but rather the culture of fruits in a small way. Not very long since the council of the Royal Horticultural Society, being moved thereto by a resolution passed at a meeting of the Fruit Committee, determined to issue a pamphlet with respect to the culture of Hardy Fruits by small farmers and cottagers, giving advice as to the best sorts to grow, with some rules for general culture. That pamphlet or list has now been finally passed, and we presume is ready for issue at a cheap rate to all whom it may concern.

The various sorts of fruit mentioned in the list have been compiled after considerable discussion, but on consultation with several eminent Scotch gardeners it has been found unsuitable to the Northern Kingdom, and it has therefore been determined to limit the range of the pamphlet to England. Even in our immediate kingdom where we have so many different soils and almost of climates, the lists may in many cases be found unsuitable also, but so far as what may be called the general body of the country is concerned, there is little to find fault with. Many good sorts of Apples, and Pears especially, are conspicuously absent, but that could hardly perhaps have been avoided. Much of the cultural detail is open to criticism because it is only too obvious that it has not been written by a practical man.

However, when issued, and we hope it will be circulated by thousands, there will still remain the burning question as to land tenure and security to tenants of every kind for tree planting; and until this difficulty is overcome it is hardly probable that poor men, whether purely cottagers, allotment holders or small farmers, will purchase trees to plant on land which is not theirs, and from which they may be ejected at any moment, or be compelled to pay enhanced rents on their own improvements.

Daffodils.—The planting season for these popular spring flowers is with us, and large growers who have acres of ground to cover, and thus thousands of bulbs to plant, are very busy getting them in. Those whose plantings are so small that they may be done in a day will perhaps be in less hurry, still we know from long experience that it is wise to plant as early as possible, because roots are soon formed and then greater capacity to make stout spring growth results.

Daffodils are very accommodating, and thrive almost anywhere if planted shallow or deep according to the nature of the soil. If it be heavy it is best to plant shallow, but in light soils the bulbs may be put in from five to six inches deep. Provided the soil be well worked and moderately good there is no such great difficulty in getting Daffodils to do well, indeed it is largely the very accommodating nature of the bulbs which has tended to render their cultivation so popular. It is just possible that in gardens in country districts where Daffodils are produced only in moderate quantities, they are almost worshipped, and of such deference it is difficult to complain. The flowers are so varied in form—would that they were more varied in colour—so elegant and pleasing that for their sakes much may be excused. It is when seen in myriads week after week all through the spring, as presented so abundantly at the London Shows and meetings, that satiety is experienced.

Daffodils generally force pretty well if the bulbs are potted early so as to become well established before heat is applied. It is not well to use many of the varieties for this purpose because sometimes there is disappointment. Still forcing by getting blooms fully a month earlier than would otherwise be the case lengthens the blooming season materially. We do not care to encourage Daffodil extravagance or fevers, but taken in moderation, as the Doctors say, doses of Narcissi in our gardens in spring are beautiful and welcome.

The Royal Horticultural Society's Journal.—The latest of this Society's reports bringing full account of its proceedings down to the end of May, is now in the hands of the Fellows. It has certain value because it is perhaps in horticulture the only publication of a similar kind which is issued from the press, but its interest is severely discounted because the gardening papers have already given to their readers from week to week reports of the Society's proceedings which are read, and that is more than can often be said for the Society's reports. From their edited merits we would detract nothing—they are now always well done.

The information given, it is true, is usually old, and too often it is for the gratification of the general reader severely technical. The recent issue seems to be specially so, as the subjects treated upon have very little general gardening interest. On the other hand the Society is not to be blamed because it has striven to afford a little of light and leading to the history, botanical status and culture, of such unheroic topics as Cyclamens, Snowdrops, Lachenalias and hybrid Rhododendrons present. Still these various things form part of the great world of Horticulture, and if not of that widespread importance which attaches to many other things they have their specialists and admirers.

The Conferences arranged to be held at Chiswick next week upon Sunflowers, perennial Asters, and on Conifers, will perchance not attract so much of attention as did those upon Vegetables, Fruits and kindred subjects, but still they have great importance. The subjects are technical ones, just as are so many others of an allied nature. We fear they will hardly attract many visitors to Chiswick, but it does not follow that some if not all the papers to be read may not prove to be valuable additions to our already extensive horticultural literature.

Royal Horticultural Society's Committees.—We are requested to announce that the meetings of the Fruit, Floral and Orchid Committees will be held at Chiswick on Tuesday, October 6th, at 11 a.m.

Mr. Edward Tetley, who has been in the gardens of Colonel Reeve, Leadenham House, Lincoln, for the past ten years, has been appointed gardener to J. Jebb, Esq., Norton House, Boston.

The Late Mr. G. Neville Wyatt's Collection of Orchids will be sold at Stevens' Rooms on October 21st and 22nd.

Mr. W. Silcock, lately foreman at Baxter Park, Uckfield, has been engaged as gardener to C. Hawkshaw, Esq., Hallycombe, Liphook, Hants.

Mr. F. Pay, formerly gardener to Lord Tennyson, at Farringford, Isle of Wight, has become gardener to R. Loveland, Esq., Barrow Point, Pinner.

Mr. John Thorpe, well known in this country as having been formerly in the nursery trade at Stratford-on-Avon, but who has for some years past made his home in America, has been appointed Chief of the Division of Floriculture at the Chicago Exhibition. When he took possession of the office it was quickly decorated with complimentary floral offerings from a great number of his American friends, among them being a basket of Roses in which were hidden three bottles of champagne, from the Philadelphia Florists, Club. The flowers were subsequently distributed among the heads of departments at headquarters.

The Manchester Fruit Conference, under the auspices of the Manchester Botanical and Horticultural Society, is fixed to be held in the Town Hall, on the 21st and 22nd inst., at 12 o'clock each day. The Earl of Derby will preside on the first day, and Sir James Whitehead, Bart., on the second. The complete list of papers to be read is as follows:—Mr. Baillie, of Chester: "The Fruit Growing Movement: Present Day Features and Prospects." Mr. Cheal, of Crawley, Sussex: "The Condition, Preparation, and After-Treatment of the Soil for Fruit Culture." Mr. S. T. Wright, of Hereford: "Fruit Growing for Profit." Mr. Crump, of Madresfield: "The Raising, Budding, Grafting, and Pruning of Apple Trees for Orchard and Estate Planting." Mr. T. F. Rivers, of Sawbridgeworth: "Orchard House Culture." Mr. Edward Luckhurst, of Romford: "The Importance of Early Planting and Shelter in Fruit Culture."

The Beddington, Carshalton, and Wallington Horticultural Society has resolved to hold an Exhibition and Conference on Apples and Pears, also a Chrysanthemum Show, at the Public Hall, Carshalton, on November 3rd and 4th. This conference will not take the form of an ordinary exhibition, as there will be no competition and no prizes; the sole object being to seize so favourable an opportunity of gaining information, and making the meeting instructive and educational. Local growers of fruit will have in this exhibition an opportunity of naming, correcting, or verifying the names of their own fruit, by making personal examination, and experts will give every possible assistance to all enquirers.

The Sevenoaks, Westerham and Tunbridge Wells Gardeners' Societies.—On Tuesday of last week the members of these societies, to the number of about ninety, held a joint meeting at the Dorset Arms Hotel, Sevenoaks, when a very pleasant evening was spent. The event of the evening was the reading of a paper on the "Cultivation of the Potato," by Mr. Garrett, of Tunbridge Wells, and there was also an open competition for four prizes, the requirements being three dishes, distinct. The first and second awards were taken by Mr. S. Waghorn and Mr. F. Galloway, both gentlemen amateurs of Sevenoaks, the third by Mr. F. Buckland, of Sevenoaks, and the fourth by Mr. Colyer, of Tonbridge. At the business meeting Mr. Withers, President of the Westerham Society, presided, and Mr. Alderman Clifford, of Tunbridge Wells, occupied the vice-chair. Mr. Garrett's paper was a good one, but much too long for such a meeting.

The Woolton Gardeners' Mutual Improvement Society opened on Wednesday a two days' exhibition of a novel character in the Parochial Hall at Woolton, near Liverpool. The President of the Society, Mr. Holbrook Gaskill, J.P., performed the opening ceremony, and during the exhibition papers were read by Mr. John Cowan, of the Liverpool Horticultural Company, Limited, Garston, on "Orchids"; by Mr. R. J. Harvey Gibson, M.A., F.L.S., on "Carnivorous Plants"; and by Mr. Norman Davis, of Camberwell, S.E., on "Early Chrysanthemums." The exhibition embraced modern and ancient garden pictures, plates and photographs, modern and ancient garden literature, fossils, dried flowers, Ferns and Grasses, skeleton leaves, fruits, etc., novelties, rarities, and monstrosities of plant life, horticultural appliances, microscopes, botanical sections, collections of fruits, flowers, vegetables, herbs, injurious insects, apiarian appliances, etc.

Fruit Notes.

Apple Devonshire Quarrenden.

The free fruiting nature of this variety in most seasons has made it a regular market Apple, and every year sees it in greater or less abundance in the fruit shops, where it fetches as a rule a good price. They are plentiful this year, and the fruits are larger than usual and equally brightly coloured, but the quality is inferior, as indeed the complaint is with many hardy out-door fruits. It is a dessert variety but usually considered of second rate quality. The dark red colour of the skin, the name of English Quarantine, and its earliness are qualities that usually ensure a good sale for it, but the quantity at command and the poor flavour seem to be telling against it somewhat. Another thing is that they are put upon the market before being properly matured. When that is the case it should be tender, crisp, and sweet, with a greenish-white flesh. Some individuals have the flesh tinted with red under the skin, but more especially in the neighbourhood of the eye, and they are of better quality than those devoid of it.

Apple Duchess Favourite.

The fruits of this variety are small or of medium size and globular, but very deep, almost inclined to be conical in the larger specimens, and heavily shaded with red over the greater part of the surface. It is a dessert Apple of fine flavour, and the wonder is that so few collections of trees include it. There is no better evidence of its free fruiting nature than the fact that it appears regularly in the market every year about this time. It is superior to several of the early Apples from the fact that it keeps for a longer period after being fit for use; nor is it liable to suffer much injury from carriage, owing to the firmness of the flesh, which is yellow or whitish, and more or less tinged with red in various parts near the skin, with occasional red streaks running from thence to the centre. When in season it is rich and sugary.

Pear Souvenir du Congres.

At the Pear Conference, held in the gardens of the Royal Horticultural Society in October, 1885, a poll was taken for the whole of Great Britain. The variety Souvenir du Congrès came 34th in the list with twenty out of a possible hundred votes, whereas Williams' Bon Chrêtien was 3rd in the list, with eighty-six per cent. of the votes. Now, the latter Pear is described as having a melting and rich juice with a strong musky flavour, while the former is described as melting, juicy and good. There were only thirteen dishes of Williams' Bon Chrêtien at the Conference, and fourteen dishes of the other. These facts can easily be disposed of seeing that both ripen in August and September, but the discrepancy in the number of votes for the respective kinds is less easily accounted for, from this year's experience at least. Williams' Bon Chrêtien is popular as an orchard tree from its free bearing nature, and being a good early Pear finds a ready sale in seasons of ordinary abundance. This year, however, shows that we may, and have had too much of it, from the simple fact that it reached a state of decay before consumers were able to cope with it. In this state the flavour becomes positively disagreeable, with a dry and half mealy flesh. Souvenir du Congrès at the end of September was rich, sweet, and juicy, resembling the melting, buttery Pears. It has borne well on the old pyramids at Chiswick, while on the oblique cordons it has attained a wonderful size, measuring 4 in. to 5½ in. long, and 3 in. o 3½ in. at the widest part.

Apple Benoni.

The fruit of this variety is small, globular, slightly angular, and now yellow, marbled and streaked with bronzy-red on the exposed face. It is described as a mid-season Apple and pretty, but worthless. This year it ripened about the middle of September, when the flesh was yellow, tender, and very sweet, but not particularly juicy. The trees in the gardens of the Royal Horticultural Society at Chiswick bore well this year, and the fruit was all sold in a remarkably short space of time. It would be highly interesting if a consensus of opinion could be obtained from the buyers as to the merits of the variety for dessert purposes. The old adage is "many men, many minds," and if their minds could be ascertained on the subject it would help to decide the question whether we require a large number of varieties for public use, or whether the public would be perfectly satisfied with a smaller number of the conventional market kinds.

AUTUMN ROSES.

What beautiful Rose blooms are to be seen almost everywhere this autumn. We owe much of this abundant blooms to the rainy summer, which created such beauty through the free production of growths. It is encouraging in Rose culture thus to get such robust summer shoots, as they give fine flowers through the autumn, and properly shortened a luxuriant bloom the next year.

Tea Roses of all kinds seem to be more than usually floriferous, and the flowers are vieing with Dahlias in richness of colour, whilst excelling the Queen of Autumn blooms a long way in perfume. In such a time as the present, what with Roses, Dahlias, Asters, and Early-blooming Chrysanthemums, we can have gardens wondrously gay, and yet there are myriads of other plants blooming profusely also. The glorious sunshine, whilst it has made all nature so joyous, has also made it lovely.

Bush Roses or plants in any dwarf form having thrown up strong growths carry on them flowers which almost vie in size and quality with the best blooms of mid-summer. The Teas, whether out in the open or on walls, have been giving us all through the season, and will for some time give us, a wealth of deliciously perfumed buds. What popular flowers these are for common wear! How much the public seem to prefer these buds to those of all other flowers. There is a status or position in the Republic of flowers held by the Rose which is universally recognised. No other flower can dislodge it from its pride of place.

Grammatophyllum Fenzlianum, Osmer's var.

Still the Rose is entitled to that homage because of its inherent beauty and sweetness. Something, too, may be due to sentiment, as it is our national flower. It is, however, in a garden sense one of our hardiest, most easily and most widely cultivated. It is singularly tractable or amenable to diverse forms of training, and may be seen as beautiful on a mud wall as anywhere else.—*Paul Neyron.*

THE WILLIAM HOLMES MEMORIAL.

As a member of the National Chrysanthemum Society, present at a meeting held soon after Mr. Holmes' death, in the Royal Aquarium, I am tempted to ask what has become of the proposed memorial which that crowded meeting determined should be provided. So far as am I aware from that time to the present, and a full year has elapsed, nothing has been heard of the memorial, and I have never learnt that any circular has been issued inviting subscriptions on that head, and plead ignorance.

I should not have asked the question I do but for the publication in your last issue of the announcement of the erection of a memorial stone to Mr. Holmes in Abney Park Cemetery by some local friends. That act has very naturally brought to mind the meeting to which I refer, the committee appointed to carry out the resolve of the meeting and the election of an honorary secretary to the committee. To what is the absolute inaction of this committee to be ascribed. Did the sentiment so strongly displayed at the meeting in respect to the late Mr. Holmes suddenly die out; did the committee collapse; have circumstances arisen which made the taking of any action in the direction indicated undesirable; or what is the cause of the evident failure of the memorial movement?

I hope no false delicacy will interpose to prevent a full statement of the causes, whatever they may be, which has led to this collapse being brought to light. I take it that after this unfortunate failure it will be very difficult to make proposals of a similar nature in reference to others who may in the future pass away. It does so happen in spite of frequent aspirations to bury with their bones the evil men sometimes do in life, and let only the good they do be seen, that we do the reverse. Perhaps something of that kind has operated in the present instance.—*A Member of the N. C. S.*

ORCHID NOTES AND GLEANINGS.

Cattleya intermedia alba.

The sepals are oblong as in the type, but they are pure white with exception of a small amount of green at the apex of the midrib The oblanceolate petals are pure white. The lip is also pure white with exception of a greenish tinge along the edge of the middle lobe, and even that disappears after a time. The middle lobe is also bifid, finely crisped along the edge, and sometimes reflexed there. In all other respects this variety resembles the typical form. A plant of it was exhibited at the Drill Hall, Westminster, on the 22nd ult., by T. Statter, Esq., (gardener, Mr. R. Johnson), Stand Hall, Manchester, when a First-class Certificate was awarded it.

Grammatophyllum Fenzlianum, Osmer's var.

We described this beautiful new variety in The Gardening World, Vol. vii., p. 689, suggesting the above name for it in compliment to the introducer The description we drew up from dried specimens and from imperfect flowers which opened upon plants in the cases in which the pseudo-bulbs were brought home. The production of imperfect flowers having only four segments and no lip is habitual whether in the wild or cultivated state, and such flowers are always borne on the lower part of the scape. Since we made that description we have ascertained that the plant soon gets established and occasions no difficulty in its cultivation. Evidence of this might be seen from the plant exhibited by Messrs. Seeger & Tropp, East Dulwich, at the meeting of the Royal Horticultural Society on the 22nd ult., and from which our illustration was taken. The flower scape varies from 3 ft. to 5 ft. in length according to the strength of the plant, and bears from forty to sixty or more flowers, 3 in. to 3½ in. in diameter. The ground colour of the sepals and petals is yellow, heavily blotched with round or oval purple blotches often running together in large masses, as may be seen from the illustration. The side lobes of the lip are heavily lined with sepia brown stripes, and the three ridges of the disc terminate in as many forking lines upon the small terminal lobe, while the throat is bearded. It requires stove temperature and the treatment accorded other kinds in cultivation.

Vanda Hookeriana.

The stems and leaves of this species are terete, and in general appearance resemble those of V. teres, but are more slender. The flowers of the two are, however, very distinct from one another. Hooker's Vanda has the lateral sepals white, with a few purple spots, while the upper one is purple, shaded with violet. The petals are broadly ovate, twisted round so that the rose coloured back comes into full view. The lip is three lobed with the lateral lobes oblong and of an intense purple, deepening to crimson on their basal half; the large terminal division is again three lobed, blotched with purple on a white ground upon the upper portion, and striped with crimson-purple on a purple ground at its base. The species is a native of Borneo, and flowers in this country during September and October. It is therefore doubly welcome at this dull period of the year, when Orchids in bloom are by no means plentiful. Hitherto it has been scarce in collections, and flowers rather seldom seen, but there is some evidence that cultivators are getting better acquainted with it, judging from its more frequent appearance at the monthly meetings of the Royal Horticultural Society, and in collections such as those of Messrs. Hugh Low & Co., Clapton, Messrs. F. Sander & Co., St. Albans, and Messrs. J. Veitch & Sons, Chelsea, to whom we were indebted for an opportunity of figuring it last week. See p. 53.

FLORICULTURE.

The Florists' Laced Pink.

With some diffidence I venture a response to the appeal of Mr. Thurstan anent the properties of laced Pinks. I have never grown the Pink for competition or for sale, and as my interest in it has mostly centred in my own garden during the last forty years, I know but little of what the Florist would make of its standard of perfection. I am an amateur pure and simple, but love the Dianthus family in all its forms. I am pleased that my old friend Mr. Dodwell has quoted from the Rev. Geo. Jeans. I have read his observations as well as the opinions of others of the old school of Florists with much interest, and which are of great interest as far as they go. But the culture of the laced Pink is progressive, and it was a good suggestion of Mr. Thurstan, that now there are signs of a vigorous revival, those who grow this charming flower should debate its points of perfection, as regards form, substance, colour, and lacing. The old laced Pink of our fathers was doubtless a thing of beauty in every way, and those who gave their attention to it in times past had cause to be proud of the degree of perfection to which they brought it. I would not restrict the size of the bloom, the number of the petals, or the particular hue of colour. I hope to see before I have done such flowers as in form and lacing have only yet been dreamt of, and the recent developments in the Carnation should encourage Pink raisers in their efforts. I have this season had such a show of border Pinks from seed sown in 1889-1890, as leads me to hope for great things; and my large bed of seedlings of the laced and fringed section has given me a supply of cut blooms for decorative purposes since the commencement of June. The profusion of bloom, the purity of the ground colour, the delicacy of the fringing and the distinctiveness of the lacing have been a glory to my garden, but the rich aroma has been a charm to the neighbourhood. Oh! say you, these are only the old fringed Pinks! True, but they are sweet beyond conception, and with single or double blooms nothing could be more brilliant for a mixed border, or for the decoration of the table. Then as for size, I had Pinks galore from seed of Mrs. Sinkins and the Boiard class, which have had their own peculiar charm in the brilliant purity of the white ground, and the richness of the aroma. Of course I must confess that each of these has been so full of petals that nearly every pod burst before it could develop its beauty, still for the table, the bouquet, or mural decoration, what could surpass them? If, then, such advances can be made in one section, may we not hope for still further progress in the border Pink, and if so we may with confidence look for rapid advancement with the refined forms of the laced Pink.

But what about the properties of the Pink for premiership honours? I think the qualification should be the greatest size of petal, the best substance of petal, the most perfect form, most exact lacing, and the greatest number of petals consistent with the perfect delineation of the lacing, let the colour be what it may. Of course a split calyx should under any circumstance disqualify any flower exhibited, and no bloom should be worth a premier prize that will not bear itself in form without a collar or tie of any sort. Whilst I would make this a rule for selecting the premier I would not discard from the show table the charming things which may be found among the fringed section. I hope some other of your Pink-loving readers will give us the benefit of their opinions, on the principle of the old saw that "in the multitude of councillors there is wisdom."—*W. Wardill, Luton.*

ABOUT SNOWDROPS.

The raising of seedling Snowdrops is not at all difficult. After gathering the seed it should be kept in an airy place for a week or two to thoroughly ripen, and then it should be sown as soon as possible. I have not met with much success from sowings in the open ground, so I now always use boxes, and I find that brandy cases are very suitable for the purpose, as they are strongly made of good wood, and are not so deep as most boxes of the size. I bore twenty-five ¾ in. holes in the bottom, and then nail a 2 in. square strip of red deal about 3 in. from each end. This keeps the boxes off the ground, makes them handy to move, and prevents stagnation. I use ample drainage and a free soil with plenty of grit in it to keep it sweet. The seed is sown in drills about ¼ in. deep, the drills filled up with silver sand, and then ¼ in. of sifted soil put over the whole. Each box is numbered at the end or right side, and in my reference book I enter the particulars of the seed sown in each row. These boxes are placed about two feet from a low north wall, and are never protected in any way. They require but little attention; of course the weeds must be kept down, and a little fresh soil added after the second year. The Marchantia and Spergula are the greatest pests in this work. I usually let the seedlings remain in the boxes until some of them begin to flower, which generally occurs the fourth season. Galanthus seed comes up very irregularly, and when seedlings are removed from the boxes they will be found to vary from the size of a wheat corn to that of blooming bulbs. Seed of G. lutescens does not germinate for several years as a rule. Last spring, in the same box, and from seed sown at the same time, I had G. Imperati in flower and G. lutescens making its first appearance. If Snowdrop seed is kept till the spring, it will not germinate until the following spring. The true quality and size of seedlings cannot be ascertained until the third or fourth year of flowering.

With me G. nivalis grows freely in all soils and situations. G. plicatus is not very particular, but still some of its varieties require extra care, as they have an unpleasant way of disappearing. G. Elwesii does not do well in close, retentive soil. G. latifolius and G. caucasius I believe prefer gritty loam, and I should say that G. Fosteri would also like it. Mr. A. D. Webster tells me that peat has quite a magical effect on Snowdrops, but I have not tried it. My ideal soil for Snowdrops in general would be half good sweet yellow loam and almost half unsifted river-grit, and a little leaf mould. The situation I should choose would be a gently sloping bank, more or less shaded by trees whose roots were allowed to wander freely among the Snowdrops. I believe that all bulbs are healthier when planted amongst active roots than in ordinary beds. When the bulbs are at rest it is very essential that the soil should be kept sweet by the activity of other roots. We too often lose sight of this fact. I think the autumnal-flowering Snowdrops should be treated as alpines. All my best Snowdrops are grown under trees, the soil being quite full of their roots. I do not use manure for them. In the same situation the white Daffodils do well, and even Nar. pallidus præcox seems happy, and the delicate little N. cyclamineus is sending up its buds for the third or fourth time. Here, too, the Irises of the reticulata group—sophenensis, histrioides, Kolpakowskiana, and Krelagei—grow freely. The wonderful Iris Rosenbachiana, planted in 1888, has again just opened its beautiful flowers. I. Histrio I cannot manage. The only drawback to my situation for these spring gems is the soiling of the flowers from the droppings of the trees. I should mention that the climate is so trying that I cannot grow such hardy plants as Primroses, Pinks, Daisies, &c. All these disappear after a season or two.

I move most of my Snowdrops when in full flower, and do not find they are injured by it in any way. This is also the best time for moving Leucojum vernum.

I have noticed that the more green colour there is in any Snowdrop the more freely it grows and the more rapidly it increases, whilst the absence of green, or the substitution of yellow for the green, makes the plant delicate and slow of increase. G. Scharlokii, G. poculiformis, and G. lutescens illustrate this point.

In very frosty weather, when the young growth of Snowdrops appears to be shrivelled and dried up, I have an idea that the vital juices of the plant are instinctively drawn into the bulb, which acts as a reservoir. If the juices were left in the young leaves, would they not become frozen, and so destroy the tissues of the plant?

When lifting Snowdrops which are in full flower, I have often noticed that the bulbs are very soft and spongy, as though they had exhausted all their substance in perfecting the flowers.

In 1889 the Snowdrop fungus appeared in my garden; last season it visited me again, and this year it is working destruction amongst some of my choicest varieties. The feeling of utter helplessness is very depressing. I can hear of no remedy or preventive. Still I do not intend to give up in despair, but intend to work on and hope for "a good time coming" when the terrible fungus shall be a thing of the past. A faint heart never made a good gardener, and with that sentiment I will conclude my rambling remarks on Snowdrops.—*James Allen, Shepton Mallet, in the Journal of the Royal Horticultural Society.*

MARKET GARDENING.

Until a few weeks ago it had not been my privilege for some years to visit the neighbourhoods of Cheshunt, Broxbourne and Sawbridgeworth, which, so far as building operations are concerned, show comparatively few changes, and yet some of the old landmarks have been removed. In the march of human progress, however, these comparatively quiet districts are in some respects quite abreast of the age, and particularly in Horticultural matters. Indeed, in some departments of horticulture they are quite to the front, and are leaders rather than followers. Cheshunt was long ago famous for its Roses, Hollyhocks and Orchids; and Sawbridgeworth for its Orchard houses.

The names of Paul and Rivers are almost household words throughout the gardening community, and more recently there has sprang up in Cheshunt parish what is almost a new industry—we allude to the enormous establishments of Messrs. Rochford for the cultivation of Grapes, Cucumbers and Tomatos, etc., for the London market. The bare statement of actual facts relating to these establishments would almost appear to be mythical to many, and yet an inspection of these monster glass houses with crops of Cucumbers hanging by the thousand dozens, Grapes and Tomatos by the ton. The quantities grown make it a good paying business at prices on which the small grower would almost starve.

In addition to these fruits they are growing Palms by the million, made up of enormous quantities of Seaforthias, Latanias, Areca lutescens, Kentias, Cocos, and others. A very large batch of Lomaria gibba was one of the best I have ever seen. The stock of Adiantum cuneatum for cutting from during the winter was out in cold frames freely exposed to the sun, in fact a goodly number were standing outside without any protection. Chrysanthemums are grown in No. 16 pots for cut flower purposes in large quantities, and well done too. The stock consists in one nursery of 1,500 plants, all in the rudest health. To give some idea of the extent of the vineries I may say that one of them covers an acre of ground, and there is another in which over a thousand Vines are planted.

In this house they are planted out all over the border and trained upright, no canes being trained under the glass in this house. There is in this, and all the other houses, a splendid crop; but the fruit hanging among the foliage and branches will not I think stand so good a chance of getting well finished as where the rods are trained under the roof and the bunches hang clear of both foliage and laterals. None but late Grapes are grown in the nursery I looked in at, and only three kinds, viz., Gros Colmar, Alicante, and Muscat of Alexandria. The favourite with the Messrs. Rochford, judging by the extent to which it is grown, is Gros Colmar. If these monster fruit growing establishments could be distributed all over the country and be worked at a profit, the labour problem would be getting nearer a solution, for where one member of this enterprising family employs 150 hands there were in all probability not more than two or three receiving weekly wages for working on the same ground. Years back the building of an additional labourer's cottage would be a very rare event, but one of the brothers Rochford has from sheer necessity been obliged to erect a long row of cottages for the proper housing of his employées.

On the journey down to Cheshunt I was very much struck with the totally different methods of cropping the ground now as compared with the time I went about the fields gathering wild flowers and Blackberries. Then it was all farm land, mostly under Corn and Potatos, now down to Waltham the land is almost all under garden crops. There are literally miles of market gardens, and very many of them have glass erections upon them, and some of them of considerable extent. All this means the cheapening of produce which not so very long since

could only be enjoyed by the privileged few, so that they come within the means of those whose incomes are of very modest proportions; and what would have been considered by many as extravagant luxuries are fast becoming daily necessities. When the public at large become convinced that the extravagant use of meat which too largely prevails is unnecessary, the choicer productions of the garden will be more in demand, and I am not without hope that the demand for these choicer productions will keep pace with the supply.—*W. B. G.*

SCOTTISH NOTES.

Hardy Fruits at Kinfauns Castle.—It is difficult to say whether the wall fruit or the standards in the gardens at Kinfauns Castle are most deserving of admiration. Both are alike good, and exhibit their own peculiarities. Taking the wall fruit first, the upper wall is well clad with Peach trees, including such varieties as Hale's Early, Princess of Wales, Dr. Hogg, Admirable, Noblesse, Early Elruge, Early Alfred, and the Pine Apple Nectarine. The entire crop on this wall is now, Sept. 2, very promising. One of the best of the trees is a very old one, probably planted about forty years ago, but the variety is at present unknown. Apart from this patriarch, the best-looking trees in the meantime are Hale's Early and Early Albert. At the extreme end of the wall, sheltered from the east wind, is a very healthy young fig tree, bearing a promising crop. On the continuation of the same wall, behind the houses, are three heavily-laden Apricot trees, including the Moorpark and Shipley or Blenheim varieties. In the inner wall, at the north-east corner, our attention was directed to four Gage trees planted three years ago, viz., purple Gage, green Gage, transparent Gage, and Guthrie's Gage. They all bear fair crops, but the noteworthy feature is that Guthrie's is about double the size of the old green Gage. On the west wall are a number of Pears and Plums, one of the best of these being an old Victoria carrying a heavy crop of large fruit.

Continuing along the south wall, north aspect, we find the space entirely covered with young Morello Cherry trees, with rasps in front, all of which are remarkable for wonderfully heavy crops. Notwithstanding the lateness of the season, the rasps are still a great crop, and Mr. Goodfellow informed us that he usually pulls this fruit till the middle of October. On the east wall, west aspect, there are four pear and six plum trees, the former including a Jargonelle about forty years old, carrying a particularly heavy crop, the other trees being also well furnished. On going over the outside walls, we met, at the south, with still greater surprises in the way of free cropping and large fruit. Growing side by side on this wall is a Peasgood's Nonsuch and a Cellini (Apples) planted together specially with the view of determining the difference between the two varieties, as some growers regard them as the same. It must be admitted that at this season the difference is not easily distinguishable, but Mr. Goodfellow stated that when the two Apples come to maturity in December there is a marked difference in colour—the Peasgood having a light bottom, and the Cellini a bottom of dark yellow. Peasgood's Nonsuch was regarded as the grandest fruit at the first Chiswick Congress, is a free bearer, somewhat diffuse in growth, and its many good qualities and excellent flavour recommend it for general culture and exhibition.

Close to these trees is a Vicar of Winkfield Pear very heavily ladened; Marie Louise, and another very old Pear tree with a number of grafts, which include William's Bon Chrêtien, General Todtleben, Louise Bonne of Jersey, &c. On the same wall there are Apricots and Plum trees carrying good crops. The east wall, outside, is entirely covered with Plum trees bearing a fair crop. At the top of the same wall we noticed an old Morello Cherry tree with an enormous crop, the entire tree being quite covered with the brilliant-coloured fruit of the very largest size. Outside the garden there is a nice collection of old standard orchard trees, amongst those we noticed as bearing great crops being Cockpit, Halldoor, Domino, Blenheim Orange, and Bettie Geeson. Among the standard trees inside the garden are six very old ones, but they are not to be despised, although they are supposed to have been planted when the gardens were originally formed about 1826, viz., two Cambusnethan Pippins, two of "The John" variety (now out of cultivation), one Ravelstone, and one Early Harvest. "The Johns," which have a girth of 5 ft. and 4 ft. 8 in. at 2 ft. from the ground, are perfectly crowded with fruit. Amongst the standard Apple trees which have been recently planted we noticed Lord Suffield, Lord Grosvenor, Lord Derby, Warner's King, King of Pippins, Wellington, Irish Peach, &c., all bearing good crops. The Pears on standard include Beurre d'Amanlis, Moorfowl Egg, Craig's Favourite, Croft Castle, and the old hazel Pear.

Although Mr. Goodfellow has this year been devoting special attention to hardy fruits, he has not been neglecting the other departments. The vegetables are an especially fine crop. The Brussels Sprouts are something enormous, and the Carrots present a sight that is not often seen in an old garden like this, where they are frequently a failure. The Onions are a heavy general crop, and the rest of the crops are in proportion. While writing of hardy fruits, it may be mentioned that the fruit crop all along the Carse of Gowrie is much above the average, and the orchards have realised better prices than they have done for the past five years. At Kinfauns Castle gardens and orchards all kinds of hardy fruit have reached a state of perfection that has not been witnessed for many years in this part of the county, and Mr. Stuart Gray has to be congratulated upon possessing such a magnificent crop, while Mr. Goodfellow deserves commendation for the very careful way in which he must have managed the grounds to produce such results.—*Perthshire Constitutional.*

Royal Caledonian Horticultural Society.—International Show, 9th, 10th, and 11th September. The following is a list of the Special Awards recommended for Exhibits not shown in competition.—

Gold Medal.—Messrs. Thomson & Sons, Tweed Vineyards, Clovenford, for large table of choice Exotic Plants, Fruit, Flowers and Vegetables. Awarded by the Judges.

Silver Gilt Medal.—The Royal Horticultural Society, London, for table of Apples, Plums, Damsons and Tomatos; Messrs. Geo. Bunyard & Co., Maidstone, Kent, for collection of Apples, Pears, Plums and Kentish Cob Nuts; Mr. Walker, Ham, Surrey, for collection of Apples and Pears; Messrs. Birkenhead, Sale, Manchester, for collection of Ferns; Messrs. Cannell & Sons, Swanley, Kent, for collection of Cactus Dahlias, Double Begonias, &c.; Messrs. Dickson & Sons, Nurserymen, Edinburgh, for collection of Conifers; Messrs. B. S. Williams & Son, Holloway, London, for collection of Stove and Greenhouse Plants.

Silver Medal.—Messrs. Cheal & Sons, Crawley, Sussex, for collection of Apples and Pears, set off with stands of Dahlias; Mr. John Watkins, Pomona Farm, Hereford, for collection of Apples, Pears, Plums, Damsons, Cider Apples, Perry Pears, Cider Champagne and Perry Champagne; Messrs. Cocker & Sons, Aberdeen, for collection of Roses and other Cut Flowers; Messrs. Cross & Sons, Glasgow, for collection of Fruits, Flowers, Plants and Vegetables; Mr. H. Deverill, Banbury, Oxfordshire, for table of Onions, Carrots and Leeks, &c.; Messrs. Dobbie & Co., Rothesay, for table of choice varieties of Cut Flowers, &c.; Messrs. Laing & Sons, Forest Hill, London, for table of Begonias, and useful Decorative Plants, &c.; Messrs. Dicksons & Co., Edinburgh, for table of miscellaneous Decorative Plants; Messrs. Methven & Sons, Edinburgh, for table of Decorative Plants, &c.; The Saratoga Packing Co., California, for exhibit of sun-dried Californian Prunes; Mr. James Taylor, Bangholm, Edinburgh, for collection of Vegetables put up as sent to market; Mr. Curror, Eskbank, for Oncidium incurvum, awarded for good culture; Mr. A. McGregor, for Saccolabium Blumei majus, awarded for good culture.

Bronze Medal.—Mr. Rust, Eridge Castle Gardens, Sussex, for collection of Apples and Pears, grown at an altitude of 400 ft. above sea level; Mr. Campbell, Blantyre, Lanarkshire, for table of Cut Flowers, &c.; Mr. Cuthbertson, Rothesay, Bute, for table of Cut Flowers, &c.; Messrs. Laing & Mather, Kelso, for collection of Carnations and other Cut Flowers; Messrs. Stuart & Mien, Kelso, for table of Choice Flowers, &c.; Messrs. Cutbush & Son, Highgate, London, for table of miscellaneous Decorative Plants; Mr. Hugh Dickson, Belmont Nursery, Belfast, for exhibit of forty-eight Blooms of "Mrs. John Laing" Rose.

Gleanings from the World of Science.

Ripe Rot of Fruit.—It is now generally agreed that Glœosporium fructigenum is the correct name for a fungus which attacks ripe fruits belonging to many genera, but behaves so differently on various kinds that a whole host both of scientific and popular names have been applied to it by various authors. It is particularly at home on the fruits of a large number of Rosaceous trees, including Apples, Pears, Peaches, Apricots, Plums and Cherries, but also finds suitable food in the ripe berries of Grapes either black or white. When the Apple becomes attacked, it imparts an intense bitterness to the fruit, which should be borne in mind by those about to use affected samples for cooking purposes, as the smallest morsel permeated by the mycelium of the fungus will permeate and spoil a considerable quantity. The discoloured and decaying tissue should be carefully removed in preparing Apples for cooking purposes. No bitterness is, however, imparted to Grapes, although it has been determined that the fungus attacking the Apple and Grapes are identical. No remedy or cure has yet been discovered that would be effective against the fungus, because it lives in the interior of the fruit and is only discernible after it has reached the fruiting stage, and is about ready to burst through the sunken skin of the most affected. All diseased samples should however be rigidly excluded from the fruit room, to prevent the spores from attacking clean and healthy fruits.

A serviceable Gaillardia.—The species and varieties of Gaillardia grown in British gardens are useful only for decorative purposes either in the garden or in a cut state. Those are natives of the temperate parts of North America, but another section of the genus from the temperate parts of South America contains species with rayless flower heads, and which are therefore ill-adapted for garden decoration. One of these is G. scabiosoides, the flower heads of which emit an odour comparable to that of ripe Apricots. It extends over a considerable area of the western side of temperate South America as far as Patagonia. The flower heads are used by the natives either in the fresh state or dried and powdered in the form of snuff as a cure for headache.

Science Progressive.—Science is not immutable: on the contrary, some leading facts become laws for ever consecrated; the interpretation of secondary facts changes incessantly in a measure as their number grows, and as the conditions of their manifestation become better known to us. No one can have the pretention to possess the last word of science upon vegetation. In the state of transition that we are passing through, the wisest party is he who holds himself as a witness of facts, without resting on this side, as without going beyond it, and to avoid above all things systematic ideas.—*Georges Ville.*

Odour of Cucumbers in other Plants.—The Cucumber plant, both leaves, stems and fruit, has a very pronounced odour of its own, and when we detect this odour in other plants we are apt to consider it as cases of imitation; but there is no reason to believe that either of the under-mentioned plants would be benefited by imitating any of the others. The conclusion is that the coincidence is accidental. The flowers of Philadelphus coronarius smell like those of the Orange, but the leaves when bruised smell and taste like the fruit of the Cucumber. A similar difference between the flowers and leaves may be detected in the Meadow Sweet (Spiræa Ulmaria), and some other allied species. The flowers have rather a powerful odour, but it is quite different from that of the young and growing stems and leaves which, when bruised or trodden upon, give an agreeable but distinct odour of Cucumber, such as one perceives when the grower is pruning or pinching his plants and throwing down the shoots on the floor of the house. The prunings of Melon plants give off a similar odour. One of the most curious instances perhaps which could be adduced is the Wedding Flower (Iris Robinsoniana), the flowers of which, at certain stages at least, smell distinctly of Cucumbers. Owing to the great height of the flower stems, it is seldom the opportunity is afforded to detect whether the flowers are fragrant or not, and only one plant as yet having flowered in England proper, a flowering plant may yet be considered a *rara avis.*—*J. F.*

CHRYSANTHEMUM PROSPECTS.

What is the promise of the November Chrysanthemum bloom? Much, I think, will depend upon the weather. Some November flowering varieties appear to promise to be early, others late; but all the growers whose collections I have seen say that the season has been a trying and vexing one, owing to its cold, wet, and sunless character, and rapid variations of temperature; and that insects had run riot among the plants, thrip and other felonious visitants have been numerous, and earwigs more troublesome than usual.

I have seen the collection grown by Mr. Allen, The Gardens, Swallowfield Park, Reading. He has some very good plants that promise well, but others have taken on a yellowish tinge to the leaves, probably the result of cold or some miscalculation in giving fertilizers. At Devizes, Reading, and other places Mr. Allen generally gives a good account of himself, and I have no doubt he will again be equal to the occasion when it arises.

At Heckfield Gardens, Mr. A. Maxim, the successor to the late Mr. William Wildsmith, has a good collection also, but I do not know that it is his intention to exhibit. Like Mr. Allen's, Mr. Maxim's plants promise to throw some good blooms. Heckfield has good traditions, among them the Chrysanthemums; and it is gratifying to find Mr. Wildsmith's most worthy successor following in the footsteps of his teacher.

At the Priory, Hornsey, the residence of H. R. Williams, Esq., Mr. E. Rowbottom has a remarkably good collection of some 700 plants of a highly promising character. He is particularly strong in new varieties, especially of the Japanese section, and should give a good account of himself at the November shows. Louis Boehmer promises to be very fine. On one plant was a fine flower pretty well expanded, showing on its pleasing pink petals the plumed character peculiar to it. Also was W. Tricker, an American variety introduced by Messrs. H. Cannell & Son, and said by them to be the most lovely incurved Japanese yet seen; M. R. Bahnant, a continental incurved variety that seems as if it will be very late, the colour is carmine-rose shaded with cerise; Emily Rowbottom, the pretty pure white sport from Marie Stuart, which originated here.

Zanzibar is a clear yellow incurved variety from America; Mrs. W. Walter, a sport from Edward Audiguier; Val d'Andorre, which on the terminal bud comes quite scarlet; Sunflower; Mdlle. Blanche Pigmy from terminal buds, as it comes too early from the crown bud; G. P. Rawson (American), apricot yellow, promising to be very fine; Gloire de Rocher, bright orange-amber, said to be between Mrs. Falconer Jameson and Val d'Andorre; R. C. Kingston, American Jap, said to be another of the type of Etoile de Lyon; the latter also promises to be very fine from the terminal bud; Beauty of Castle Hill, Cleopatra, a variety which is expected to take the place of Fair Maid of Guernsey; Excellent, a soft pink Jap; Agnes Flight, Stanstead White, promising to be very fine; Mohawk (American incurved); Volunteer, a soft rosy-pink Jap of fine quality; C. H. Sharman, D. B. Crane, a sport from Mrs. J. Laing; W. H. Lincoln, a very fine double golden-yellow Jap; Purity; Mdlle. Marie Hoste, a large Jap, white, striped, and bordered with amaranth; Jules Toussaint, said to be a seedling from E. Molyneux, of a brilliant carmine colour, very promising; E. G. Hill, very promising, a golden Jap, from America which has brought across the water a great reputation; Miss M. Wheeler; Mrs. Falconer Jameson; Peculiarity, a very novel American Jap; Belle Paule; Holborn Beauty; Mrs. E. W. Clarke, appearing to be a very late variety; Césare Costa, said to be of a deep red colour; and Mrs. G. C. Schwabe, a very fine English raised seedling Jap, delicate rose, shaded with salmon.

Of incurved and Pompon varieties Mr. Rowbottom has a very fine lot also, including some of the newer varieties, which I hope to see when in bloom. Jeanne d'Arc is very promising on terminal buds, it is too early from the crown bud; besides it comes of a better colour and smoother from the former. Mr. Rowbottom gets most of his blooms from the terminal bud, and thoroughly believes in it.

Not far from the Priory is Holy Innocents' Vicarage, Hornsey, and here Mr. H. Neary grows, under decided disadvantages, a good number of early varieties, and some 350 plants of later ones. The early-flowering Pompons are great favourites with Mr. Neary, and he produces some very fine blooms indeed. His Japs and incurves he keeps low; they do not get much beyond 3½ ft. in height. William Holmes promises well, so does the claret-coloured Refulgence; the Queen family are late; Etoile de Lyon of very fine substance in the bud. He has Madame Desgranges, and its sports G. Wermig, Mrs. Hawkins, and Mrs. Burrell, pale primrose, which I think is the most beautiful of all. Mr. Neary procures very fine flowers indeed of these; and he has a number of specimen plants of a very promising character.

His Pompons he disbuds, leaving but one bud to a stem, but he gets 8 and 9 very fine flowers upon a plant. His leading varieties now in bloom are Early Blush, Blushing Bride, Alice Butcher, an orange-red sport from Lyon, which is deep rosy-purple; the latter is also very fine; Maud Pitcher, Mr. Cullingford, etc. Some plants of Comte de Germany, which is an October flowering variety, were carrying fine blooms under glass. Mr. Neary also grows some very fine specimen plants for local shows. Such varieties as Mrs. Forsyth, Mr. G. Rundle, Golden Christine, Mrs. W. Heale, Avalanche, William Robinson, Mdlle. B. Rendatler, etc. Mr. Neary deserves the greatest credit for what he grows so well in such a limited space, and with his hands so full of other work; it is his enthusiasm that carries his Chrysanthemum growing to a successful issue.

From here I made my way to Finsbury Park to see the collection grown by Mr. J. Mardlin. He has something like 1,800 to 2,000 plants in 16 and 12 sized pots; and their condition does him the highest credit. Standing in rows in various parts of the spacious yard they look like battalions of a floral army gathered for a review. The plants are all in fine health, though Mr. Mardlin says it has been a very trying season. He grows from twelve to twenty plants of leading varieties, and he is this season cultivating many novelties, such as Excellent, a fine new Jap; Mr. Harford, a sport from Lord Alcester; Bishni, a new Jap; Miss Mary Weightman, said to be a very fine American variety; Mrs. Winthrop Sargeant, American incurved; Flora Macdonald; Mrs. R. Sinlet, Reward, American, Mrs. C. Bebant, Shorta, very large, white; Mr. W. K. Harris, Clytie, a very free branching variety; a capital one to grow to form an edging to groups, etc. I was much impressed with Mr. Mardlin's skill as a cultivator, and I can quite understand how it is the fine displays he makes during the blooming season is the best of the kind held in London. Great crowds go to witness it. The condition of the flower-garden and borders in Finsbury Park reflects the greatest credit on Mr. Mardlin.—*R. D.*

COMPENSATIONS IN NATURE.

An evening paper has pointed out, with a great amount of force, that the principle of compensation may now be seen exemplified in the London Parks. What was lost in spring is being gained in autumn. Summer was late in coming as far as green trees were concerned, and now, in the last week of September, they look as if it were the last week in August. So it comes to pass that if we have had a wet summer we have partial compensation in an abundance of green grass to regale the eye and to invite the foot to walk upon; and so it has been since early spring.

There has not been a day this year, as there are scores of days in ordinary years, when the grass has appeared parched or brown. There is one conspicuous exception in the matter of the trees. In many places the Limes have already shed their leaves. It is invariably the earliest tree to become denuded of leaves; and in a hot dry summer like that of 1887, the branches have been seen completely bare by the end of July, and, this notwithstanding, it is curious to notice how in many of the suburbs in London and in provincial towns the Lime is planted for street decoration.

Probably this comes about because the Lime is a cheap tree, and local bodies have to make a moderate sum go as far as possible. But no street planter of experience is found recommending the Lime for this particular purpose.—*R. D.*

BOUILLIE BORDELAISE.

A Remedy for the Potato Disease.

We *(Bell's Weekly Messenger)* have on many occasions described the experiments in connection with sulphate of copper and lime as a remedy for Potato disease which Prof. Aimé Girard has been carrying on for some years at the Government farm at Joinville-le-Pont, near Paris, the details of results given having been brought down to the end of the season of 1890. This year they have been continued in a more extended form, and at the end of August we had the pleasure of visiting the fields, when the various experiments were explained to us by Dr. Aimé and M. Tisserand, the Councillor of State and Director of Agriculture. The main experiment is being carried out on five hectares (11¼ acres) of Richter's Imperator, the crop being the best we have seen this year. Although there is another month's growth still to be made, there is already a large crop, and one root which we pulled had beneath it potatos weighing over 1,700 grammes (about 4 lbs.), the tubers being generally of a good useful size and not too large. It is estimated that the crop will yield extraordinarily well this year. The disease made its appearance early this year, and when the crop was dressed with the sulphate of copper mixture on July 9th, a few spots were found on the leaves in the field. These spots are still on the leaves, and are a most effective testimonial to the fact that the mixture not only prevents but checks disease. The dressing *(bouillie Bordelaise)* was made up as follows:—

Water.....	100 parts.
Sulphate of copper	2 ,,
Lime.....	2 ,,

This was applied by a Vermorel machine, an implement about half the price of the Strawsonizer, but which does its work very effectively. The result was that the disease was checked, and the field entirely saved. It was extremely interesting to note that in a few patches where the dressing was not applied the crop is cut down, and there is hardly a plant to show. No one could go over this grand field without feeling sure that the treatment is successful. A couple of plots in different parts of the field were also dressed with a sulphate of iron dressing, in order to test Dr. Peterson's alleged remedy. In each case the patch was almost destroyed by the disease.

Besides this large field demonstration, M. Girard has also a series of thirty-four plots, on which he is testing as many leading French, English, and German varieties of Potatos, and on each of these three-quarters of the plot has been dressed with the sulphate of copper and lime dressing and one-quarter left untreated. In every case but one the difference is most striking, the untreated portion being everywhere much diseased, and the crop practically destroyed. Of course the difference is greater in the case of less vigorous sorts, and it would appear also that foreign varieties are in France more subject to disease than French sorts. The uselessness of sulphate of iron as a dressing is well shown in three experiments in connection with these plots, In these cases there is a smaller duplicate plot dressed with this mixture, and in each case they are either worse, or the same as the non-treated portion of the experimental plot. One variety of Potato—the German "Gilbe rose"—shows exceptionally interesting results. The portion of the plot treated with the *bouillie Bordelaise* is most vigorous, and ripening oft capitally, the tubers beneath the plants being good both in quantity and quality. On the undressed portion a good portion of the crop is utterly destroyed, and the plants still remaining are poor and stunted, and the crop small. The extra plot dressed by sulphate of iron may almost be said to be entirely destroyed, and what few tubers there are are small in size. This result may be said, also, to be confirmed by the other two sulphate of iron plots.

The experiments are full of interest, the more especially that they are a continuation of the first made to test this new remedy. The present season is one in which the disease is very bad throughout France, and there is not a variety that has not been attacked in these experimental plots. In every case, however, the parts treated with the sulphate of copper have been saved. This is a striking proof of the usefulness of the dressing, and the fact that five years' experiments have all been equally successful should be proof positive that at last we have a sound and practical means for combatting the most disastrous disease that attacks our food crops.

HARDY TREES AND SHRUBS.

The Spiræas.

There are something like fifty species of Spiræa distributed over the temperate and subfrigid zones of the northern hemisphere, with a few of them in the tropics upon high mountains. The bulk of them are therefore perfectly hardy in Britain, and a considerable number of them are universally grown in gardens, shrubberies and pleasure grounds. The genus includes both herbaceous and shrubby species, many of which of both types are of first-rate decorative value, For the present we shall concern ourselves only with the choicest of the shrubs, exclusive of the S. sorbifolia type, which may be alluded to at another time. They grow in almost any soil that is not too retentive or waterlogged, nor too barren and dry. Full exposure to light is, however, essential to their well-being and to the best development of bloom. A large number of the shrubby species may be propagated from suckers, which as a rule are abundantly produced. All of them may, however, be increased to any extent by cuttings of the half-ripened wood, inserted in sandy soil, and placed in a cold frame during the summer months, or later on in a pit where they may enjoy a little bottom heat by plunging them in a bed of Cocoa-nut fibre.

Spiræa Bumaldii.—The dwarf habit and profuse flowering nature of this comparatively new Japanese Spiræa should recommend it to every planter for edgings to large beds of shrubs, the margins of shrubberies, and for filling small beds on the grass. It would also prove useful for forcing. The stems vary from 1 ft. to 2½ ft. in height, according to the age and strength of the plant, branching freely, and every shoot terminates in a corymbose cyme of deep red flowers, produced in succession from June to September. The leaves are lanceolate, serrate and of a rich dark green. There is a variegated variety (S. B. variegata) in which the leaves are variously blotched or banded with yellow, and sometimes the whole of the leaves on the smaller shoots are yellow. Our illustration of a flowering shoot will give an idea of what the plant is like.

Spiræa japonica.—There is considerable affinity between this species and the above, and both come from the same country. We do not refer to the plant generally known in gardens as S. japonica, for the correct name of that is Astilbe japonica, and it belongs to another family. The true S. japonica is a shrub, and is nearly always named S. callosa by gardeners. The type has rosy-red flowers in terminal corymbs, successively produced from June to September, according to the condition of the plant. It varies from 4 ft. to 6 ft. high, but there are several dwarf varieties, one of the best of which is S. j. alba, about 12 in. high, with white flowers. S. j. rubra has dark red flowers, and is one of the showiest of garden shrubs. S. j. splendens has peach-coloured flowers, but being very dwarf is useful for forcing purposes. S. j. superba, with deep rosy-red flowers, is also very choice. All are perfectly hardy and should be extensively planted.

S. Douglasii.—No good collection of shrubs would be complete without this free flowering North-west American species. The oblong leaves are white with down beneath, which gives the plant a characteristic appearance when ruffled by the wind. The flowers are of a beautiful soft rose, and borne in narrow, thyrsoid panicles terminating the shoots.

S. tomentosa.—There is considerable resemblance between this North American species and the last-named, but it is readily recognisable by its shorter, ovate leaves, and dwarf stature, being only 2 ft. to 3 ft. high. It is not quite so ornamental as S. Douglasii.

S. salicifolia.—The flowers of this species are produced in terminal, sub-cylindrical cymes, from July to September, and are of a beautiful rosy-pink in the type, but there are many varieties. It is a native of continental Europe, but so freely does it grow in any part of Britain that it has become naturalised in several places. Suckers are very freely produced around the main or mother stool. Two of its finer varieties are S. s. grandiflora with very large flowers, and S. s. paniculata or S. s. alba with branching panicles of white flowers.

S. bella.—The leaves of this Himalayan species are ovate and notable for their small size. The flowers are of a beautiful rosy-red, and like those of S. japonica are produced in large flat corymbose cymes. The plant is highly ornamental in the shrubbery.

S. bullata.—The stems of this species form a compact, branching bush, 12 in. high, and densely covered with small corymbs of deep red flowers about midsummer. The small dark green leaves are much blistered or wrinkled, and on that account the plant is often named S. crispifolia in gardens. It is a native of Japan and of recent introduction.

S. media.—Within recent years this has become very popular for forcing purposes, and its cymes of pure white flowers, produced in profusion, renders it very useful for cut flowers or decorative purposes in winter. Being a native of Northern Asia it is perfectly hardy, growing 2 ft. to 4 ft. high, and flowering in June and July. It is known in gardens as S. confusa, and S. oblongifolia is another synonym.

Spiræa Bumaldii.

S. prunifolia flore pleno.—The double-flowered form of the Prunus-leaved Spiræa seems to be the only one known in gardens. It is a native of China and Japan, and in this country is ready to burst into bloom on the approach of warm weather in spring. The flowers are pure white, and produced in quantity all along the previous year's wood.

S. Thunbergii.—The flowers of this Japanese species are pure white, fragrant, and developed upon the naked branches in early spring. The bush does not exceed 2 ft. to 3 ft. high, and is very distinct from any of the above-mentioned kinds on account of its long, linear-lanceolate narrow leaves.

S. discolor ariæfolia.—In the large, spray-like panicles of creamy-white flowers, this species may be compared to the plants of the S. sorbifolia type, but the leaves are very different, being wedge-shaped and lobed, resembling in some respects those of the common Hawthorn. The flowers are produced late in summer at a time when colour is much wanted in the shrubbery. There are several forms of the plant but that under notice is by far the best.

Preston and Fulwood Floral and Horticultural Society.—The fortieth monthly meeting of this Society will be held in the Legs of Man Hotel, Fishergate, Preston, this (Saturday) evening, when Mr. J. Hathaway, gardener to the Earl of Lathom, will read a paper on "The Chrysanthemum." Chair to be taken at 7.30.

VICTORIA PARK.

The long-continued wet weather has told badly upon Pelargoniums used for bedding purposes, and at the same time brought out the superiority of the sub-tropical plants and carpet bedding for ornamental effect during wet weather. The storms of wind have however, damaged the foliage of Cannas badly where they had been fully exposed to the blast, showing that a certain amount of shelter from trees and shrubs is absolutely necessary for this style of gardening.

Near the lake is a bold and mixed bed of Eucalyptus globulus, 3 ft. to 8 ft. high, Ficus elastica, Abutilon brasiliense, A. Thompsoni, Albizzia lophantha, and Erythrina corallina, with an edging of dwarfer plants of Fuchsias, variegated Maize, Amicia zygomeris, Aralia Sieboldi, Chamapeuce casabonæ, Centaurea ragusina candidissima, and Cineraria maritima. Near by, on the opposite side of the path, is a circular bed of the large-leaved Solanum robustrum, edged with Iresine Lindeni and the white-leaved Centaurea. There is also a pretty and attractive bed of medium size filled with such elegant plants as Humea elegans, Grevillea robusta, Albizzia lophantha, and Abutilon Boule de Neige, with an edging like a little hedge of Amicia zygomeris, Fuchsias, Cineraria maritima, and Iresine Lindeni, while the perpendicular edge is planted with Cotyledon secundum glaucum. The peculiar but agreeable odour of the Humeas is perceptible from a distance.

A little farther on is a larger open space amongst the shrubbery on which numerous beds are laid out and planted with sub-tropical subjects and carpet bedding plants. An oval bed in the centre is filled with plants, the bulk of which are of two different heights, the taller ones consisting of Ficus elastica (the younger leaves of which are of a deep bronzy red), Eucalyptus, Aralia Sieboldi, Dracæna rubra, and Oleander. The margin is occupied with dwarfer plants of subjects mostly already mentioned. At each end of this is a heart-shaped bed of Cannas, then one of mixed plants of moderate height. On either side of the Cannas are oval beds to the number of eight, filled with Fuchsia Golden Fleece, and edged with Coleus Verschaffelti, and Cotyledon. There are also two neat beds next the walk, in the shape of dumb-bells, occupied with carpet bedding. Each end of these beds contains a modified Maltese cross done with different varieties of Alternanthera on a groundwork of Mentha Pulegium gibraltarica, and a scroll and edging of Cotyledon, with numerous dot plants through it. Then there are four small circular beds filled with tuberous Begonias on a groundwork of Antennaria edged with Golden Feather, and a line of fine plants of Sempervivum tabulæforme on the perpendicular edge completes the whole. Farther on upon the left are other beds of a similar nature to those already mentioned, and being in a sheltered place the Cannas appear to advantage.

In an open space bordering upon one of the main walks of the park is a large scroll-work bed neatly laid out with carpet bedding plants. Along the centre are various figures done with Alternantheras on a groundwork of Mentha edged with Cotyledon and Golden Feather. Numerous plants of Cotyledon gibbiflora metallica, C. Pachyphytum, Sempervivum doræme, Aloe subulatum, Chamapeuce diacantha, and C. casabonæ, Agave Americana, and A. a. variegata. At each end of this is a bluntly hexagonal bed with a raised, sharply hexagonal figure in the centre, planted with brightly coloured Alternantheras and divided by lines of various Cotyledons. The blunt angles are occupied with T-shaped figures of Alternanthera on a groundwork of Mentha. Two small circular beds of Humea elegans, 4 ft. to 5 ft. high, on a groundwork of Chamapeuce diacantha, are also noticeable.

Not far from this, on a triangular piece of ground, is a large circular bed filled with grotesque looking succulents of various kinds and large size. The semi-circular piece of ground, where the largest assemblage of beds is located, is occupied with

various bedding subjects of the usual kind. The Pelargoniums have of course grown vigorously, but they are thinly flowered by reason of the heavy and long continued rains. Two oblong curved beds of Verbena venosa on a groundwork of Centaurea ragusina, and edged with Dell's Black Beet and Golden Feather still maintain a gay appearance Foliage plants also look well in a bed of Centaurea, edged with a broad belt of Iresine Lindeni; and also in a circular bed on each side of this, consisting of Iresine Lindeni, edged with Golden Feather and Cotyledon. Some beds of bicolor Pelargoniums mixed with blue Violas, have also a light and cheerful appearance compared with the dull and cheerless beds filled with flowering zonals.

At either end is a large oblong curved bed done out in various figures of Alternanthera, edged with different species of Cotyledon, on a ground-work of Mentha. The central figure is diamond shaped and raised above the rest. A circular bed at either end is also neatly done with similar plants. Two circular beds of carpet bedding, nearly filled with a six-rayed star of various Alternantheras edged with Cotyledon, are particularly neat. Several figures in the interspaces between the rays are worked upon a groundwork of Mentha. A thin line of Golden Feather bounds the whole, and Cotyledon secunda glauca as usual occupies the sharply sloping edge. All the other beds are practically spoilt for the season on account of the rain and want of sunshine.

THE HERBACEOUS BORDER.

Perennial Asters for September.

A LARGE proportion of the species of Aster which are in full bloom during September also continue through the greater part of October; but there are some very choice kinds which are not at their best till the latter month, and should therefore be considered as October flowering kinds. Some few commence flowering in August, and continue till October provided the soil is fairly fertile and moist. If collectors would visit and examine collections of Asters before making a selection they would be more certain of getting the desirable kinds, and the effect would tend to popularise a deserving class of plants, and give the public a better estimate of them for decorative purposes. The varieties of A. Novi-Belgi are extremely numerous, and while a number of them are very ornamental and floriferous, many others are very weedy, and ought to be eradicated. The very fact of their being easy to propagate has caused them to be widely disseminated in gardens much to the injury of the finer sorts. Any garden soil proves suitable, and propagation by division is so easy that no comment upon it is necessary.

A. SHORTII.—The stems of this North American species seldom exceed 3 ft. or 3½ ft. in height, and terminate in panicles of lilac flowers which are of good average size and very showy in the aggregate. The leaves are narrowly ovate with a cordate base and very distinct for the genus.

A. PYRENÆUS.—The heads of this Pyrenean species are about 1¾ in. across, and the stems 12 in. to 18 in. high. The buds before expansion resemble to some extent those of a Burdock, and the rays are lilac-purple. The leaves are lanceolate, and very closely set upon the stems. It commences flowering in August and continues till October in wet seasons like the present. Increase is very slow, and the plant never becomes weedy like some of the American kinds.

A. AMELLUS.—The Italian Starwort is known to every collector of Michaelmas Daisies, for its large heads of blue flowers shaded with purple. The stems generally grow about 18 in. high, and are well furnished with spathulate and oblong, dark green leaves.

A. SPECTABILIS.—Under good cultivation, the stems of this North American species vary from 18 in. to 2 ft. in height, and terminate in corymbs of bluish-purple flower heads 1 in. to 1¾ in. across. The radical leaves are large, lanceolate, and cover the ground, while the stem leaves are much smaller.

A. VERSICOLOR.—In stature this resembles some of the choice, dwarf forms of A. Novi-Belgi such as A. N.-B. lævigatus, being only 12 in. to 18 in. high. The flower heads are also similar in size, very freely produced in panicles, and are white changing to a rosy-pink with age. The two colours are freely mixed in the same panicle.

A. NOVI-BELGI.—The New York Aster in its typical form is a grand decorative plant with lavender-blue flower heads 1 in. to 1¾ in. across, and of a darker hue when they first expand. The stems are 4 ft. to 5 ft. high, and well furnished with dark green foliage. October is, however, the month in which it attains perfection. Some of the forms of it are so distinct that they often get different specific names.

A. N.-B. DENSUS.—For many years this has been cultivated under the name of A. lævis, and it is one of the most distinct and handsome of all Asters. The leaves are relatively short, broad, and of a dark shining green. The stems vary from 2 ft. to 2½ ft. under good culture, and terminate in flat-topped panicles of bright blue flowers, ¾ in. to 1¼ in. across. The plant forms a dense bush, and is now quite charming in appearance.

A. N.-B. LÆVIGATUS.—The stems of this variety are only 12 in. to 18 in. high, and much branched on the upper third of their length, with a profusion of rosy-pink flowers. The plant is frequently grown in gardens under the name of A. minimus, in allusion to its dwarf stature.

A. CORDIFOLIUS.—The heart-shaped leaves of this species are distinct, and by no means very common in the genus. The stems of the more typical form are 2 ft. high, slender, deep reddish-purple, flexuous and much branched with long ascending branches bearing a profusion of white or pale lavender flowers. Some forms of it are taller, with smaller white flowers.

A. LINOSYRIS.—The stems of this European and British plant are generally about 18 in. high, but in good soil they attain a height of 2 ft. The flower heads are deep golden-yellow and rayless, and on that account the plant is often called Linosyris vulgaris, and Goldilocks, from the colour of the flower heads. A North American form is now included with this species. It has a few white rays and narrower leaves, and is generally grown in gardens and recorded in books under the name of A. linifolius, or the Flax-leaved Aster.

GETTING FRUIT TREES TRUE.

WHEN the lists of hardy fruits which the Royal Horticultural Society proposes to publish for circulation amongst cottagers and small farmers was under discussion the other day by the Fruit Committee, I ventured to state my belief that to persons so very ignorant of the nursery trade as the classes alluded to were, it would be very difficult for them to obtain the sorts of fruits mentioned in the lists true to name. The suggestion, however, was pooh-poohed. A couple of days later I visited some good private gardens in Hampshire, and was in them shown Apples purchased locally, and from a respectable trader, for certain sorts which proved to be very different varieties.

Now if good practical gardeners are thus deceived what prospect is there that cottagers or other ignorant persons may not be so also? There are some high-class fruit tree nurseries in the kingdom, where every effort is made to keep the stock absolutely true, but in all these at some time or other mistakes are made. In many of the smaller nurseries the difficulty of keeping varieties absolutely true is much greater because the fruit departments are not extensive enough to demand that absolute supervision found in larger nurseries. This is a difficulty of no small moment, for should the poor purchasers of fruit trees be in any way deceived, not only is the action of the Royal Horticultural Society wasted, but the money and soil of the planter is wasted also.

I am frequently applied to by persons of the very classes referred to for information as to gardening books, and always have added name, price and where obtainable. I feel assured that it is just such information which the small farmer and cottager will ask for when the fruit lists come into their hands. Still farther how very important is it that trees on suitable stocks should be furnished. How much of heart-burning have I found amongst gardeners because these trees in many cases have been worked on ill-selected stocks. No one can desire to see the cottager the recipient of the cast-off refuse of the nurseries, and I hope every effort will be made to serve this class well.—*A. D.*

THE WOKING NURSERY.

THE old-established nursery of Messrs. Geo. Jackman & Son at Woking is situated in a pleasantly wooded and undulated part of Surrey, and occupies the top and slopes of a slight elevation or hill, about a mile and a half from Woking Station. This is really the old portion of the nursery, for a new one has been established for some years within three-quarters of a mile of the station. The latter consists of about sixty acres, and is occupied from one end to the other with nursery stock of all kinds, including Roses, deciduous trees and Conifers in large quantities. The older portion contains some ninety acres, making altogether 150 acres. The nursery stock on the portion of this capping the hill is presently to be sold by auction to clear the ground for building purposes. The undermentioned subjects indicate the nature of the stock, and it is needless to say some of the specimens are of large size, having been planted many years ago in permanent positions. The saleable stuff has, of course, been frequently transplanted, and may be moved with safety.

CONIFERS.

The soil is of a fine sandy loam of a rich nature, calculated to encourage a mass of fibrous roots, and this no doubt has determined to a large extent the success of the nursery. Conifers are a marked feature here, as may be seen by the specimens of Cupressus Lawsoniana, C. nutkænsis (Thuyopsis borealis), and Thuya gigantea (T. Lobbii), 6ft. to 10 ft. high, and perfect specimens of their kind. The varieties of the first named are very numerous, and include C. L. argentea, 6 ft. to 8 ft. high, of pryamidal habit with densely arranged, spreading branches of silvery appearance. C. L. erecta viridis is another old favourite, forming columnar specimens 2 ft. to 4 ft. high. C. L. pyramidalis alba is something in the way of C. L. argentia, but the specimens, which are 2 ft. to 3 ft. high, are denser in habit and of a silvery glaucous hue. C. L. Fraseri is a columnar tree with short ascending branches, and is a great favourite with many; but it is eclipsed by the elegant beauty and deep silvery white hue of C. L. Allumi of similar habit. It was raised by a nurseryman of that name at Tamworth, and the specimens are 4 ft. to 6 ft. high, as are those of C. L. Fraseri. The former may be compared to the silvery Atlantic Cedar (Cedrus atlantica glauca) in hue, but has short ascending branches, not likely to be broken down by a fall of snow.

Other choice Conifers are Thuyopsis dolobrata, 2 ft. to 5 ft. high, Retinospora pisifera aurea, 2 ft. to 4 ft. high, and R. plumosa aurea, of similar height, and all in fine condition. The Golden Yew (Taxus baccata elegantissima) is another subject that cannot be overlooked. There are trees of various sizes, and also some large round headed specimens that have been grafted on the top of a hedge. The tall specimens of Thuya occidentalis cannot be compared with T. Lobbii for beauty and usefulness, but there are beautiful dense-habited plants of T. o. globosa, about 2 ft. to 2½ ft. high, and as far through. Varieties of the Oriental Arborvitæ (T. orientalis) are also kept in stock. The Spruces and Silver Firs are also specialities, including such kinds as Picea orientalis, 10 ft., and P. Engelmannii, P. E. glauca, 2 ft. to 3½ ft. high, with good leaders, representing the former. The Silver Firs are well to the fore with young specimens and old of Abies Nordmanniana, A. nobilis, A. lassiocarpa, A. concolor and A. c. violacea, 4 ft. to 6 ft. There is a fine tree of A. lassiocarpa, 35 ft., A. grandis, 45 ft. or more, and another of A. Nordmanniana in cone of similar height feathered to the ground, the lower branches actually lying upon it. The same may be said of some grand trees of Wellingtonia gigantea, about 50 ft. high, with fine boles tapering upward. Some trees of Cedrus atlantica, about 30 ft. high, and as many years old, are notable for their spreading habit, and some of them are heavily coned with curiously reflexed branches. Araucaria imbricata may be seen of various sizes. Trees of the Austrian Pine (Pinus austriaca), 5 ft. to 8 ft. high, and frequently lifted, are suitable for transplanting.

DECIDUOUS SUBJECTS AND HOLLIES.

In the open ground Hydrangea paniculata grandiflora is bearing fine panicles of bloom, some of them being about 15 in. long, and nearly a foot through at the base. A fine old tree of the Purple Beach stands about 50 ft high, and as far through. The narrow-leaved Acacia (Robinia Pseud Acacia microphylla or angustifolia) is a graceful and elegant tree, with

narrow leaves, and deserves to be more extensively planted in pleasure grounds. Large quantities of seedling Rhododendrons are grown, as well as the choice named hybrid sorts.

Hollies are grown in quantity and variety, from 3 ft. to 6 ft. high. Besides the common Ilex Aquifolium there are Scotica, with oval, entire, and thickened margins; ovata, with ovate, serrate leaves; the Hedgehog (ferox), the weeping green Holly (Nendula), the broad-leaved Hodginsii, and Watereriana, with entire or slightly spiny leaves of a dark green with a golden-yellow margin. Silver Queen and Golden Queen are well represented by bushy specimens; and besides them there is the narrow-leaved Silver, with small leaves having a broad silvery margin, and bushy habit. The broad-leaved Silver Stripe is distinguished not only by its broader leaves but by its more rapid growth and pyramidal habit. They are in good condition for lifting.

Tea Roses are grown in quantity in 24 and also 48-size pots, the latter being suitable for the trade. Those in the larger size have made stems about 10 ft. high, and there is also a second batch of smaller sized plants in one of the houses. Amongst those in the open air we noted Gloire de Dijon, Maréchal Neil, Climbing Devoniensis, Wm. A. Richardson, Cheshunt Hybrid, Niphetos, Climbing Niphetos, and others, all remarkably strong and clean.

CLEMATIS.

The Woking Nursery has long been noted for Clematis, more especially in association with the raising of C. Jackmanni. A large stock of small plants is kept in pots, and a set of large specimens is also grown in the open ground. The bulk of them are flowering more or less freely, but especially the large plants. The violet-purple of C. Jackmanni is always fine. Of the same type are Jackmannialba, white, Alexandra, reddish-violet, shaded with blue, more especially when well advanced, Tunbridgensis, violet with a crimson centre, Magnifica, similar but larger, and Rubella, claret-purple. Another type is characterised by C. lanuginosa, pale blue, and C. l. candida, of the palest lavender or white. Blue Gem is well named, for it has six sepals of a beautiful blue and imbricated. Here also belongs Lady Caroline Neville, having large and showy flowers of a lavender hue, with a violet centre; it also has six sepals. A handsome, new variety named La France has large, deep bluish-purple flowers with four sepals as a rule. Another new sort of the Jackmanni type, namely, Mrs. Baron Veillard, has pretty reddish purple flowers with four to six sepals, and when seen in contrast with the other varieties is very distinct.

Duchess of Edinburgh belong to the Florida type, and is not only the best of the double white sorts, but is agreeably fragrant. Belle of Woking is a double variety of the palest lavender, or greyish white, with numerous sepals in many series. Mrs. Geo. Jackman belongs to the Patens type, and has eight imbricating sepals of the purest white. It is without doubt the best of the single white sorts, flowering in July and again late in the season. C. Viticella is a smaller flowering type of great beauty when freely flowered; the variety C. V. alba is greyish white, and has six sepals. More choice still is C. V. rubra grandiflora, with flowers of a bright claret-red, produced in great profusion. It is a rampant grower, suitable for training on trellis work or against a building.

NEW & RARE PLANTS.

AT the fortnightly meeting of the Royal Horticultural Society on the 22nd ult. the larger proportion of the exhibits consisted of Dahlias, and a considerable number of them received Awards of Merit. Single varieties seem to be declining in favour, and possibly from a lack of anything really new or distinctive, none of them were certificated. The other plants mentioned below were also shown and certificated at the same time and place.

DAHLIA NELLIA MACHRAY.—In this we have a very small and neat Pompon of a deep orange-yellow on the inner face of the florets, while the reverse is much paler. If a free flowering kind it should be useful for cut flower purposes.

DAHLIA MRS. WALTER BESSANT.—This is also a Pompon of small size, although somewhat larger than the last. The basal portion of the florets is creamy yellow, while the tips are deep purple, fading to rosy-purple with age. Both varieties were shown by Mr. T. S. Ware, Tottenham, and received Awards of Merit.

DAHLIA SULTANA.—The heads of this decorative Dahlia are of small or medium size, and clear orange-buff, with a white tip to the florets, extending half-way down them.

DAHLIA MARS.—For a Pompon Dahlia the heads in this instance are considerably above the average size, and of a brilliant scarlet with wide and rounder florets.

DAHLIA CECIL.—There is a similarity in type and size between this Pompon and the last-named. The florets are red, with a white tip, and those in the centre of the head are darkest.

DAHLIA LORNA DOONE.—The heads of this variety are of good average size for a Pompon, and of a beautiful, clear, rosy-purple, with crimson tips to the florets. The variety should find favour with many growers.

DAHLIA ADA REHAN.—Even as a show Dahlia, this is of very large size, semi-globose or slightly flattened upon the crown, and of a beautiful, clear, soft, rosy-purple. It should find a place on many an exhibition stand. The above seven varieties were staged by Mr. C. Turner, Slough, and received Awards of Merit.

DAHLIA MRS. G. HUMPHRIES.—This is a show variety of good average size, semi-globose, and of a delicate soft pink, almost white in the centre while opening, and the outer and older florets again become nearly white when they are fading.

DAHLIA LITTLE SARAH.—For a Pompon this is of good average size, tipped and suffused with reddish-purple on a pale yellow ground that ultimately fades almost to white. Both were shown by Mr. G. Humphries, Kington Langley, Chippenham, and received Awards of Merit.

DAHLIA ERNEST CANNELL.—In this we have a Cactus Dahlia of medium size, and of a bright orange-scarlet, darkest in the centre. The florets are long and pointed, and the fact of their being revolute at the sides gives them a more tapered appearance than they would otherwise have.

DAHLIA MRS. THORNTON.—Even for a Cactus Dahlia this is of large size with broad, rather loosely arranged florets. The latter are flattened or slightly revolute at the sides and of a deep magenta at the base, while the upper half of their length or more is flushed with pale violet or purple. The colour is both novel and striking, and is more extensively developed in this variety than in any other, although not so intense perhaps. It may pave the way for something better in the same direction.

DAHLIA SIR ROGER.—The heads of this Cactus variety vary from a small to a medium size, and are of a clear bright scarlet. The florets are long and taper pointed, and when fully developed are revolute at the sides. All the three were exhibited by Messrs. H. Cannell & Sons, Swanley, and received Awards of Merit.

DAHLIA DRAUGHTSMAN.—This was shown by Mr. G. S. P. Harris, Orpington, Kent, and received an Award of Merit. It is a large and semi-globular deep crimson self or show variety of neat form. The crown is but slightly flattened. Six blooms of it were exhibited.

DAHLIA MRS. OCOCK.—This is also a show variety with large bright yellow blooms, shaded with bronzy-red at the tips of the florets on the inner face only. The florets are also wide and rounded at the mouth. It was staged by Mr. A. Rawlings, Romford, Essex, and received an Award of Merit.

RHODODENDRON CERES.—This is one of the Java Hybrids, and shows an improvement amongst the yellow kinds having large flowers. Those of the variety under notice are funnel-shaped, with large recurved segments, and the whole is of a dark apricot yellow tending towards orange. The stamens, on the contrary, are reddish with purple anthers. The oblong elliptic leaves are of leathery texture, deep shining green, and well set off the large trusses of bloom terminating the shoots.

ELÆAGNUS PUNGENS MACULATA.—The leaves of this shrub are oblong, undulated, and dotted with rusty-coloured scales on a pale, almost silvery ground-work of closely placed smaller scales. The whole of the central portion of the leaves of the variety maculata are yellow with narrow and irregular green margins, and those at the apex of the shoots are often wholly yellow in the young state. As the leaves get old, the yellow changes to a creamy or almost silvery white. The plant appears of dwarfer habit than the other forms of the same species. Both the above were shown by Messrs. J. Veitch & Sons, Chelsea, and were awarded First-class Certificates.

CUPHEA LLAVÆ.—The stems of this species are about 6 in. to 9 in. long, and keep on producing flowers from the axils of the leaves so long as they continue to elongate. The leaves are lanceolate, hairy, and of a dull green or slightly hoary, sometimes rusty. The calyx tube is large and rough with red hairs. The petals are reduced to the two upper ones which are conspicuous, obcordate, wavy and scarlet with a black midrib. The throat is filled with anthers covered with violet hairs. A basket of plants of it was exhibited by Messrs. Pitcher & Manda, Hextable, Swanley, and a Botanical Certificate was awarded the exhibit.

CHRYSANTHEMUM VISCOUNT CLIQUOT.—This is a Pompon variety of good average size and perfectly double. The florets are flat, horizontal or slightly reflexed, golden bronze on the upper surface and yellow on the reverse. A bunch of it was staged with a collection of others by Mr. R. Owen, Maidenhead, when an Award of Merit was accorded it.

THE ROSE GARDEN.

A FEW OF THE BEST NEW ROSES.

MOST amateurs delight in purchasing something new, and as there has been a few really good new Roses introduced during the last three or four years, I propose giving a short list of them, with a brief description, and also the date of their introduction to the public. Now that the planting season is rapidly approaching, it would seem to be a seasonable time for such a list, and I trust it may prove of service to intending purchasers.

All of the varieties mentioned have been grown and thoroughly tested by me, and I may say that some hundreds of others of the new kinds also; but what I name below are in my estimation the cream of the lot, and are all well worth growing in any collection of Roses. There has been a great advance made in almost all flowers of late years, but perhaps there are none more improved than the "Queen of flowers."

SOUVENIR DE S. A. PRINCE (T. 1889).—This may be briefly described as a pure white Souvenir d'un Ami, from which it is a sport; it is one of the finest white Roses grown, and most exquisitely scented.

SIR ROLAND HILL (H. P. 1888).—Very deep and dark purple; a splendid dark Rose, good grower and quite distinct.

MRS. JOSEPH GODIER (T.).—Deep Rose with a slight metallic shading; well formed and one of the sweetest scented Roses grown.

MRS. JOHN LAING (H. P. 1887).—Scarcely a New Rose as they are understood among the trade, any thing over three years not being called "New," but it is such a valuable addition to this class that I include it here; colour, beautiful soft pink, always of good shape, lasting a long time in perfection, a free bloomer and grower, both early and late. If I was tied to one Rose sent out during the last ten years, this would be my choice.

KAISERIN FRIEDRICH (T. 1889).—A cross between Perle des Jardins and Gloire de Dijon, and which possesses the good qualities of both of these grand Tea-scented Roses, and must be classed among our finest climbing varieties: colour, deep buff, darker in the centre, with the edges of the petals a beautiful soft rosy pink, coming more decidedly marked in the autumn, and in this respect strongly reminding me of Marie Van Houtte.

HENRIETTE DE BEAUVEAU (T. 1887).—The brightest clear yellow climber we have, always of good form, very strong growing and free flowering, also one of our sweetest scented varieties; this is a grand Rose.

GUSTAVE PIGANEAU (H. P. 1889).—Perhaps this is the largest Rose grown; its colour is a brilliant carmine lake, good shape and of most excellent habit.

GLOIRE DE MARGOTTIN (H. P. 1887).—One of the most constant flowering varieties I have ever grown; colour, deep scarlet; the flowers are borne in great profusion. This kind has proved a good one for forcing, and among garden Roses for cut flowers has no equal.

EARL OF DUFFERIN (H. P. 1887).—Deep crimson, beautifully shaded with velvet; one of the finest

shaped Roses grown; a grand and vigorous grower, with handsome foliage; extra.

Climbing Niphetos (T. 1889).—The quickest growing Rose we have, soon covering a large space and flowering very freely upon the strong growths made; colour and shape exactly the same as the old Niphetos, from which this is a sport.

Brunnert Fridolin (T. 1889).—Deep cherry carmine; lighter in the centre of each petal; one of the prettiest climbers of this colour.

Vicomtesse de Folkestone (H. T. 1887).—Soft creamy-pink, flushed with rose; a very large and good shaped Rose: this is one of the freest flowering varieties I grow, and also one of the sweetest scented.

Augustine Guinoisseau (H. P. 1889).—A sport from La France; almost white; quite as free flowering and of equally good habit to its foster parent; one of the best for pot culture.

Ethel Brownlow (T. 1887).—Salmon-pink, with yellowish shadings, sometimes much more so than at others, a grandly shaped Rose, lasting a long time in a cut state, and a good one for forcing.

Ernest Metz (T. 1888).—Carnation rose colour, very soft and pleasing, brighter in the centre; one of the finest Tea-scented Roses we have, and sure to please all who purchase it.

Cleopatra (T. 1889).—Pale pink, bright rose at the edges of the petals, buds are very long and pointed, opening into a large flower; a very charming new Rose.

L'Ideale (N. 1887).—A peculiar Rose to describe; colour, yellow and metallic red, splashed and striped with deep golden yellow; a most exquisitely coloured Rose and sure to become very popular both for indoor and outdoor cultivation; one of the finest for cut flowers.

Madame Renahay (H. P. 1889).—A very large and full flower; colour, light carmine, very softly shaded with lilac; this has as nearly the same sweet scent of the old Cabbage Rose as possible, it has a most excellent habit, and is bound to become a very popular Rose.

I have now named eighteen, comparatively speaking, new Roses, all of which are extra good, but the list might be extended to double that number, and still only include first class varieties; but I fear my space is already exceeded.—*Experience.*

Stocks for Standard Roses.

I think the general experience in Rose nurseries last winter and spring was that while the established standard Rose trees came through the winter without taking harm, the brier stocks for budding suffered severely. The former, owing to the dry autumn, finished up the season well; the growth was clean and hard, while the soil was dry. I was in a Rose nursery, not long since, where standard Roses are largely grown for the trade supply. The soil is a heavy and rather retentive, clayey loam, but owing to the dry autumn and the springs being low, the Rose trees stood remarkably well, despite the severity of the weather, though during a wet winter they suffer a good deal. We may therefore infer that on the whole when a severe and prolonged winter follows upon a dry autumn the losses through its hardness are comparatively few. As a matter of course, during a time of such severity as we passed through last winter certain subjects of questionable hardihood are bound to suffer, but the slaughter generally was not so dire as in the memorable season of 1860-61.

The conditions which operated in favour of the standard Roses told against the brier stocks planted up for budding. I have been into several nurseries in different parts of the country and in all of them I saw how badly the briers did, not owing to the severity of the weather, but to the dryness of the soil. It is no doubt generally known that the Rose stocks employed for budding to make standard Roses are obtained from the country hedgerows; and the Dog Rose, when it becomes established in a loamy bank, makes a prodigious growth. If anyone would examine one of these vigorous native brier stocks they will find a very strong tap root is sent down deeply into the loam, and just above the surface there is sent out a number of knob-like growths, from each of which issues a strong shoot rising into the air several feet in height. By means of an instrument these are wrenched off from the parent stock, and very frequently having at the root end only a knob, destitute or only scantily furnished with root fibres, they are shortened to 4 ft. or 5 ft. in length, tied in bundles, and when a sufficient number of them is obtained they are sent to the Rose nurseries, frequently quite dry, the scanty root fibres half withered; the stocks are laid in by the heels until a convenient time for planting out permanently for budding in the following summer.

Here I may remark that some idea of the prolificacy of the Dog Rose can be imagined when I state that the Dog Rose stocks required by the Rose nurserymen of this country in one season can be numbered by the hundred thousand.

Last autumn or early winter, these Rose stocks were planted up in soil much drier below the surface than was generally imagined. The dryness of the soil was against the production of fibrous roots as feeders, the result being death to many. They died of thirst, and I am confirmed in this opinion by a circumstance mentioned to me a short time since by a Rose grower in the West of England. During the late autumn he sent, just before the pre-Christmas frost set in, a number of Rose stocks to an amateur who wished to bud a few Roses the following season, and as the receiver was busy at the time, the bundle was stood in a shallow pond of water. The frost set in and it was some days ere the bundle could be released and the stocks planted. Not one failed to grow. The grower who related the incident now stands his Rose stocks in water some days before planting, and his losses are reduced to a minimum.—*R. D.*

APPLES AND THEIR CULTURE.

Fruit culture is just now receiving a great deal of attention on every hand, and by means of Fruit Conferences especially the community is exhorted to plant fruit trees, and especially Apples. With the larger question of the practicability of growing Apples or any other fruit for profit, as a business speculation, this paper will not deal. Much of the advice given is admirable, but it is scarcely discriminating enough; and there is too frequently left out consideration as to the locality—its climate and soil—when it is recommended certain sorts of Apples should be planted. It is obvious that varieties of Apples which can be successfully grown in Kent cannot be produced so finely, if at all, in Lancashire; and, therefore, it is the duty of those who advise and mention sorts to pay some regard to the locality, and the varieties likely to succeed in it.

In the southern parts of the country gardeners are advised to plant bush and pyramid Apples that have been grafted upon a French stock, known as the Paradise (Pommier de Paradis), an early variety of the Crab Apple (Pyrus malus). This is known as a dwarfing stock; it promotes fruitfulness rather than growth of wood, and operates to throw the trees into bearing at once. We saw last summer at Bath some trees of Lord Grosvenor Apple, which had been budded upon the French Paradise stock in the spring of 1890, and they were actually bearing fruit in 1891.

Growers of Apples in Lancashire appear to prefer the Crab stock, that is the wild Crab Apple, on which to bud or graft their Apples, though the French Paradise is being employed. But it is the Crab stock will be found best suited on the whole for Lancashire. The climate is raw and cold, and the soil moist and clammy. There are exceptions to this, but the general conditions are as just stated. What can the grower do to assist the trees in producing fruit? All damp and cold soils should be deeply drained where practicable, and every encouragement given to the trees to make surface roots. Warmth in the soil is all-important, and the placing of a few stones, pebbles, or brickbats in it helps to produce this desirable quality; and this is the main reason why surface rooting in the case of Apples is found so advantageous. To encourage the roots to come to the surface mulching is resorted to; that is done by placing a layer of good manure upon the surface round the trees. It gradually becomes incorporated with the soil, the roots come to the surface in search of the supply of food thus afforded them to the great gain of the crop.

It is therefore a great advantage when planting in the first instance, to keep the roots near the surface, and in cases where there is reason to fear that the subsoil may not be suited to the well-being of the trees to spread out the roots upon the surface, and cover them with a good fertile loam, supporting the tree until the roots attach themselves to the earth, and enable it to maintain an upright position. It is only in sheltered spots this method of planting can be carried out, and the soil placed upon the roots should be trodden or beaten down firmly. Keep the stagnant moisture away from the roots of your fruit trees it is a golden rule for gardeners; and if the soil cannot be drained, deep trenching, (say, to the depth of 2 ft) will be found of great service.

King of the Pippins and Early Margaret among the dessrt Apples; Lord Suffield, Keswick Codlin, Potts Seedling and Warner's King among the kitchen Apples, appear to be some of the best for the northern districts. King of the Pippins, a very favourite table Apple all over the country, always bears well in Lancashire, though it appears to succeed best in warm situations. Among the newer dessert Apples which have not as yet found their way into the north to any great extent may be mentioned Beauty of Bath, a great favourite in the west of England where it is a heavy and certain cropper, and being very early it almost always takes the first prizes at fruit shows held in August, as the best dessert variety. It is a good grower, and will, we think, succeed as well in the north, as in the west. Lady Sudeley is another comparatively new dessert Apple; highly recommended for its fertility, rich aromatic flavour and handsome appearance. Some regard this Apple as the finest dessert fruit of recent introduction. It is ready for table in August and September, according to the season. Mr. Gladstone is another first-early dessert Apple, which, as it does so well in the moist clayey loams about London, should succeed in Lancashire. It is probably the earliest table Apple, taking on a rich colour; an excellent bearer, especially on the paradise stock. It is confidently anticipated that Mr. Gladstone will become a leading market Apple. It is also known as Jackson's Seedling.

Some newer kitchen Apples appear to be also worthy of the attention of planters in the north. There is Bismarck, a grand new variety from Australia. It has proved such a hardy, vigorous grower that it promises to succeed well in any part of the country; it is large, very handsome, the tree bears freely, and it is ready for use during the last three months of the year. For beauty of colour—and who does not admire it upon an Apple—Gascoynes' Scarlet Seedling, or Glory of England stands pre-eminent. It seems so well adapted for the southern parts of the country that there is just a doubt whether it will do so well in the north. But it has the reputation of being a healthy free grower. This variety, and Duchess of Gloucester, or Duchess' Favourite, a small but exceedingly bonny red-cheeked Apple that bears most profusely in Lincolnshire, deserve to be planted in shrubberies, where they would make charming pictorial features when in fruit. Lane's Prince Albert is a remarkably fine culinary Apple, which we can most cordially recommend for planting in small gardens; young bush or pyramid trees grafted upon the Paradise stock bear profusely. The fact that it bears so freely renders it unsuitable for orchard culture; the weight of the crop so bends down the branches that cattle can readily devour the fruit. It is a late Apple, and will keep until April. Then there is Lord Grosvenor, a very fine free bearing Codlin, that will I think eventually replace in the south that popular Lancashire Apple, Lord Suffield, which Mr. Samuel Barlow once informed me was raised near his residence at Stake Hill, Castleton. Unfortunately, Lord Suffield is found to be somewhat tender in constitution and subject to canker; and yet it stands at the head of the lists of culinary Apples grown in Lancashire. Lord Grosvenor bears freely upon quite young trees. Lastly comes the Sandringham, a handsome, new, late Apple, from the gardens of Sandringham House, and not being recognised as a known variety bears the name. It is a very handsome new late variety, hardy, a free grower and bearer, and keeping up till January.—*E. W.*

OLEARIA HAASTII.

The past winter has had no appreciable effect on this shrub, either as regards the foliage or the flowers. It may therefore be reckoned as an established inhabitant of our shrubbery borders, while the fact remains that a large proportion of shrubs from the same country are killed even in moderately severe winters. It comes from New Zealand, and

its general appearance would suggest that it comes from a drier and warmer climate than that of Britain. The upright stems are of slow growth, very much branched and densely covered with small, leathery dark green leaves, somewhat suggestive of the Olive, as the generic name would suggest. The shoots terminate in corymbs of white flowers, and so numerous are the flowering branches that the whole bush appears white for weeks together. The flowers are appreciably fragrant, but too closely resembling that of many other Composites to be appreciated for that quality. The smell is, however, agreeable, and quite devoid of that pungent odour characteristic of the Chamomile and other allied plants.

GARDENING MISCELLANY.

ANTIRRHINUM CRIMSON BEDDER.

What a charming companion this makes to the well-known White Bedder. It is equally as dwarf and floriferous, whilst its rich glowing crimson colour at once attracts the eye when massed in a bed in the flower garden. I saw a very fine bed of it in the nurseries of Mr. John Forbes, at Hawick, growing alongside of the White Bedder and that fine old Antirrhinum Hendersoni, which, by the way, is not so much known as it ought to be, as it is really one of those things which when once seen can never be forgotten. In fact, these three plants ought to be in every collection, as for all practical purposes they have no equal as bedding plants, especially so in such a season as we have experienced this year.—*W. S.*

MATRICARIA INODORA FLORE PLENO.

The doubling of the flower heads of this plant has changed a useless weed into a useful garden plant. The wild form has a disc of tubular yellow florets and long white rays; but in the double form all the florets have become elongated, strap shaped, and white like the rays. In a wild state the plant may be annual or biennial, but when propagated from cuttings it practically becomes perennial. This is the best way of increasing it in view of its biennial nature, as unflowered shoots will develop roots and make a bushy, healthy plant in shorter time than by division. In any case it is necessary to get the young and unflowered shoots to emit roots, so as to renew the vigour that has been lost by flowering. Young plants will commence flowering early in summer and continue till autumn, provided the soil in which they are planted is fairly rich and moist. The stems branch very freely, and every shoot terminates in a flower head. Flowering branches may be used amongst cut flowers with good effect.

THE LATTICE-LEAF PLANT.

The water in which this singular plant is grown should be 12 in. to 18 in. deep, and there should be a good body of it in order to get the best results. The depth at which the pots or pans containing the tuberous roots should be plunged in the water will depend upon the length of the leaves, for the latter should just be under the surface. If a constant ripple can be maintained so much the better, for it will then keep the water clean and prevent filth and mud from settling upon the leaves. The genus Ouvriranda has been united with Aponogeton, to which the well-known Cape Pond Weed belongs, and the proper name of the plant under notice is therefore Aponogeton fenestralis. Usually the inflorescence consists only of two branches, that is, the flower stem is once forked, but a plant in one of the houses at Kew bears three branches, which together with the bracts and flowers are white in the early stages but gradually become green as the fruit develops. When in perfection the flowers are strongly fragrant, as it may be remembered those of A. distachyon are, resembling Hawthorn.

A HARDY SUBSTITUTE FOR MARGUERITES.

Closely allied to the perennial Asters is a Siberian plant often grown under the name of Calimeris incisa. Some of the species of Calimeris are classed under Aster, while others come under Boltonia. The plant under notice is recognised by leading botanists as Boltonia incisa. The leaves are lanceolate, with the lower ones much the larger and deeply incise-serrate in the upper portion, while those on the upper part of the stems are small and entire. The stems are about 3 ft. high, and are exceedingly much branched upwards, so that a comparatively small plant bears a profusion of flowers about the size of those of the common Marguerite or Paris Daisy (Chrysanthemum frutescens), the rays are slightly reflexed and white, or faintly flushed with lilac in the young state. It flowers most profusely during September and October, and the heads being thinly produced on long stalks, they could be largely used amongst cut flowers. The advantage of growing it for this purpose would be the large quantity of bloom to be obtained at a minimum cost in labour and trouble, for the plant may be grown along with perennial Asters or other herbaceous plants, and is easily propagated.

ASTER NEMORALIS.

This North American species differs so remarkably from other types from that country, that on casual observation one would hardly recognise it as an Aster at all. The stems, flowers and all do not exceed 12 in. in height; and the former are of stiff, erect habit, branching freely about the middle, and densely clothed wtth lanceolate entire leaves. The whole bears the appearance of a miniature shrub. The flower heads are of good average size for an Aster, and pale lilac-blue. The species would evidently prove suitable as a pot subject for the hardy plant house, flowering during the months of September and October. Those who have not such a house at their command could find a place for it on the rockery, where its neat habit would recommend it. There would be no danger of neighbouring plants getting overgrown by this Starwort. Specimens may be seen in the herbaceous ground at Kew.

SUTTON'S MINIATURE SUNFLOWER.

In almost every garden I have gone into this autumn one of the most useful hardy plants I have me with for its decorative and free blooming qualities is the above. It is a hardy annual, easily raised from seed, it grows to a height of from 3 ft. to 4 ft., blooms abundantly; the flower deep golden-yellow with a dark centre, single and not double flowered. A gardener who has to supply a large number of cut flowers to churches for harvest festivals, has informed me he finds few things so serviceable as this annual Sunflower. Its continuous and late blooming characteristics are two of several good features.—*R. D.*

CAMPANULA ISOPHYLLA ALBA.

This is a charming perennial variety for growing in pots on the shelf of a greenhouse to hang down and so display its free blooming shoots to the best advantage. It is an exact counterpart of what is known as C. Barallieri, only that the flowers are white instead of blue. It is very hardy and can be readily propagated by dividing the plants in autumn or early spring. Small pieces if placed round the sides of a pot in sandy soil soon strike root.—*R. D.*

LILIUM NEPALENSE.

The rich dark colour of the more typical form of this Lily is very striking and distinct from any other in cultivation. Being a native of the Central Himalayas and similar places, it is unfortunately not quite hardy, but requires a greenhouse temperature for its preservation. In pots the stems grow 3 ft. to 4½ ft. in height, with lanceolate, dark shining green scattered leaves. From one to three large flowers are produced on a stem, but in a wild state there are six to eight blooms. They are slightly nodding, with oblong-elliptic, somewhat revolute segments of a blackish-purple, except at the very base and on the upper third of their length. Variations however occur amongst importations, as may be seen in the nursery of Messrs. Hugh Low & Co., Clapton, where a considerable number is grown. There is a tendency for the purple to disappear, giving place to a brown or some similar light hue.

ARALIA MANDSHURICA.

The large bipinnate leaves of this Manchurian Aralia have a subtropical appearance during the summer months; but old plants become very interesting when late in September or October they throw up from the crown large pannicles of plumy white flowers. The season at which it does this is all the more striking from the fact that other deciduous trees and shrubs show signs of throwing off their summer garb and going to rest. The flowers endure for some time, so that the blustering winds of October often subject them to very rough treatment. The foliage of the species bears some resemblance to that of A. spinosa, but it does not bear spiny processes on the upper surface like the latter. The naked pole-like stems have a somewhat naked and curious appearance in winter, but that is not particularly noticeable when surrounded by more bushy subjects. In its naked and stumpy character it may be compared to the Kentucky Coffee-tree (Gymnocladus canadensis) which also has bipinnate leaves, but belongs to quite a different family.

SECOND FLOWERING OF THE LABURNUM.

One would have thought that after such a cold and unseasonable summer little of a second growth would have taken place, and no flowering at all. The Laburnum is, however, flowering in several places, and in some instances quite freely. This, of course, must mean a minor display in spring, because the buds which should have plumped up and remained dormant till then have completed their development long before the appointed time. Apple trees in some gardens have also been flowering more or less for some time, but their conduct can generally be accounted for by transplanting in spring while the ground was very dry; the heavy rains subsequently must be held accountable for the rest. This, together with the comparative mildness of the autumn, must have urged some of the Laburnums into a second growth.

BERBERIS VULGARIS.

The common Barberry, although one of the most frequent occupants of our shrubbery borders, is more often than otherwise planted under the drip of trees, or crowded by other subjects, so that it must necessarily be pruned or hard cut back to keep it within due bounds. Under such conditions it can never give satisfaction, nor show how ornamental it is capable of becoming. In a cottage garden at Hayes End, Middlesex, is a large and spreading bush about 12 ft. high, simply loaded with coral-red berries, and so conspicuous that it may be be seen a great distance off. There is no reason why the Barberry in this form should not be a common object in every park or pleasure ground instead of a rare one.

ROSA BEGGERIANA.

The habit and general appearance of this plant is very similar to that of R. Ecæ, but the latter has golden-yellow flowers and curbed red prickles, whereas the flowers of R. Beggeriana are white, and the prickles white except on the basal portion. The small white flowers are fragrant, and produced in clusters terminating the shoots, to be followed later on by small, orange or red fruits, or properly speaking hips. The sepals fall away leaving the fruit naked. The leaves are small, and consist of five to seven elliptic, serrate, glaucous leaflets that are glandular beneath. In the eyes of the gardener the plant is practically a Briar, and is a fit subject to associate with the Sweet Briar, Austrian Briar, Scotch Rose, and others of that class. It is a native of Asia, and evidently extends over a wide tract of country.

THE VEGETABLE GARDEN.

The Heading of Cabbages.

It has recently been stated, as the result of an experiment in one of the United States stations, that if Cabbages are slightly tilted over with the plough in the fall, it produces a tendency to make them have larger heads. We now learn, as an experiment by Prof. L. H. Bailey, of Cornell, that if the Cabbages are planted shallow and earthed up, the percentage of large and heavy heads is much greater. As a matter of physiological principles these two experiments in different directions both accord. It goes to show that whatever favours the nutritive power is against their disposition to produce hard heads. In Mr. Bailey's experiment the plants got the benefit of abundant moisture and nutrition when headed up. When not headed, or when not earthed up, or slightly tilted, there is an obstruction to complete nutrition. Although these experiments seem of a somewhat unimportant character, they afford very interesting lessons to the study of plant life from a practical point of view. We think the experiments ought to be repeated in view of these valuable and suggestive lessons. — *Meehans' Monthly for September.*

WHAT TO DO IN THE GARDEN.

Chrysanthemums.—Plants in pots should now be stood on a hard bottom, if not already accommodated in that way; the pots being well filled with roots, the continued wet weather will cause the latter to penetrate the moist soil much to the disadvantage of the plants when they come to be removed. Two narrow boards or pieces of wood would be very suitable, inasmuch as the superfluous moisture could readily drain away. If standing on ashes, the plants might occasionally be turned round to prevent the roots from obtaining a footing outside the pots. Plants that were layered some time ago should be rooted, and may be potted up at once. Keep them close and occasionally syringe them for a few days till again established, after which they should get all the light and air possible.

Primulas.—The early batch of Chinese Primulas should now be placed in the conservatory or some house with ordinary greenhouse temperature. The front benches or shelves near the glass are the best places for their reception, as they can get plenty of light and air. If the pots are well filled with roots give occasional weak doses of liquid manure.

Salvias.—The more advanced of these plants may now be made to do service in the greenhouse or conservatory, where their blue, scarlet and purple flowers will afford a welcome change to the other occupants which are now getting past their best. Amongst others now in bloom are S. azurea, S. a. grandiflora (S. Pitcheri), S. involucrata, S. Grahami, S. pseudo-coccinea and S. patens, with its white variety.

Roman Hyacinths.—The early potted batches will now have made some roots and commenced to push their crowns. A number of them according to requirements may be put in a pit, where the genial atmosphere will induce them to grow away more rapidly. Very little heat will be quite sufficient until they have made some advance, after which the temperature may be raised, or the plants transferred to a warmer house.

Solanums.—Plants in the open ground will do all the better now if lifted, potted and placed in cool pits where they will be out of the reach of frost, which may be expected before long. Water immediately they are potted, and keep close for a few days, damping the foliage overhead until the roots begin to take to the fresh soil. This is necessary in order to preserve the foliage, which the change would otherwise cause to drop, making the plants look naked long before the winter is over.

Verbenas.—Look over the stock of cuttings to see whether a sufficient number have rooted, and if there is a deficiency it may still be made good. Cuttings put in now will, however, be benefited by a little bottom heat. Those that are rooted should be left in the open air as long as it is safe to do so, because if kept dwarf and sturdy they will cause less trouble in keeping them healthy during the winter.

Vineries.—The chief attention required now in the vineries is the maintenance of a dry and airy atmosphere to prevent the berries from damping. The continued rainy weather makes the use of fire heat a necessity to dispel damp. The bunches should occasionally be gone over to remove decaying berries. The present is a good time to renew vine borders where the results have not been altogether satisfactory. The crop should be gathered before operations are commenced. A compost for filling the borders should also be in readiness before the old soil is taken out. One part each of horse droppings, lime rubble, and wood ashes to five parts of good calcareous loam will form a suitable compost, and if some half-inch bones or Thomson's vine manure is added so much the better. Use a fork in removing the soil to avoid injury to the roots as much as possible, until the latter can be separated and tied up in mats to keep them moist till again covered. See that the drainage is in proper order, relaying it if necessary.

Late Melons.—The plants from which a supply of Melons is expected up to December should now be coming into flower. Therefore keep the atmosphere of the house dry and airy until a sufficient number of blossoms is set. Take advantage of sunshine during the early part of the day to set the flowers. After the young fruits are seen to be swelling more heat and moisture will be necessary to develop them properly and keep the plants in a vigorous condition.

Late Fruits.—Peaches and Plums in the open are greatly improved in flavour and quality by being gathered a few days before they are required for use, and placed in a dry, warm atmosphere, such as that of a Peach house or vinery from which the crops have already been gathered. Attend to the gathering of Pears and Apples for the fruit-room, also Plums, including Damsons, for preserving.

QUESTIONS AND ANSWERS.

NAMES OF PLANTS.—*J.D. W.*: 3, Epidendrum tampense, from Tampa Bay, Florida. *Constant Reader*: 1, Begonia metallica; 2, Begonia Weltoniensis; 3, Begonia insignis; 4, Begonia Worthiana; Shrubs, 1, Retinospora plumosa aurea; 2, Thujopsis dolobrata; 3, Thuya orientalis aurea (we are somewhat doubtful about the variety from so small a piece at this season of the year); 4, Aucuba japonica vera.

IS SOIL INEXHAUSTIBLE.—*Erratum*: At p. 39, in the first line of the paragraph on this subject, for "no" read so."

WEIGHT OF POTATOS PER ACRE.—*Omega*: You ask what will be the yield per acre, if a drill 53 yards long yields 2 cwt. You neglected to state what was the distance from centre to centre of the drills, which varies according to the variety planted, and also according to the custom of different cultivators. This you must find out for yourself. By way of example, however, we state that 27 in. is a good average width for field Potatos. If the field is 53 yards long on one side, find the length of the other by dividing 4840 square yards (the number of square yards in an acre) by 53. This will give 91·32 lineal yards as the other side of the acre of ground, with a few more decimals which are unimportant. Divide 91·32 by ·75 (the width of the drills) as 27 in. is ¾ of a yard or ·75. The quotient is 121·76 and is the number of drills 53 yards long which an acre will contain when the drills are 27 in. apart. Each of those drills yield 2 cwt., and the aggregate 243·52 cwt. which divided by twenty gives 12·176 tons, or 12 tons, 3 cwt., 2 qrs., $2\frac{6}{25}$ pounds. This is only a moderate yield per acre.

BROAD-LEAVED EUONYMUS.—*C. Jameson*: The plant to which you refer must be Euonymus latifolius. Some consider it to be merely a variety of E. europæus, but it has some botanical peculiarities besides size to justify its being kept separate. The broad-leaved forms of the Japan Euonymus seldom or never fruit in this country, and certainly never to the extent you speak of. It can readily be propagated from seeds sown now in a cold frame or in boxes placed there. They will come up next spring, but cannot be expected to flower or fruit for some years to come when raised in this way. Provided you can get nice clean shoots of this year's wood, you might shorten them or cut them in lengths 3 in. to 5 in. long, and insert them in pots of sandy soil, to be placed in a cold frame. If placed in a little heat towards spring it would doubtless hasten the fruiting process.

GRAINS OF PARADISE.—*C. H.*: They are the seeds of Amomum Grana Paradisi, or perhaps those of A. Meleguetta, for both kinds are sold under that name it is believed. They are the produce of plants allied to Ginger, and belonging to the same family, namely, Scitamineæ. The creeping rootstocks of the plant are jointed similarly to those of the Ginger plant, and could no doubt be grown under precisely similar treatment. The leaves remind one of those of a Hedychium, both in shape and arrangement. The flowers are produced on short spikes densely covered with bracts, but as they rise but little above the ground they are of no ornamental value. If you care to raise some of the seeds out of mere curiosity sow in light sandy soil, to which a considerable quantity of leaf soil has been added, and place the pots in a propagating pit or stove. The interest attached to them arises from the fact that they were at one time largely used to adulterate beer and give it a fictitious strength.

COMMUNICATIONS RECEIVED.—C. T.—F. C.—B. L.—Sir C. J.—J. O'B.—T. F. R.—M. T.—G. W. C.—R. D.—Stirling—G. A. S. (next week)—Gifford—Perth (next week)—Omega—Pyrus.

TRADE CATALOGUES RECEIVED.

W. & J. BIRKENHEAD, Sale, Manchester.—Cheap and choice Ferns and Sellaginellas.

WILLIAM RUMSEY, Waltham Cross, Herts.—Roses, Trees, Shrubs, &c.

GEORGE PHIPPEN, Oxford Road, Reading.—Bulb Catalogue with cultural notes.

CHARLES TURNER, Slough.—Roses, Fruit Trees, &c.

LONDON SEED TRADE.

September 29th.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a slow trade for Trifolium incarnatum. Winter Tares and Rye, the latter articles being in full supply, are cheaper. Ryegrasses and Rape seed firm.

COVENT GARDEN MARKET.

September 30th.

FRUIT.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.		s. d.	s. d.
Apples... per ½-sieve	1 0	5 0	Pine apples.		
Grapes .....per lb.	0 6	1 6	—St. Michael's, each	2 6	5 0
			Peaches .....per doz.	1 0	6 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
ArtichokesGlobe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Beans, French, perlb.	0 4		Lettuces ...per dozen	1 0	1 6
Beet..... per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages ... per doz.	1 6	2 6	Onions.....per bunch	0 4	0 6
Carrots ... per bunch	0 6		Parsley ... per bunch	0 6	
Cauliflowers,English, per doz.	3 0	6 0	Radishes... per dozen	1 6	
Celery.....per bundle	2 6		Smallsalading,punnet	0 4	
Cucumbers .....each	0 6	0 9	Spinach, per strike...	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	1 0
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Aralia Sieboldi ...doz.	6 0	12 0	Foliage Plants, doz.	12 0	60 0
Bouvardias...per doz.	8 0	12 0	Heliotrope, per doz.	4 0	6 0
Chrysanthemums,doz	6 0	12 0	Hydrangea, per doz.	9 0	24 0
Coleus .....per doz.	3 0	6 0	Liliums,various,doz.	12 0	30 0
Cyperus .....per doz.	4 0	12 0	Marguerites, per doz.	6 0	12 0
Dracæna term., doz.	24 0	36 0	Mignonette, per doz.	4 0	6 0
Dracænaviridis,doz.	9 0	18 0	Palms in variety,each	2 6	21 0
Evergreens,invar.doz	6 0	24 0	Pelargoniums ... doz.	6 0	9 0
Ferns, invar..per doz.	4 0	18 0	—scarlet .....per doz.	2 0	4 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blms.	3 0	5 0	Liliumsvar.,doz.blms.	1 0	2 0
Asters, doz. bunches	3 0	6 0	MaidenhairFern,12bs.	4 0	9 0
„ French „ „	9 0	12 0	Marguerites, 12 bun.	1 6	4 0
Bouvardias, per bun.	0 6	1 0	Mignonette... 12 bnn.	1 6	3 0
Carnations, 12 blooms	1 0	2 0	Myosotis..doz. bchs.	2 0	4 0
— per dozen bunches	4 0	6 0	Pansies, doz. bunches	1 0	2 0
Chrysanthemums, doz. blooms	0 9	3 0	Pelargoniums, 12 sps.	0 4	0 9
Chrysanthemums, doz. bunches	4 0	12 0	— scarlet... 12 sprays	0 3	0 4
Dahlia, doz. bunches	2 0	4 0	Primula, double, bun.	0 6	1 0
Eucharis ...per doz.	2 0	4 0	Pyrethrum, doz. bchs.	2 0	4 0
Gardenias 12 blooms	1 6	4 0	Roses, yellow. dozen	2 0	4 0
Gaillardia, doz. bun.	2 0	4 0	— mixed... doz. bchs.	1 6	4 0
Heliotropes,12 sprays	0 3	0 6	— Red..... doz. bchs.	2 0	6 0
Lavender, doz. bun.	4 0	5 0	— Saffrano...per doz.	0 6	1 0
Lapageria, 12 blooms	1 0	3 0	— Tea ..... per dozen	1 0	3 0
Lilium Harrisii, doz. blooms	3 0	6 0	Stephanotis, dz. spys.	2 0	4 0
			Sweet Peas, doz. bbs.	1 6	3 0
			Tuberoses, per doz.	0 3	0 6

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Oct 12.—Bulb sales at Protheroe & Morris' and Stevens' Rooms.

TUESDAY, Oct. 13.—Bulb sale at Protheroe & Morris' Rooms.

WEDNESDAY, Oct. 14.—Autumn Fruit Show at the Royal Aquarium. Bulb sales at Protheroe & Morris' and Stevens' Rooms.

THURSDAY, Oct. 15.—Annual Dinner of the United Horticultural Provident & Benefit Society at the Cannon Street Hotel at 5.30 p.m. Bulb sale at Protheroe & Morris' Rooms.

FRIDAY, Oct. 16.—Orchid sale at Protheroe & Morris' Rooms.

SATURDAY, Oct. 17.—Bulb sales at Protheroe & Morris' and Stevens' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, OCTOBER 10th, 1891.

CONIFERÆ.—It was once complained that gardeners and planters were all going mad on Conifers, and without doubt there was a phase in tree planting which partook somewhat of Coniferæ mania, for no place was held to be correctly a garden without its Pinetum. The fever even extended to little plots which front our surburban villas and cottages, and with the present ludicrous results that a big Wellingtonia, or an Araucaria, or a Deodar fills all the allotted space, darkens the villa windows, and presents to the occupier all the troubles incidental to White Elephants.

We have happily got past all that sort of craze, and Conifers now are planted moderately, wisely and with judgment. Still farther, since the time of the craze we have had some experience of Conifers, and have found that many of those then in such high favour have not, with increasing age, proved to be all that could be desired for our climate, whilst not a few seem to present far more favourable aspects. Practically, all forms of Conifers seem to be best with us when young. In age, many become thin and uneven, and lose much of their earlier grace and beauty. In some soils and localities, the coarsest of growers retain all their pristine charms, but that is not the rule. The Conifer Exhibition and Conference held this week at Chiswick, will doubtless help to give to some of the newer and less known varieties wider popularity, and in many of them there is indeed great beauty as well as of novelty.

Planted singly, Conifers wear a funereal aspect. Planted in clumps, the outline or natural contour of the trees is spoiled in the crowding. Very great skill is required in order to plant Conifers so that the dangers referred to may be avoided. When gracefully intermixed with shrubs or deciduous trees, Conifers can be made to assume a very pleasing form. In no case can they be worse employed than in forming Avenues so called, or in dotting them like so many pepper boxes with mathematical exactness on lawns.

OCTOBER FRUIT SHOWS.—The month of October is not as a rule prolific in exhibitions of any sort, and therefore we may hail with satisfaction the few recently advertised. The principal one in the South is that which is being held at the Crystal Palace on the last three days of the present week. There are to be seen very fine collections of hardy fruits, mostly Apples and Pears, of which the October Show at the Palace is exceedingly well supplied, as also of the very finest samples the country can produce.

Vegetables, too, at the Palace, will form interesting subjects for competition, and although there will perhaps be not so much that is of a very attractive order as compared with Flower Shows, yet to all genuine gardeners the exhibits will be of exceeding interest.

Last year the interest in hardy fruits centered round the Fruiterers' Company in the City of London. This year that particular interest is transferred to Manchester, for Cotonopolis is to have its Conference and Exhibition on the 20th, and three following days, that most active, energetic and representative body, the Botanical Society of that City doing so well that which, unhappily, it seems to be hardly any one's business to do in London.

We very cordially wish the Manchester Exhibition all success, and trust that the papers read at the Conference will not tread over already very hard beaten ground, but will present something that is in relation to hardy fruit culture, both new and interesting. Next week there will be a good Fruit and Vegetable Exhibition at the Westminster Aquarium, and which will no doubt prove a great attraction to Londoners.

OUR POTATO CROP.—It is satisfactory to learn, on conclusive evidence, that there is, in spite of some bad reports locally, here and there, every prospect, if not assurance, that we shall have an abundant Potato Crop. Especially does this assurance apply to the Northern districts, from whence, later in the winter, our large urban populations so materially draw their Potato supplies. Already, indeed, has the nature of the crop been made manifest in the low prices at which Potatos are offered; indeed, when the poor can purchase good tubers at ½d. per lb., and those who have greater means at from 2s. to 2s. 6d. per bushel of 56 lbs., it is evident that no one can complain, if the sample be a sound one.

Still further a tendency on the part of wheat to go upwards in price a few weeks since, when it was thought disease was rife in the tubers, has been by later reports checked, so that bread and Potatos it is now certain, will be plentiful and cheap all the winter. We have of late become so accustomed to a plentiful supply of

Potatos from home sources, that it is very difficult indeed to create a panic respecting the supply of this important vegetable. Still it is evident that it is a vegetable of such prime importance, is indeed as an arcticle of food for the masses, one of such first-rate value, that it is not possible to regard the crop when disease prevails with other than the gravest concern.

Happily, raisers of new varieties of Potatos have succeeded in setting up a barrier to the progress of the disease which has saved our crops to us fully. We hear of Potato Fungus Antidotes, and believe that they are in some respect efficacious. Still we have even with the disease such a wealth of tubers, that it seems hardly worth while to trouble much about Antidotes. Growers find prices now so low that it is difficult to meet the cost of any ameliorative efforts in Potato cultivation.

SUNFLOWERS.—Whilst we laughed heartily over the æsthetic craze, which a few years ago made the annual Sunflower its floral diety, we acknowledge gratefully the benefit which has accrued to autumn flower gardening, by the bringing into popularity of all those numerous and varied forms of the perennial Sunflower, which now are found blooming profusely on every hand. The Exhibition of Sunflowers on Tuesday last, and following days, in the gardens at Chiswick, and to which more detailed reference is made elsewhere, serves to show how large is the family of the Helianthus, how useful an one it is in garden decoration, and how in thus being brought into notice, it has manifested a much greater fecundity than the most devout admirers of Sunflowers a few years since imagined.

We have Sunflowers now both single and double, large and small, tall and dwarf, hardy and tender, or annual, but with one defect, if we can so regard it, and that is a deficiency of variety in colour, as yellow in some shade or other forms the normal hue of all the family. Still we will not cavil because such is the case, as some other families are more profuse in colouration. Few, however, for the time of year, give us more effective decorative plants. We find Sunflowers annual and perennial, but the latter especially in almost every carden. The huge black centred blooms of Helianthus annuus are rather too big and coarse to gratify all tastes, and ours with many others.

It has been a pleasant thing to find how the smaller and many flowered perennial forms have ousted the old giant annual variety, and in place thereof has given us a wealth of really beautiful flowers suitable for cutting, and specially for all domestic decorative purposes. Amongst the families which have found prosperity arising from the growing taste for hardy plants none have thriven better than the Sunflowers.

*** *We have to claim the indulgence of our readers for the non-appearance of any illustrations in this number, our artist having failed us at the last moment.*

Mr. H. A. Needs has resigned the post he has so ably filled as secretary of the Kent County Chrysanhemum Society since its formation, and is succeeded by Mr. E. A. Searle, Vale House, Park Road, Forest Hill, S.E.

What is a Hardy Perennial?—We are requested by a "Lover of Hardy Flowers," who was present at the exhibition at Chiswick on Tuesday, to allow him to ask the chairman of the Floral Committee of the Royal Horticultural Society if he will be so good as to give his definition of a hardy perennial.

National Florists' Societies. — The annual general meeting of the National Auricula and Primula Society (Southern section) and National Carnation and Picotee Society (Southern section) will be held in the room of the Horticultural Club, at the Hotel Windsor, Victoria Street, S.W., at 4.30 p.m. on Tuesday, October 27th.

Mr. W. J. Coppin, foreman at High Cross, Framfield, Sussex, has been engaged as gardener to C. E. Lambert, Esq., Effingham House, Leatherhead.

Chimonanthus Grandiflora.—This, the large-flowered and scarce species, which blooms abundantly every Christmas for the last fifteen years, and which emits a fragrant, narcissus-like perfume, and is therefore most acceptable for cutting for table decoration at that season of the year, is now ripening seed for the first time in the garden of W. E. Gumbleton, Esq., Belgrove, Queenstown, County Cork. Mr. Gumbleton has a huge bush of it in one of the corners of the wall of his kitchen garden. It is ten feet high and as many through. The seeding of this fine sweet-scented shrub is one of those occurrences which marks a record in horticultural matters.

Mr. F. Simmonds, formerly gardener at Long Ditton Hill, has been engaged as gardener to Sir Lydston Newman, Bart., Mainhead Park, Devon.

Ealing and District Gardeners' Mutual Improvement Society.—The annual general meeting of this society was held on the 29th ult., when the officers for the ensuing session were elected. The chairman stated that the membership had risen from 90 to 120 during the previous year, which in itself was a good indication that the society is in a flourishing and progressive state. Some prizes are again offered in competition amongst the members for essays on "The Utilization of Open Public Spaces," and on "Hardy Border Flowers." In order to encourage under gardeners, prizes are offered for "The Best Plan of a Kitchen Garden of One Acre in Extent, Planted for the Year and Showing the Rotation of Cropping." It is to be drawn to the scale of ⅛ in. to a foot. There will also be a competition on the 27th inst. amongst the members, "For the Decoration of the Dinner Table for Twelve Persons."

A Hardy Moth.—It is frequently remarked that a severe winter kills insects, but many of our British kinds including Moths seem to defy any amount of cold. The Silver Y moth (Plusia Gamma) is a case in point. The perfect insect commences to hatch out from the chrysalis in June, and continues up till October, while instances of it have been known to occur in December. Another proof of its hardiness is its wide distribution. It not only occurs all over Britain but also on the continents of Europe, Africa, Asia and America, from Abyssinia to Greenland, and eastward it is believed to the confines of China. Its omnivorous propensities no doubt serve it in good stead as it never fails to find food, even if driven to feed upon grass. All kinds of low herbs prove agreeable to it, whether the weeds of waste places or the choice vegetables of cultivated and well tended gardens. There are records against the caterpillars of this moth, of serious damage to garden crops, at different times for a period extending back more than 150 years.

Devon and Exeter Gardeners' Association.—At a meeting of gardeners and others interested in horticulture, held on the 5th inst., in the City Guildhall, Exeter, it was unanimously resolved to establish a Mutual Improvement Association in the city, and an influential committee was formed to carry out the programme laid down, with Mr. A. Hope (Messrs. R. Veitch & Sons) and Mr. T. Bartlett as honorary secretaries. It was also decided that the subscription from head gardeners should be 2*s.* 6*d.* per annum, under gardeners 1*s.* 6*d.* per annum, and hon. members 5*s.* per annum and upwards. It was resolved to hold the meetings fortnightly, on Wednesday evenings, during the winter months at 8 o'clock, the place of meeting to be left for the committee to arrange.

THE VEGETABLE GARDEN.

PEA, DANIELS' MATCHLESS MARROW.

FOR the last crop of Peas I sow the above-named variety in the last week in June, and it comes into bearing during September, extending into October. It is the best late sort I know, growing about 4 ft. in height. It is a good cropper, the pods are large and of a dark green colour, and well filled. Peas to go with the Michaelmas Green Goose are a desideratum, and this is the variety to give the supply. The gales we had during August blew them about very much, but still they produce their crop, and are most serviceable.—*T. W.*

NOTES FROM COVENTRY.

WHEN in Coventry the other day I called to see the plants owned by Mr. Marriott, which are now well known and which have been greatly admired by thousands at various exhibitions this season. Mr. Finch, to whom the credit is due of growing these magnificent specimens, is one of the very few who have beaten the much-respected Cheltenham Champion Cypher, and it is well known that any man who can lower his colours must have good plants to do it. I found Mr. Finch hard at work arranging his two Chrysanthemum houses, full of magnificently grown plants, which will give a grand show later on when the dull winter days are with us. I found most of his specimen plants in their winter quarters. The fine specimen Ericas were just housed. I always enjoy the sight of a good hard wooded plant whether in or out of flower, and here I could feast my eyes on many old favourites all in the best of health and condition. Allamandas, Dipladenias, Ixoras, etc., are just past. Whilst mentioning these let me commend to those who have not seen it, Ixora Duffii, or as it should properly be called Ixora macrothyrsa. The splendid specimen recently shown by Mr. Finch called forth many expressions of admiration. It is one of the finest of stove flowering plants for exhibition purposes, its immense trusses of scarlet flowers being most attractive. The specimen recently shown by him at the International at Edinburgh was awarded the highest honours for the best flowering specimen in the show, and well it deserved it. The various specimen Palms, Crotons, etc., had been housed in their winter quarters. A great many plants, and Mr. Marriott's included, suffered most severely at Edinburgh, no doubt the dry heat and the gas being the cause of it. I have had many complaints on this head. Mr. Marriott has also a fine lot of Ferns and Orchids, and all are being well cared for by Mr. Finch.

Visitors to Coventry, interested in horticulture, might do worse than drop into the famous establishment of Messrs. Perkins & Son, who have gained a world-renowned reputation for their bouquets, floral designs, etc. A great many houses are devoted to the culture of flowers that are useful for decorative art. Bouvardias, White Primulas, Chrysanthemums, Azaleas, Camellias, Odontoglossums, and that indispensable plant, Adiantum cuneatum, are grown in great quantities, but still the Messrs. Perkins have to buy enormous quantities to meet their requirements. From sixteen to twenty young ladies are engaged in making up the floral works of art, and the nimble way in which they handle the flowers shows that they are no novices at the work. Hundreds of button-hole sprays and bouquets are made here every week, and sent to all parts of the United Kingdom. The sale in Birmingham Market for these is also very great, and the stand of this firm is always worth going to see. The Messrs. Perkins have been most successful this season at the various exhibitions, having won upwards of 100 first prizes for floral designs alone, in many instances, in very strong competitions. They also grow great quantities of Roses, and have figured very conspicuously at many of the leading shows in the classes for the Queen of flowers.—*Rusticus.*

FRUIT NOTES.

APPLE NEW HAWTHORNDEN.

THERE are two very distinct varieties of Apple in cultivation competing for the title of New Hawthornden. Whether they have originated from the same tree or not, there is evidently great similarity in the foliage, habit and growth of the tree, although the fruit is very distinct. The most generally recognised form is a large flattened fruit of a pale green, or with a large bronzy-red patch on the exposed side; occasionally this bright hue extends over the greater part of the surface according to the locality in which the fruit has been grown and the exposure of the individual fruits. Large as this form is there, is a larger enjoying the same name. Both may be seen in the gardens of the Royal Horticultural Society at Chis-

wick. The other is a conical Apple, and the largest in the fruit room. It is more or less angled, especially round the eye, and is pale green, sometimes having a red side and thinly dotted with russet on the sunny exposure.

PEAR FONDANTE D'AUTOMNE.

THE fruit of this variety varies greatly in size according to the age and vigour of the tree. It is top-shaped, very broad in proportion to its length. slightly uneven on the surface, but smooth and pale green, slightly mottled with russet. It has nothing special in the way of colour to recommend it, except a flush of brownish-red on the exposed side. The flesh is white, crisp and juicy in the early stages of ripening, but soon becomes melting, sweet and sugary, although not strongly aromatic. Some allowance must, however, be made for the flavour of Pears this year owing to the amount of rain and the want of sunshine so necessary for the development of high-quality fruit. The crop at Devonhurst, Chiswick, has been unusually heavy, for the branches, which were nearly upright at the beginning of the season, were borne down into a drooping position with the weight of the fruit.

APPLES FOR TOWN GARDENS.

THOSE who live in and close to large towns such as Manchester, Wolverhampton, and Birmingham are more anxious to grow a few fruits than those who live in much more favoured districts, and to such a knowledge of the best kinds to cultivate under unfavourable conditions is a decided gain. I have had many years of experience of large manufacturing towns, and know how frequently we find in these town gardens and allotments varieties which rarely produce fruit, just because when the cultivator has no knowledge of varieties, one sort must be as good as another in his estimation. Looking over a suburban garden in Birmingham the other day, I noticed good crops on pyramidal trees of Cellini Pippin, Echlinville, and Lord Suffield, but the cultivator is a first-class hand at managing fruit trees, and keeps them closely thinned of young growth from June onwards, so that plenty of light and air is admitted, and the fruit spurs are well plumped up.

In Messrs. Pope & Sons' Nurseries at King's Norton, a very excellent and very old variety of Apple, the Red Astrachan, may now be seen in its best character, fruit of good size and well coloured, and of excellent flavour, and it is a good and pretty certain cropper. Worcester Pearmain and Lane's Prince Albert also crop so well here, and the fruit of both kinds hang firmly on the trees, and are both certain croppers. Prince Albert has been grown here for quite twenty years, and is very much esteemed for its excellent quality and is such a good cropper. Here then are six good cottage garden varieties, suitable for smoky town suburban gardens, where fruit growing is a very different matter to what can be done in more bright and genial districts.—*W. D.*

PLANT STEMS.

THE stems of plants, although not so important as roots, leaves, and flowers, are nevertheless very necessary to vegetable organisms, as they form, as it were, the framework which sustains the whole structure of the plants, and at the same time serve as channels of communication between the various parts. So far as use to mankind is concerned, however, they are second only to the seed organs which form so large a proportion of human food. Wood and the various fibres used for manufacturing purposes got from the stems of plants are hardly less necessary for life and comfort than the staff of life itself.

Stems arise very early in the growth of the infant plants, as they make their appearance immediately after the rootlets shoot forth from the germinating seeds, and, turning upwards, force their way through the soil towards the air and light above. All stems, however, do not rise above the ground, but many of them remain buried more or less completely in the earth. Thus Tubers, like Potatos and Artichokes, are really fleshy enlargements of underground stems. There are also stems which, although they reach the surface, do not rise perpendicularly above it, but spread out horizontally, and send down roots at various points, and in this way virtually give rise to new growths. A well-known example of this is found in the Strawberry, which sends out runners, and spreads in this manner. Then again in some cases the main stem rises straight into the air, but beneath the surface of the ground side branches grow out through the earth, and send forth roots at different parts, which may become the starting points of separate plants. Advantage of these peculiarities of stem growth is often taken to propagate plants which exhibit them. Generally, however, stems rise upwards, carrying the leaves and flowers to the light and air so necessary for vegetable life.

Underground stems are frequently mistaken for roots, but in reality they are quite distinct from these organs. One distinguishing feature of stems is their capacity of budding, a capacity which roots do not possess. Stems, in fact, proceed from buds, and during growth are terminated at their growing points by a bud, which lengthens out something after the manner of a drawn-out telescope into stem, and leaves placed at regular intervals.

The structure of the stems of the higher orders of plants is in general very complicated, but the base or fundamental form out of which it is all built is found, like that of every other part of living organisms, in the protoplasmic cell or drop of protoplasm, surrounded by a wall or covering of more solid material. In the first place, a number of these cells, not differing one from the other in any special manner, cohere or join together to form the more or less cylindrical stalk. The cells on the outside of this elementary stem get somewhat hardened and flattened to form a sort of skin or epidermis. The early stems and the newly-formed parts of those which are mature are formed of little else than these masses of little cells joined together, or cellular tissue, as it is called. In some of the lower orders of vegetable life—such as mushrooms and others of a like nature—the stems never reach beyond the rudimentary stage of cellular tissue, but in the higher orders changes in the tissue speedily make their appearance. Tubes or ducts are formed by the union of cells in long rows, and the absorption of that part of the wall or cover which divides one cell in these rows from another. These tubes form bundles, which are known as vascular bundles or tissue. Other cells become elongated, and interweave with one another so as to form fibrous material, like flax, hemp, &c. Then again cells of somewhat the same shape have their walls thickened by deposits of hard material and form wood. In some of the lower forms of plants the stem is formed somewhat simply, the vascular bundles being developed at once, so that no further thickening takes place, but growth is confined to the summit, and hence they have been named summit growers.

In the flowering plants, however, a more complicated process is gone through, by which the stem is thickened and hardened as well as elongated. These plants have been generally divided into two great classes, viz., those which grow towards the centre and, as it were, force the circumference outwards, and those which grow by continual additions to the outside. The distinction, however, is not very clearly defined, but it serves to mark an undoubted difference in the mode of stem growth. In the inward-growing stems the vascular bundles appear first somewhat irregularly scattered through the cellular tissue, but are in greater numbers towards the outside or circumference. As the plant grows older those bundles increase towards the centre and gradually displace the ordinary cellular tissue. In some cases the stem becomes so densely packed with hardened bundles that further growth is impossible, and the plant dies; or it may be that the circumference gets so hardened that expansion is stopped, and increase can only take place in length. This occurs in such woody plants as the palms. When one of these vascular bundles is minutely examined by cutting it down the middle, so that its various parts are exposed to inspection, it is seen to possess a definite arrangement of differently-shaped cells and fibres. On the outside there are first the ordinary cells, composing the cellular tissue. Next to them is a number of narrow elongated cells, shaped somewhat like a spindle, being broad at the middle and becoming narrow at each end. These are interlaced so as to form a sort of stringy or fibrous tissue. Then there is a number of fine cylindrical cells where growth takes place. Succeeding these are many long tubes or ducts, and last of all a number of cells similar in shape to those which formed the fibrous tissue, but generally of a harder and firmer nature, which are known as wood fibre. When the vascular bundle reaches maturity growth ceases, and the fine cylindrical growing cells disappear. In plants of this class, then, the growth of the stem may be considered to proceed in the following manner. There is formed first the more or less cylindrical stalks, composed entirely of cellular tissue surrounded by a skin or epidermis. In the interior there speedily develop bundles of fibrous matter such as those described. Those bundles at first are scattered irregularly through the stem, but in greater profusion towards the circumference. New bundles arise, grow, and increase in number towards the centre, until the stem is more or less filled with them, when it becomes hard and woody. Of course there are great differences as to the degree of rigidity which is ultimately attained, but the general process is as described. Palms, Sugar Cane, the Grasses, Cereals, &c., belong to this class.

In the second class, or those which grow outwards from the centre, the phenomena exhibited are somewhat different. There are present generally the same elements, viz., tissue made up of simple cells and vascular bundles composed of the variously altered cells already described, but the arrangement is on a different plan. The vascular bundles make their appearance just inside the outside covering or rind, and are arranged in the form of a ring. At first they are separate from one another, but in process of growth close up so as to make a complete ring round the central cells which form the pith or soft central part of the stem. When new rings appear they are always placed outside the old ones, and in hard stems are very close together, and are mainly of a woody nature. These rings are clearly seen in the trunks of ordinary trees when sawn across. The circular arrangement of vascular tissue can be seen also by cutting a Potato across near the stem end. The pith or central simple cells is usually juicy in young plants, but often dries up in older plants altogether, and sometimes disappears, leaving a hollow space.—*The Scotsman.*

COMING CHRYSANTHEMUM SHOWS.

Nov. 3.—Brighton (2 days).—Kent County (2 days).—Southampton.—Pembroke.—Watford (2 days).—Wells, Somerset (2 days).—Finchley (2 days).

,, 4.—Ascot.—Ealing.—Cornwall (3 days).—Dalston (2 days).—Sittingbourne (2 days).

,, 5.—Highgate (2 days).—Camberwell and Peckham (2 days).—Grimsby (2 days).—Stroud (2 days).—Tottenham (2 days).

,, 6.—Crystal Palace (2 days).—Bradford (2 days).

,, 7.—Crewe.

,, 9.—St. Neotts.—Truro (2 days).

,, 10.—National Chrysanthemum Society, at the Westminster Aquarium (3 days).—Eastbourne (2 days).—Kingston and Surbiton (2 days).—Sevenoaks and West Kent (2 days).—South London (2 days).

,, 11.—Bath (2 days).—Reading (2 days).—Bournemouth (2 days).—Faversham (2 days).—Southend (2 days).—Guildford (2 days).—Southgate (2 days).—Chelmsford.—Lewes (2 days).—Croydon (2 days).—Lindfield (2 days).—Dartford (2 days).—Market Harborough (2 days).

,, 12.—Barnsley (2 days).—Cranbrook (2 days).—Dawlish.—Hornsey (2 days).—Isle of Sheppey (2 days).—Westerham.—Winchester (2 days).—Wimbledon (2 days).

,, 13.—Cheshunt (2 days).—Derby (2 days).—Eccles and Patricroft (2 days).—Hayes.—Devon and Exeter.—Nottingham (2 days).—Reigate.—Tooting (2 days).

,, 14.—Bacup.

,, 17.—Oxford.—Hartlepool (2 days).

,, 18.—Hull (2 days).—York (3 days).—Cardiff (2 days).

,, 19.—Bristol (2 days).—Crediton, Devon.—Norfolk and Norwich (2 days).—Scottish Horticultural Association, Edinburgh (3 days).

,, 20.—Bolton and District (2 days).

,, 21.—Batley, Yorkshire.

,, 24.—Hampstead.

[The Editor will be greatly obliged to Secretaries for addition or corrections to the above list]

FLORICULTURE.

Dwarf Striped French Marigolds.

Mr. James Percival, Smithy Bridge, Rochdale, has sent for inspection a box of blooms of Dwarf French Marigolds, which, a fairly good strain when it first came into his hands, has been greatly improved by him by reason of careful selection, both in habit and quality of the bloom. The flowers sent certainly show a very fine strain, symmetrical, fully double and handsomely striped, and Mr. Percival states the plants are only about a foot in height. By selecting from the most perfect flowers during the past seven or eight years he has brought the strain to this high state of perfection, and what he has accomplished is illustrative of what may be done by anyone who, taking a particular flower in hand, will resolutely set about perfecting it. Mr. Percival has a bed over 20 yds. long, and several feet in width, which must be a great sight. The Dwarf Striped French Marigolds are much more effective for garden decoration than the tall ones of old, which reach a height of from 3 ft. to 4 ft., and are of straggling growth. Very fine strains of tall Marigolds are still grown for exhibition, and some northern growers say they can procure flowers of finer quality from them than from the dwarf-growing section. But Mr. Percival shows conclusively enough that flowers of fine exhibition form can be had from the newer dwarf-growing strain, which is a matter for congratulation. I may add, that should fine and warm weather prevail during October, the Marigolds will continue in good bloom all through the month.—*R. D.*

New Violas.

Some of the later introduced varieties are very lovely, and some new ones yet to be introduced wil very soon be established favourites. Some four or five years since a very fine white variety, Countess of Wharncliffe, was sent out from Wortley Hall, where it was raised, but somehow it never got in to many hands, and is not known as it so well deserves. It is a close free-growing snow-white variety of great merit, and will be very popular. William Neil, a variety from Scotland, is also a very fine sort of a soft pale pink colour, and Beauty, Duchess of Fife, and Mrs. Grant, are three beautiful varieties, which should be in every collection. Wonder is a variety from Scotland, of pale yellow colour and evidently a first rate bedder, but there is nothing of a distinctive character about it. Delicata is a very lovely variety of a pleasing pinkish-lilac colour. Hartrie is pretty but has a washy appearance, white bordered, with very pale lilac, and of little use as a bedder. Aloa, Dandy, Ida's Choice, Nora, and Vernon Lee, may all be set down as no acquisitions whatever.

Of my own new varieties, I, of course, should speak with bated breath, but I venture to say that in Bridesmaid, very soft pale primrose, Golden Gem, and Master of Arts, we have three of the finest Violas ever seen. Violetta is a very dwarf and distinct variety raised by Dr. Stuart, of Chirnside, and sent to me by Mr. George Steel, of Heatherslaw. The blooms are very small, but of good form and substance, and of a new type compared with so very many kinds we are now getting, in which there is so much of the Pansy blood, and large flowers, and with these we do not get earliness, floriferousness, and continuance of blooming.

I have all along ridiculed the term "tufted Pansies," and suppose it was invented to deceive. There are no such things as "tufted Pansies." If anythiny is tufted it is the Viola, but in what way "tufted"? The fact is, that the nearer we keep to the Viola type, of which Builion, True Blue, Ardwell Gem, Mrs. Gray, Elegans, The Mearns, Golden Queen of Spring, Countess of Kintore, Mrs. Pearce, Mrs. Cobham, Skylark, and others are types, the more we ensure very early blooms, continuing through the summer and early autumn in full bloom and most floriferous. Countess of Hopetoun has flowers larger than those I have just named, but it still stands in the foremost rank of our bedding varieties, and is a wonderfully valuable variety of close habit.

Some sorts, such as Mrs. Baxter and Dawn of Day, have too much of the Pansy breed in them, and do not conform to my views of what a bedding Viola should be, but as exhibition varieties they tell. We have a lot of grand varieties for the exhibition stand, such as Ethel Baxter, Spotted Gem, Queen of Scots, Hugh Ainslie, Marchioness of Tweedale, Evelyn, Lady Amory, and Sunrise, which are very fine, some of them excellent bedders; and I think that if amateurs would divert their attention more to Violas and grow many of the varieties they would derive very sincere pleasure from doing so, and have much earlier flowers than from almost any other plant, and they are so easily cultivated.

Some of the new varieties sent out are mongrels, and may find here and there an admirer, but will soon be amongst the forgotten—their proper place. I have always advocated and worked for obtaining more selfs without any blotch or ray of colour in the centre, or with as little as possible of either, and as a pure type of this class, I name my new varieties Bridesmaid and Golden Gem. Still we cannot but welcome also most heartily such kinds, which are parti-coloured, as Countess of Kintore, The Mearns, Queen of Scots, Ethel Baxter, and others.

Messrs. Dobbie & Co. have taken the Viola in hand in a very spirited manner and have sent out some fine varieties, and they will send out a few very fine kinds this autumn, such as Countess of Elgin, Annie King, and Lass o' Gowrie. These I have seen, and can speak confidently of their value and beauty. Let me add a word also as to planting out. If possible do it soon, so that the plants may be established before severe weather sets in. Late spring planting is by no means recommended by me. —*W. Dean, Sparkhill, Birmingham.*

HAMPTON COURT.

Here, as in most other public gardens and parks, the beds of Pelargoniums were very dull and comparatively flowerless by the end of September, except in the case of the variegated or bicolor sorts, which were generally mixed with Abutilon Thompsoni, Iresine Lindeni, or blue Violas. Some beds of mixed Fuchsias, Ivy-leaved Pelargoniums, and Begonia Worthiana continued to hold out, and one of such plants, with the addition of Iresine Lindeni and Coleus edged with Stellaria graminea aurea, was quite bold. The floriferous character of B. Worthiana was well marked in several other cases, thus demonstrating its utility for flower bedding in wet seasons like what the past has been. Some beds of flowering plants, such as Nicotiana affinis, Chrysanthemum frutescens, C. carinatum, Pentstemons, China Asters, Marigolds, and Stocks, mixed with Abutilon Thompsoni, Eucalyptus globulus, and variegated Maize, edged with Euonymus radicans variegatus, demonstrated that arrangements of this kind are superior to Pelargoniums in climates akin to what we have to put up with. Beds of Cannas, single and Pompon Dahlias were also respectable. Several beds of blue Ageratums were flowering magnificently as if they delighted in wet weather.

Heliotropes when planted out usually flower with a freedom quite unknown in pot culture, and the past summer seems to have been particularly favourable to their development. This was certainly the case with two beds of standard Roses, on a groundwork of Heliotrope President Garfield, or some similar dark kind, forming a dense floriferous and fragrant mass, 2 ft. to 2½ ft. high. Little attempt is here made at subtropical gardening, but a bold effect was produced in a large oblong bed of Grevillea robusta and Ficus elastica, 5 ft. to 6 ft. high, alternating with dwarfer plants of Abutilon Thompsoni, on a groundwork of Iresine Lindeni, Violas, and Begonias.

The carpet beds were the chief features of attraction, and were greatly admired by the visitors. One of the finest was a large oblong bed with a plant of Agave Victoriæ in the centre surrounded by Alternantheras, then an eight-rayed star, four of the rays of which consisted of Cotyledon Peacocki and the other four of Antennaria tomentosa, all edged with Golden Feather. At either end of the bed was a balloon-shaped figure consisting of alternating bands of Alternanthera versicolor, Cotyledon secunda glauca, A. paronychoides aurea, A. magnifica, Cotyledon adunca, A. paronychoides aurea, A. magnifica, and Cotyledon secunda glauca. Then followed a groundwork of Herniaria glabra on which were four large crescent-shaped patches of Calocephalus Brownii surrounded by a line of Kleinia tomentosa, and some circular plots of Alternanthera in convenient or suitable positions. The whole was surrounded by an edging of Alternanthera paronychoides major, with Cotyledon secunda glauca on the elevated slope on a groundwork of Sedum glaucum.

Another bed of similar size, but altogether differently arranged, attracted more attention from the plant-loving public than the last. The design was a bold one and showed a considerable departure from the usual style of carpet bedding, and an air of novelty added to the striking character of the whole. A large oval figure of Cotyledon Peacocki occupied the centre, while there was a somewhat smaller patch of Kleinia repens at either end. In each of the four corners was a patch of Fuchsia Golden Fleece pegged down and kept dwarf, and between these on either of the two sides was a patch of Calocephalus Brownii with its cottony-white stems. Following the larger patches in the centre, and surrounding them, was an intricate scrollwork of Alternantheras, Mesembryanthemum cordifolium variegatum and Cotyledon secunda glauca. The latter greatly predominated in bold lines and constituted a marked feature of the design. At either end of the bed was a large plant of Cotyledon metallica surrounded by a patch of Sempervivum calcareum. The edging on the slope was the same as in the last case.

Less novel but still very neat and attactive in its way was a long oval bed with a plant of the variegated American Aloe in the centre, surrounded successively by Sempervivum montanum, Cotyledon Peacocki, Kleinia repens, and Mesembryanthemum. On a groundwork of the dark green Herniaria glabra were two heart-shaped patches of the dark purple-leaved Alternanthera grandis, and six patches of the cottony-white Calocephalus Brownii, with some bands of Alternanthera, and the usual edging. Distinct in its way but rather formal was another large square bed, laid out in lozenge-shaped figures of moderate size, each filled with one kind of plant. The design, if for no other purpose, would serve to show what a large number of plants there is at command for carpet bedding purposes. There were patches of each of the different kinds of Alternanthera, Cotyledon secunda glauca, Kleinia repens, Mesembryanthemum cordifolium variegatum, Calocephalus Brownii, Fuchsia Golden Fleece, Antennaria tomentosa, Sempervivum calcareum, S. montanum, Coleus Verschaffeltii, and Iresine Verschaffeltii. Besides being formal there was another objection to the design, namely, the unequal growth of the different subjects grown, giving the bed an unsymmetrical appearance. If the Coleus, Iresines, and Calocephalus had been confined to the central patches a more balanced appearance would have been given to the whole.

A side border in front of a low wall was gay with a number of tall flowering and other subjects in mixture, such as Phloxes, Single Dahlias, the Night-scented Virginian and Turkish Tobaccos—some of which were 6 ft. to 8 ft. high—also Lilium auratum, Abutilon Thompsoni, Cannas, Dahlia Juarezi, and fine foliaged subjects, such as Eucalyptus globulus, Wigandia cordata, Solanum robustum, and Ailanthus glandulosa. Young plants of the latter with single stems and planted at regular intervals had leaves between 2 ft. and 3 ft. in length.

At the end of the grounds nearest the Thames is a broad herbaceous border occupied with a variety of subjects, the autumn-flowering subjects being of course in season, including the Sunflowers, Michaelmas Daisies, Rudbeckia speciosa, Japan Anemones, Chrysanthemum uliginosum, and others. A large square of Chrysanthemum Madame Desgranges and G. Wermig was bounded by a massive line of the Italian Starwort (Aster Amellus). Bright and charming was another broad line of the dwarf Aster Novi-Belgii lævigatus, with a profusion of rose-coloured heads.

SALVIA COCCINEA.

If this Salvia were perfectly hardy it would take a high rank amongst herbaceous plants for the open border; but being a native of Central and South America it requires the protection of a greenhouse in winter. It is, however, amenable for culture in the open during the summer season, and keeps up a display for months in succession. The stems are of moderate stature, being only from 12 in. to 18 in. high, bearing whorl-like clusters of flowers all along the upper part. The flowers are of medium size, but of a bright scarlet such as we fail to find amongst Salvias from Europe or other temperate countries, and the lower lip is the larger and more prominent portion of the flower as is the case with many other species. The leaves are ovate, and not unlike those of S. nitilans, but smaller. Cuttings of it may be rooted in the same way as various bedding plants, and a stock of it got up in this way for preservation through the winter months. A bed or two might be filled with it to advantage in preference to Pelargoniums, which behave so indifferently during cold, wet summers.

SCOTTISH NOTES.

Begonias at Holmehill, Dunblane.—Begonias, as bedding out plants, are attracting so much attention in Scotland at present, that we think it would be a matter of interest to many of your readers to have an abridged account of a visit we paid a few weeks ago to Holmehill, where we saw Begonias most successfully and artistically used in bedding out. Our curiosity had been whetted by accounts of the good and rare things to be seen in the vicinity of Dunblane, so we determined to pay a visit to some of our gardener friends who reside there. But unfortunately our programme for the day was curtailed by bad weather. We had therefore to content ourselves with viewing the surroundings of Holmehill, which stands on a considerable elevation overlooking the pretty village of Dunblane with its old cathedral.

We met our friend, the gardener, at the entrance gate, and after a hearty welcome and a chat on matters concerning the craft, were invited to inspect the garden and grounds, an invitation we gladly accepted. We accordingly proceeded to the glass houses, the first of which was the stove, a neat little half-span structure, most tastefully arranged with Ferns, Palms, Dracænas, etc., all in excellent condition. Passing on we entered the Tomato house, in which there was a most abundant crop, one variety in particular, the Eclipse, attracting our attention and receiving our commendation. The Vinery was the next place to visit, and the Vines, which were carrying an excellent looking general crop, came in for a good share of criticism. Passing on we entered the conservatory, a large building which was one gay mass of bloom. We then had a turn round the well-stocked kitchen garden, the vegetables being all in good condition, with the exception of Onions, which had succumbed to their deadly enemy the maggot.

The flower garden, a sight in itself, then received our minute and critical attention. There was a grand display of Roses and Carnations. We now come to the Begonias, which were certainly the best we have seen this season, and which, in a marked degree, showed the capabilities of this flower as a bedder. One large star-shaped bed, where several hundred tubers of various colours were planted, presented a most charming and elegant appearance. The other beds, five or six in number, were equally as good, but not so large. They are truly well worthy of a visit from anyone who admires the Begonia. Mr. Pillans, the gardener, who is a young but enthusiastic grower, informed us that he intends to go in more strongly in future for the Begonia as a bedder. In conclusion we may state that if Begonias in places around Dunblane equal those at Holmehill, then a visit, even from a distance, will well repay any who are interested in this plant.

There is a general feeling that Begonias will yet play an important part in our bedding out system, a feeling which was confirmed on our part after we saw the splendid display at Dunblane. Other places may have larger displays of the flower, but none can, we think, show more the capabilities of the Begonia than the well-arranged beds we had the pleasure of beholding at Holmehill.—*X.*

Local Flower Shows.—When amateurs as well as practical cultivators give their attention to horticultural exhibitions (and in the county in which I reside there is scarcely a village with a population of a few hundreds in which shows are not held), and are encouraged by the support of the wealthy and influential local proprietors, the impetus which is given to gardening is a great gain to the working classes. In some mining villages where a few years ago decent cottage gardens were a rarity, they are now abundant, and the inhabitants enjoy home comforts of many kinds that were formerly unknown to them. In one village in particular, of some 800 or 900 inhabitants, there is a garden to every cottage, and in many of them small glass houses in which the men can work when out-door oocupation is impracticable, and it is simply astonishing what these cottagers raise.

The neat, dwarf specimen plants, especially of Fuchsias, Pelargoniums, Cinerarias, Primulas and Calceolarias, which they produce would be no discredit to any gentleman's garden in the country. And then the giant Leeks, the huge sticks of Celery, the curled Kale, the monster Parsnips, Carrots and Potatos of the finest quality, equally show what these humble amateurs can accomplish when they take heartily to the cultivation of their gardens. Pansies, Stocks, Carnations, Pentstemons, Asters, Marigolds, Dahlias and Antirrhinums are the florists' flowers most specially favoured, and in many cases they are done remarkably well, and go far to make up the attractions of the local exhibition. There are, however—and I regret to say it—some black sheep among these enthusiasts who do not scruple to show articles which they do not grow themselves. They are only a few in number, but always troublesome to deal with, and should be sternly dealt with when the petty swindling is discovered.

In the case of practical cultivators, there are men in very obscure places who can turn out produce at the large shows of the greatest credit to them. Notably was this the case recently at Edinburgh, when good prizes were taken by men scarcely known out of their own locality. At some of the exhibitions at which I have assisted as a judge, I have seen produce which I could not fail to admire, and in no case have I noticed any retrogression in the quality of the exhibitions. The Crief show was an immense improvement on last year's effort. Though not yet supported to any great extent by the gentlemen of the district, there are some who consider it a privilege to do so. At Stirling, the county gentlemen give valuable aid, but nurserymen, excepting the Messrs. Drummond, do not contribute very largely of their resources to a show that has long been worthy of the high-class patronage which has been accorded to it. Alloa makes a grand display, especially of tables of choice plants and collections of vegetables. The same may be said of Falkirk, and many other minor societies, which goes to prove that, notwithstanding the agricultural depression, gardening is loved by the people, and practised with an amount of success that is of the greatest benefit to the community.—*Stirling.*

WATERCRESSES.

Most people like watercresses, but few manage to have them as often as they would if they could; even persons living, like myself, in the country, where there are many in some of the watercourses, find it difficult to get them at times when they may be most wanted. Under these circumstances I lately took to growing them artificially, and have been so successful that, perhaps, you may give me space to explain how I do it, so that others may do likewise, even in those parts of the country where they do not grow naturally, and in towns and villages, if there is only a backyard with a pump in it—or, perhaps, a water-tap might be made to suffice. I have a pump against a wall at the back part of my house to raise the water into a cistern which supplies the boilers in the kitchen; and when this pump is used for this purpose, as it is at least two or three times a day, a little of this pure water, which would otherwise run to waste, is made to drop into a galvanised iron trough, which is 10 in. wide, 8 in. deep, and 8 ft. long, on the bottom of which I put about 3 in. of sand. In this I planted the watercresses, with their roots, fixing them down by placing a few stones on them, and a lump or two of old rusty iron, which is supposed to increase the growth of the Cresses.

This trough I secured by two strong iron supports driven into the wall 3 ft. from the ground. I did this because I found that the poultry fed on the Cresses; but where there are no poultry I think it would be best on the ground. Of course I filled it with water to start. The size of the trough might be increased or reduced as required to suit the situation, and it should be fixed with a very slight incline to create a slight stream from where the water falls into it at one end, and at the other a small hole, an inch below the rim of the trough, should be bored so as to allow the superfluous water to escape, after running through the crop of Cresses. Very soon after planting them they began to grow quickly, and are very crisp and good—much more so, I think, than those grown in the watercourses and ditches, and are not tough or stringy. When gathered they should be cut with a knife or scissors, and not torn up by the roots.

I am quite aware that Watercresses are grown in large quantities for the London and other markets, and I am not attempting to teach the growers how to cultivate them. What I wish to show is how they can be grown at the back of most houses and cottages without much trouble or expense, and be ready whenever wanted.

The cost of galvanised iron troughs (which will last longer than any other in the wet) of any sizes and shapes will not be much, and will be repaid by a constant supply of Watercresses for the many who now seldom taste this very wholesome vegetable. —*A. M. O., in Land and Water.*

Gleanings from the World of Science.

Alpine Plants on the Caucasus.—In a paper prepared for the Linnean Society, "On the Vertical Range of Alpine Plants in the Caucasus," by Dr. Gustav Radde, of Tiflis, some very interesting facts are given relating to the altitudes to which alpine plants ascend. The facts are all the more interesting inasmuch as they relate to many plants which are the common occupants of British gardens, thus attesting their extreme hardiness, as well as to plants which are equally or more common as weeds in this country. Some of the species occur above the line of perpetual snow, which, paradoxical as it may seem, is explainable from the fact that during summer there are bare and peculiarly warm spots where plants can obtain a footing and complete their growth in the space of five or six weeks, ripening seeds before dying down.

Many species occur at an elevation of 12,000 ft., and are considered those of the extreme alpine type. Draba araratica he found at an altitude of 14,300 ft. in company with Pedicularis araratica. Amongst those growing at an altitude of 12,000 ft. or more were Arabis albida (a common inhabitant of every garden), Draba bruniæfolia, Dianthus petræus, Saxifraga muscoides, Primula algida, Gentiana verna, Myosotis sylvatica, and Veronica telephifolia, besides others which are less often seen in British gardens.

A large number of cherished garden plants were also discovered at very high elevations on various ranges and mountain altitudes of the Caucasus.

A new shrubby Primula.—A new species of Primula, resembling P. Aucheri and P. verticillata in its shrubby stems, has been collected by J. H. Lace, Esq., F.L.S., in British Baluchistan, and is described by W. Botting Hemsley, F.R.S., A.L.S., in the Journal of the Linnean Society. The stem is somewhat woody in aged specimens and branched, bearing obovate-spathulate, more or less deeply toothed leaves at the apices of the branches. The latter are often clothed for some distance down with the withered remains of fallen leaves. The flowers are borne in clusters on short stalks from amongst the leaves, and are scarcely an inch long, funnel-shaped and yellow.

The plants were found at Torkham, at an elevation ranging from 4,000 ft. to 4,500 ft. Owing to the relatively small size of the flowers and the peculiar habit of the plant, the latter is not likely to be grown here, except by those who grow collections of Primulas.

Growth-curvatures in Plants.—A very learned and exhaustive address on this subject was given by Mr. Francis Darwin, M.A., M.B., F.R.S., of Christ's College, Cambridge, before the British Association, of the biological section of which he was president. He indicated the nature of his subject by stating at the commencement that a Sunflower in a state of nature rises perpendicularly from the earth's surface, while the main root penetrates the latter, pointing in a straight line to the earth's centre. If a pot containing a plant is laid on its side, both the stem and the root curve so as to regain their vertical direction once more. This he explained as geotropic curvatures, or those caused by gravitation. Other curvatures were effected by light, and came under the term heliotropism.

Several other movements due to different cause also came under review, and were considered by the speaker as forming a natural group classified under the general term of growth-curvatures. The subject, however, divides into two branches, namely, (1) "how does the plant recognise the vertical line?" and (2) "in what way are the curvatures which bring it into the vertical line executed?" The first question is explainable as due to irritability, and the second to the mechanism of movement. These the president treated of separately, and then went on to speak of circummutation, or that rotatory movement performed by the growing apex of the shoots or stems of plants, as a result of irregularities of growth. This latter movement, he continued to believe, was a widespread one, but probably not so universal as he and his father had supposed. Rectipetality, or the effort to grow straight, he looked upon as the power which reduced the irregularities inherent in growth and made them subservient to rectilinear growth.

CHRYSANTHEMUMS.

AT THE RYE CROFT NURSERY.

THE Chrysanthemum season is already in full swing, so far as early varieties are concerned, and every succeeding year now brings us additional varieties of what must be considered September and October flowering sorts. Japanese varieties are most conspicuous amongst the new comers, and next to them come the Pompons. The undermentioned kinds we noticed during the last week of September, in the fine trade collection of Mr. H. J. Jones, at the Rye Croft Nursery, Lewisham. Besides a most complete collection of old and comparatively new varieties, Mr. Jones has added 497 new sorts to his stock this season, being the entire lot of new kinds that could be obtained amongst the growers upon the Continent and elsewhere.

JAPANESE VARIETIES.

What the size of the flower heads may be cannot be stated for certain this year, on account of the late period (March) when the plants were received, and the subsequent propagation to which they have been subjected. Owing to their advanced state a new house has been provided tor their reception, and already the display is very fine. Vice-president Hardy has somewhat reflexed florets, revolute at the edges and of a bronze hue, deepening to purple at the tips. A somewhat peculiar variation in colour is seen in Alfred Werle; the crown buds are yellow or creamy white, but those of the terminals are pink, and the plant is very floriferous. President Réné de St. Foix is crimson and variously splashed with yellow towards the tips of the florets, and the reverse is yellow and very conspicuous in the half-expanded state. The heads of M. Pierre Cassagneau are spreading, dark crimson-red and very early. Rather choice is Madame Ve Pasquier, with large, creamy white heads and a yellowish centre. The clear rose heads of Gaston Chandon de Briailles are attractive, and the long florets have their edges revolute. The long and broad florets of Secretaire Alfred Bleu are yellow with a bronzy margin. Eugéne Mercier is a decorative kind with small crimson heads fading to a crimson-red, and very floriferous. Another free flowering decorative sort is Madame Paul Nansot, with dark purple florets, and a silvery reverse somewhat after the style of Ed. Audiguier. The large spreading heads of Baron Veillard are yellow slightly tinted with bronze. A large, reflexed variety is Souvenir du Petit P. Mezard, with deep bronzy buff florets, and full in the centre. The gracefully drooping and twisted florets of Madame Greard are pure white when fully expanded. A curious novelty is met with in M. Valery Larbaut, having about half of the florets milk white, the other half rosy-violet irregularly mixed, and a creamy centre. The rosy-purple florets of M. Mérendet are loosely recurved, and considerably twisted ; and the silvery reverse is often shown. A deep flower is that of Madame A. Thiebault de la Croure, with much twisted and revolute white florets and rose on the reverse.

Of medium size is Madame Eulalie Morel, with horizontal florets of a soft salmon-purple and pale yellow reverse; it might be used for decorative purposes. The same might be said of Charles de Cazanove, a floriferous deep crimson sort with silvery reverse. A large reflexed sort is M. Bournisien, with rosy-purple florets, revolute at the edge, and pale yellow on the reverse. The broad, spreading florets of Madame E. Bellan are pink and somewhat undulated. Those of Ami Méyard are flat, pale purple, and the heads remind one of a small Etoile de Lyon. A beautiful variety is M. Albert Galy, with orange-crimson heads and a bright-yellow reverse, best seen in the young incurved florets. The plant is dwarf, as indeed is the bulk of the kinds under notice.

POMPONS.

An acceleration of the flowering period is also noticeable amongst the new Pompons. Madame Gabus has been in flower for the past eight weeks, and has soft rose heads becoming pale or white at the tips of the florets with age; it is of the same type as Mademoiselle Elise Dordan, but larger. The same may be said of M. Bouziguet, which is even larger with lilac-purple florets fading with age, and possibly better than the last named. A beautiful variety is Ve. Chiquot, with average sized heads of a deep coppery or reddish-bronze, changing to a bright yellow with age and lasting a long time. Madame Edouard Lefort is a bronzy yellow, fading to yellow and of great duration ; it is also fimbriated. M. A. Herlant is also fimbriated and resembles an early Black Douglas. The habit of Madame Albert Colmiche is slender, but the flower heads are large, slighly reflexed, and of a deep crimson-bronze, tipped with yellow, more especially when old. An incurved variety, new last year, gives great promise. An early plant is beginning to show what the heads will be like. The upper surface of the florets is of a deep carmine and cerise on the reverse, while the breadth of the florets is another point in favour of the variety.

ALLOTMENT GARDENS.

IT exhibits the love for gardening in its very best aspect when we see how national has become the demand made for allotment gardens for the working classes. Very daring indeed are some of the propositions made, and certainly few stronger than one put forth in the new Corporation of Richmond on the Thames, that the Crown be invited to place thirty acres, at least, of the old Deer Park, from which Kew Gardens was originally taken, at the disposal of the Corporation for providing allotment gardens. It seems almost too much to assume that such a bold proposition will be successful, but as the tenancy of that large park is about to change hands a capital opportunity offers to have the proposal accepted.

It is a fact that a portion, though not a very large portion, of another Royal Park, that of Bushey, next Hampton Court, is to be set out as allotment gardens, and on the north side of Kingston a portion of Crown land is about to be used for a similar purpose. These facts show at once, not only how strong is the demand for allotments, but also that those in high places, having control of Crown lands, recognize their responsibilities. It will be well for the movement if all land owners amicably follow the example of the Crown, whilst wherever Crown lands exist working men may be encouraged to make application similar to those to which the Crown has already acceded to. None the less it is very obvious that no method of allotment provision can ever be satisfactory which omits to place absolute control of allotments in the hands of public or local bodies.

Whilst the landowner, great or small, may be willing enough to provide the land and create the allotments, it is very evident that tenants must always be subject to personal and perhaps harsh or autocratic control. With tenancies of such a nature there can be no independence, no freedom of action, no security of tenure, beyond what is tempered by personal likes and dislikes. Whilst we see the movement in favour of a wider diffusion of allotments assuming a somewhat political character there is no reason why it should not be hailed by all who favour horticulture with satisfaction. With some political force behind it the movement receives an impetus the which could never have been furnished otherwise. As gardeners we are glad to see any effort made to promote a taste for gardening in all classes of the community successful.

As moralists we rejoice that the allotment effort is so progressive, because there can be absolutely no doubt that with a certain section of the community allotment gardens have proved to be amongst the best moral agencies of the day. The horticultural seed trade should hail the progress of the allotment movement with satisfaction because every fresh addition, if but a few rods, to the garden area of the Kingdom helps, if but in a small way, to expand the demand for seeds and plants. We may write freely and talk glibly about technical education in our counties, but every allotment garden becomes at once a school for technical instruction, although very much of that instruction is, as it were, self given.

Probably nothing in a working man's life helps to satisfy him so much as the possession of a small plot of land. In the vast majority of cases he has not a foot of soil on which he can stand and say, "this, if not my freehold, is my tenancy, and for a time at least I cannot be dispossessed." When, however, he finds himself the occupant of, perhaps, one eighth, or, it may be, one fourth, or a half of an acre of ground to cultivate and garden, as though it were his own, the sense of enjoyment, as well as of independence, is great, and a higher estimate of life is realized, even though after all in but a small way. —*A. D.*

ROSES IN POTS.

THESE are not nearly so difficult to grow well as many suppose ; the chief points being to avoid too strong a heat, and to keep the plants free from mildew, and injurious insects. If anyone wishes to have flowers by the early part of January next, and onwards until the following April, the plants should still be standing in the open air. All plant life requires a certain amount of rest from active growth ; and where Roses are grown under glass and in pots, this is best secured to them by removing the plants to the open air during midsummer and autumn—a period when Roses are plentiful out of doors, and the plants can well be spared from supplying flowers under glass.

Referring to the Tea-scented and Noisette classes of Roses, there are two distinct divisions, namely, those which flower freely upon the wood made the previous season, and those blooming at the point of all young growths. Most of the strong growing climbers, such as Maréchal Niel, Reine Marie Henriette, William Allen Richardson, and Gloire de Dijon, belong to the first-named division, while Niphetos, Madame Caroline Kuster, Madame Falcot, Rubens, Souvenir d'un Ami, etc., belong to those which flower from all young growths. Now it is very necessary to treat these two divisions in a rational manner, and I propose to give a few details explaining how to do so.

The strong and vigorous growers must be induced to make as much healthy and well-matured wood as possible ; because it entirely depends upon this whether they flower freely during the coming season or not. One more very important point in growing this division lies in their pruning. This must be very sparingly done ; simply tipping the shoots, or cutting away the few inches of immatured wood being all that is necessary. As these strong growers produce bloom from almost every eye upon their long shoots, it will be apparent to all how foolish it would be to prune them similar to the ordinary kinds. I have more than once seen people cut away these growths back to a few inches, and in doing so they have practically been cutting away "bushels of Roses."

The main point in growing these is to get the summer growths well matured, and this is best accomplished by exposing them to all the sun and air possible after the growths have reached a good length. At the same time their water supply must be gradually withheld, but never sufficiently so to cause the wood to shrivel or their young roots to perish. If these two points are secured, one never need fear of having a good supply of flowers from many of the strong growers that are often termed shy-bloomers by those who grow and prune on the same system as the bush-growing varieties.

For early and certain flowering no class of Roses can compare with a few of the climbing kinds so treated. After having flowered, it is advisable to cut away the bulk of the wood, and so throw more strength into the strong growths from the bottom of the plants, and which should be grown on as strongly as possible before being stood out of doors at the time named above, and ripened off for another season's use.

Bush-growing kinds of Tea-scented or Hybrid Perpetual varieties require growing and ripening in much the same manner. The difference being that these do not want their flowering wood cut away as soon as the first crop is secured. These plants will continue to flower for some time longer; especially the Tea-scented varieties, which often give six or seven distinct crops of bloom during the eight months they are in full growth.

After ripening these, and before they are housed again in November, they should be pruned in the same manner as outdoor Roses, and the plants cut back to a little shape where practicable.

Repot the Roses either just previous to their being started in growth or as soon as their first crop of bloom is past. Use good loamy soil, made fairly porous with coarse sand, and above all take great care that the pots are well drained, as the Rose likes a lot of water, but if the soil becomes the least bit soddened failure is sure to result.

Insects, green-fly, red-spider, thrip, etc., can be easily kept down if some of the insecticides advertised in your columns be used as soon as the first of these pests are noticed. I would warn all against using any stronger solution than directed upon the

bottles; it being much wiser to use it twice in a weaker state. Clear soft water, of about 70°, is an excellent thing to syringe all Roses with upon bright mornings when in full growth, and if this is used frequently and judiciously very few insects will trouble the plants.

Cold draughts and dryness at the roots when in full growth are the chief causes of mildew, and must be avoided. But whenever you notice this insiduous blight appearing use a little soft soap and sulphur (black is the best as being less unsightly). The best way is to mix the sulphur up into a paste before adding it to the soft soap water; and if you keep the whole solution well stirred during use there will be a nice and gentle dusting of sulphur all over the foliage of your plants. This will check if it does not eradicate the fungus.—*Experience.*

EFFECT OF THE ELECTRIC LIGHT ON PLANTS.

The results of some experiments on the influence of the electric arc lamp on plants in hothouses is given by the authorities of the Cornell University Agricultural Experiment Station in Bulletin No. 30. The experiments were carried on during the winter of 1889-90, by introducing an ordinary street lamp into a house set apart for the purpose. This house was 60 ft. long and 20 ft. wide, and was divided into two equal portions by wooden partitions, so that one half might be kept dark during the night, while the other enjoyed sunlight during the day, and was kept lighted by the electric lamp at night. The electric lamp was suspended from the ridge of the house, just 2½ ft. above the soil of one of four benches just below it.

The brush arc lamp used was of 2,000 nominal candle power, and during the first six weeks commencing January 23rd, 1890, the light was naked, but during the rest of the time up to April 12th, it was covered by an ordinary white opal globe. While the light was kept naked it showed a marked influence in hastening the maturity of such leaf plants as Endive, Spinach, Cress, and Lettuce. This was the more marked the nearer they were to the light, and the leaves were small and more or less curled or injured close to it. Notwithstanding this, they contained the same amount of starch as leaves of plants at a greater distance from the light, but the grains were larger and better developed. The result was that the plants ran to seed without forming leaves large enough to be useful for table purposes.

The other division of the house lighted by sunshine only during the day was planted at the same time for comparison with that under the influence of the electric light. While Spinach and Lettuce in the latter house were making small leaves and throwing up flower stems, similar plants in the unlighted house retained their dwarf spreading habit, and made good edible leaves. Within 3 ft. of the lamp on either side the plants were killed outright, while all the rest were seriously crippled in the lighted house. Cress behaved in the same way, and for 5 ft. on either side of the lamp, the plants died soon after germinating. In the case of Endive, some striking inferences could be made. Two rows grew side by side in the lighted house, and one of them was shaded by an iron post, 1½ in. in diameter. The average weight of six plants in full light was 36·16 grains, in the shade 93·83 grains, while the average weight in the house lighted by the sun only during the day was 575 grains, the leaves being larger and darker in colour. The plants shaded by the post were heaviest in the deepest shade close to the post and the lamp, while in full light the best plants were farthest from the lamp.

The chemical analysis of Radishes grown under those three conditions showed that a greater amount of ash, including more than double the amount of potash and more chlorophyll, was developed in the plants under the direct influence of light, while the amount was least in the dark house. Plants in the shadow of the post were intermediate in these respects. The nitrogen was essentially the same in all cases. Dwarf Peas were grown upon a bench considerably lower than another one, which consequently shaded about half of it. The Peas flowered about a week in advance of those in the dark house, and the amount of bloom was ultimately the same in both houses, but the best crop was produced by the plants in the dark house, where the pods filled much better.

Experiments were then made with Radishes, to test whether the injury was due to continuous light. Flower pots were inverted over some newly-planted seeds and removed during the night, so that the seedlings might be exposed to the electric light only. They grew rapidly at first, but never succeeded in producing anything but elongated stems and the cotyledonary leaves, and died in the course of three or four weeks. Strong Lettuce plants were subjected to the same treatment and died in about two weeks; Beans died in less than six weeks from the setting of the seeds; Maize died in less than five weeks; and the Castor-oil plant died in two weeks, although established some time before it was covered over excluding sunlight. Similar experiments were carried on with the German Ivy (Senicio scandens), Carnations, Peas, and Begonias, but all died in a relatively short time. The above results with the naked arc light are conclusive that no beneficial results can be obtained from the electric light in that way.

Another set of experiments was carried out on the same principles as the above except that a white opal globe was placed over the lamp. Here the influences were less marked upon the plants. Radishes grew well, but did better in the dark house. Lettuce, on the contrary, did best in the light house. The loss caused by the electric light varied from one to five per cent. where the light was covered by an opal globe, but the naked light caused a loss of forty-five to sixty-five per cent. Curiously enough, Carrots were less affected either by the naked or protected light than any other crop, being only from one to thirteen per cent. better in the dark house. No other plant stood the light so well, as those close to the lamp were nearly as good as those at a distance.

During the past winter and spring, commencing on the 16th of January, experiments were tried under different conditions. The lamp was connected with the street lighting system, which was continued only for a few hours each night, and not at all on moonlight nights. The leaves of Radishes in the lighted house were larger, but the tubers were the same in both houses. Peas were most fruitful in the dark house, Lettuce was fifty per cent. better at the end of three weeks in the light house than in the other, and was fit to cut in a month, while that in the dark house took a fortnight longer to grow to the same size. The experiment was repeated, after transferring the lamp to the house which had formerly been the dark one, with like results. Verbenas, Petunias, Primulas, Heliotropes, Tulips and others were subjected to the electric light in the same way. The colours of various Tulips were intensified, but faded again in the course of four or five days. The plants had longer stems and larger leaves than those in the dark house. Varieties of Coleus gave rise to some interesting facts. After two nights within 3 ft. of the lamp, the red sorts became yellow, brown became green, green lost its brightness, and dark purple became glossy-black. The shaded portions of the leaves remained unchanged, so that with daylight the exact outline of the shaded portion could be easily defined for some days afterwards. So varied have been the results with different plants under different conditions, that it is evident many more experiments must be made before any definite conclusion can be arrived at, as to whether the electric light can be put to any practicable and useful purpose with profit. This will form the object of future experiments which are to be undertaken.

THYMUS BROUSSONETII.

Although by no means the tallest species of Thyme, the palm must be given it for size of flowers, which are of a bright rosy-purple, and as large as those of a Calamintha. The leaves are also relatively large and oval, or the uppermost ones constituting the bracts surrounding the flower heads are ovate and more or less concave. Curiously enough when bruised the stems and leaves emit an odour very similar to that of T. vulgaris, although so very different in many respects. The stems vary from 4 in. to 6 in. high, and are surrounded with shorter procumbent barren shoots which never seem to form a matted tuft as our native plants of the same genus do. A hardy plant so neat in habit and so showy might well be extensively employed in various places and positions such as borders in sunny, well-exposed aspects or upon rock-work, which is the most suitable home for creeping plants of this kind. A flowering specimen may be seen even now in the herbaceous ground at Kew.

EARLY AUTUMN TINTS.

Spring, summer, autumn, and winter are all indicated by the ever varying tints of the foliage of different trees and shrubs whether native or exotic, and which have been collected from all parts of the world where the climate is akin to our own or nearly so. There are some even amongst our native trees which show unmistakeably that the season is on the wane by September and even earlier if the summer has been a dry one. Amongst these are the Lime trees, whose fading brown or yellow leaves are not particularly attractive because scattered, and their tint never decided enough. In the same category may be placed the Laburnum, Hawthorn, and various others which have long been shorn of their pleasing green hue.

More attractive in every way are the green, crimson, and dark bronzy hues of the Virginia Creeper as it scales the front of some building and hangs down in leafy festoons from the eaves and around the windows, or when it seems strangling some old and half-dead tree. Its congener, the Japan Ivy (Vitis tricuspidata), is at the same early period of the year equally suggestive of a coming change, but crowning the autumn with a glory of its own. Where the slender shoots with small leaves go creeping thinly over the wall, the leaves glow with a ruddy bronze showing off the more vigorous shoots to advantage. The leaves on the latter attain a large size, and are of a shining light green with three lobes resembling Ivy at a short distance, and indeed a good substitute for it, except in winter when the leaves have fallen. A rather dry soil, and full exposure to light, favour a rich and early colouration much more than do rich soils in shaded positions, facts which planters should always bear in mind.

A good deal depends upon soil and climate as to what hue the foliage of certain trees will assume. This is well known to those who have seen the American Maples and other trees at home, where they assume glowing tints and hues they never do under British skies. On the contrary the foliage of the Norway Maple in the United States drops without ever changing colour. Under certain conditions in this country it assumes a ruddy bronze even in September, while in the north, just before the final fall, the whole tree assumes a beautiful clear yellow conspicuous at a great distance, and the more so when in juxtaposition to foliage of a more sombre hue. Equally early as the Virginian Creeper and the Japan Ivy comes the autumn beauty of the Tupelo tree (Nyssa multiflora). All through the summer months there is nothing to distinguish it from a Cherry, a Laurel, or something of that nature, but by the middle of September the glowing crimson and orange of the leaves attract from afar. It is allied to the Dogwood (Cornus) but is rarely seen in collections of trees. Later on the five-lobed leaves of the Liquidambar will be aglow with similar hues, and being a taller tree is even more effective in the landscape.

In striking contrast to the above may be mentioned the rich dark green hues of the Horse chestnuts, especially the red-flowered (Œsculus rubicunda), also the Black and Lombardy Poplars, the False Acacias, Sophora japonica, the Colchican Maple, the Elms, particularly some of the small-leaved forms of the English Elm, and various others. The London Plane is as bright as it was at midsummer, and contrasts with the dark tints of the trees just mentioned. The White Willow in its typical form still wears a silvery silky hue, but it is less often seen than the variety Salix alba cœrulea, which still maintains a wealth of bluish, long, finger-like leaves. Even the Scotch Fir and the Atlantic Cedar still wear their cheerful summer garb of a silvery grey or glaucous hue, which, in the case of the former at least, must soon give place to a darker and more sombre tint.

Early autumn hues of another kind must not be overlooked in the wealth of ripening hips, haws, and berries of various kinds which deck the hedgerows and woods by the waysides as well as the well-tended gardens or pleasure grounds. Single Roses of various kinds are loaded with red, scarlet, or black fruit according to the species. The common Barberry is aglow with thousands of bright coral red fruit suspended in clusters from every spur and shoot. The dull dark-red haws of the common Hawthorn contrast strikingly with the brilliant red ones of the Fiery Thorn. The long straggling shoots of the Bittersweet, or those of the Red or Black Bryony, scrambling over the hedges, are almost as attractive with their loads of red berries as Lycium barbarum on the fences of villa and other gardens. Planters during the season now commenced, would do well to consider the effects they can produce at different seasons by the employment of trees and shrubs of particular kinds.—*Taxus.*

THE HERBACEOUS BORDER.

Perennial Asters for October.

By the end of October the best of the perennial Asters will have completed their mission. A few may hold out during the early part of November, but such stragglers are generally so much destroyed by storms of wind and rain that they are anything but ornamental. With a continuance of mild weather through October the border may be kept gay with a sprinkling of Asters to tone down the plethora of Sunflowers, Rudbeckias, Coreopsis, Golden Rods, and other yellow Composites which are at present too dominant in gardens and parks everywhere. Every year finds the Asters or Michaelmas Daisies being more and more grown for market purposes, and if the public find them useful for decorative purposes the owners of private estates and their families would also enjoy them, provided their gardeners would secure the choice and really ornamental sorts. They are not only fit occupants for garden borders but serve greatly to brighten up shrubbery borders, especially along the sides of drives leading to the mansion or through the grounds.

Aster Novæ-Angliæ pulchellus.—The species may be recognised by its robust habit and linear-lanceolate, hairy leaves clasping the stem and auricled at the base. The variety pulchellus is a great favourite with many growers on account of its large blue flowers shaded with purple. They are produced over a period of many weeks and in flat headed corymbs. The variety A. N.-A. roseus has smaller bright rose flower heads, produced in a narrowly pyramidal raceme or panicle.

A. Novi-Belgii grandiflorus.—Notwithstanding the varietal name of this sort the flower heads are smaller than those of several other forms of the species, and measure from 1 in. to 1¼ in. across. They are blue shaded with purple, with numerous overlapping rays, and are produced in great profusion upon a dense habited bush about 4 ft. high.

A. lævis.—The plant to which this name is now given is quite different from that which has been known in gardens for many years as A. lævis, and now named A. Novi-Belgii densus. The leaves are arrow-shaped, elongated, auricled at the base, and of a deep glaucous green. The stems grow 3 ft. to 4 ft. in height, and are thinly but gracefully branched towards the top, bearing beautiful pale blue flowers about an inch in diameter. The bracts surrounding the head form a neat, densely imbricated top-shaped mass, as in A. turbinellus, but rather shorter,

A. paniculatus, Grant's var.—The stems of this species grow about 3½ ft. in height, and are purple, while the long lower branches of the panicle give it a somewhat pyramidal outline. The flower heads are of medium size and lilac, with a pale yellow disc deepening to purple, and are produced in great profusion. The small lanceolate leaves are of a deep green.

A. amethystinus.—This seems as much a favourite with growers as some of the varieties of A. Novi-Belgii and A. Novæ-Angliæ. The flower heads are of medium size, bluish-purple, and produced in great profusion on the ends of the branches. The short flowering branches are often produced on one side of the main stems. The latter together with the linear-lanceolate leaves are very hairy, and the plant on that account is often grown under the name of A. pilosus.

A. diffusus horizontalis.—Of the various forms of A. diffusus, that under notice is the most ornamental, generally growing about 18 in. high, or 2 ft. in wet seasons like the present. The flowers are of small size, but profusely produced on short, horizontal branches; they are white with a purple disc when at their best.

A. Drummondi.—In general appearance this resembles a greatly magnified form of A. cordifolius about 4 ft. to 6 ft. high, with cordate leaves and a pyramidally branched panicle of white flowers with a pale yellow disc, becoming deep purple.

A. multiflorus.—The stems of this species are about 3 ft. high, rather diffuse and not particularly elegant, but the quantity of flowers they produce is more than compensation for the defect. The leaves are linear, the upper ones being very small and densely covering the stems. The flower heads are small, white, neat and pretty.

A. vimineus.—In this case the stems are more elegantly branched, twiggy and very floriferous. The leaves are lanceolate, and on the upper part of the stems they are very small and numerous. The flower heads are similar to those of the last, but differently arranged or disposed.

A. trinervis.—With this one exception, which is a Himalayan species, all the above-mentioned kinds are North American. The leaves are elliptic, deeply cut, and quite different in aspect from those already given. The stems are erect and corymbosely branched at the top with relatively large pale blue flowers, slightly flushed with purple.

CAPE BULBS.

In dealing with the subject set down for me, viz., Cape Bulbs, I shall follow the text and speak on bulbs proper, such as we find more especially among the showy but all too little known Cape Amaryllids, passing by the Gladioli, Freesias, and other Irids, and also confine myself to the cultural side of the question, and to remarks calculated to bring about a better knowledge of these bulbs as garden plants; and I hope to be able to make an original statement or two with a view to that end.

First, then, to plunge into the subject at once, I will say that with proper planting the whole of the South African Crinums, and many of the other strong-growing Cape bulbs, are perfectly hardy in the open garden in any part of the British Isles, and what noble garden plants they make is well exemplified by the scores of stately flower spikes on the Crinum Powelli in the raiser's garden, as well as in the gardens of the President of the Royal Horticultural Society at Burford Lodge, where, too, a row of Crinum Moorei (also known as C. Makoyanum, C. Colensoi, and C. Mackenii) annually produce an abundance of delicate pink flowers. Crinum longifolium is an old plant in our open gardens, and I have proved C. campanulatum, C. scabrum, and others to be equally hardy. I therefore advise all who have spare bulbs of these plants in their greenhouses, or who can get fresh imported bulbs, to try some in the open ground; but in order to succeed deep planting, and, if possible, in places where the bulbs are not likely to be disturbed, is necessary. When I say deep planting, I mean that short-necked bulbs should be planted so that the top of the neck is from 6 in. to 9 in. below the surface of the soil, and C. Powelli and C. Moorei, of which the bulb and neck together are from 2 ft. to 3 ft. in length, should have trenches opened for them sufficiently deep to allow of the tops of the neck being well below the surface. The object of deep planting is evident, for by its means when hard frosts come it is longer getting down to the bulbs, and what is of still greater importance, when the thaw comes the return of warmth to the bulbs is gradual. I would advise anyone who contemplates trying these showy bulbs outdoors to set apart for them a narrow border at the foot of a wall, or in front of a plant house, and in such a situation the Crinums and other bulbs may be planted close to the wall, so that they need not interfere with other things planted on the border, nor be disturbed themselves. So planted and left alone these bulbs grow to a great size, and form huge masses producing a wealth of bloom every year. From such a situation the late Sigismund Rucker, of West Hill, Wandsworth, essayed to get for me a bulb of each of two varieties of what is now known as C. Moorei, but which at the time I speak of—some twenty years ago—was growing in his open garden. The bulbs were in a dense mass, and were so firmly rooted that the root crowns were broken in lifting them, although every care was taken.

Experiments in "Plant Protector."

Nearly four years ago I set up a range of "Plant Protector," as this kind of span-roof cold frame with glass-slab sides is called. No trouble was taken to make the different parts fit well, and the bulbs stored in it winter and summer were practically outdoors. Indeed, the effect in it of last winter, resulting in the death of Amaryllis Belladonna (one of our prettiest of hardy bulbs), Crinum Moorei, and several others, which passed the winter in perfect health in the open gronnd, proves to me that the test was actually more severe than it would have been had all the bulbs been planted out. But, grown in pots, I had the advantage of having them always under observation. It is well, perhaps, that I did not relate my experience before the past severe and protracted winter or I should undoubtedly have pronounced many things to be perfectly hardy which the experience of the year just past will not allow me to do, as the death-roll among those which had hitherto escaped has been very heavy.

First, then, as to the Cyrtanthi, the species experimented on being:—1, Anoiganthus (Cyrtanthus) breviflorus, yellow, Eastern Provinces of the Cape, alt. 5,000 ft. 2, Cyrtanthus Huttoni, red and yellow, Eastern Provinces, alt. 4,000-5,000 ft. 3, C. Macowanii, dark scarlet, Eastern Provinces, alt. 4,000-5,000 ft. 4, C. Tuckii, yellow and blood-red, Eastern Provinces, alt. 4,000-5,000 ft. 5, C. Collinus, red 6, C. spiralis, red. 7, C. pallidus, pale red. 8, C. angustifolius, red to orange. 9, C. Mackenii, white. 10, C. lutescens, yellow. The above are of the Monella type. Gastronema Section: 11, Cyrtanthus sanguineus, dark scarlet. 12, C. helictus, white. 13, C. uniflorus, white.

Of the first four, viz., Anoiganthus breviflorus, Cyrtanthus Huttoni, C. Macowani, and C. Tuckii, all from high elevations, I can safely say that they are as hardy for the open garden as any plant needs be, for, with me, they have the past winter been frozen—to use a common expression—"as hard as a brick" for weeks together; and not only were they uninjured, but by their subsequent growth proved that such treatment was good for them.

For example, Cyrtanthus Tuckii is in a vigorous condition, which is all the more worthy of remark as the other only bulb or two (beside the three which were wintered with it as described, and which are in good health) in cultivation have been grown in heat and are in a very poor condition; also bulbs of Anoiganthus breviflorus and Nerine angustifolia, which were not even potted, have done well. Of the remainder of the Monella section of Cyrtanthus, I am not so certain of their hardiness; that is to say, I believe most of them would live planted as recommended outdoors, but whether they would thrive well enough to flower I have not yet settled to my own satisfaction, and therefore recommend cautious experiments with them outdoors. The hardiness of the Cyrtanthus obliquus, too, is still an open question. Of the Gastronema section the tale is short and sad. All of them lived in my frame other winters, but all have died this year.

Nerine.

My experiments with a view to test the hardiness of the genus Nerine have revealed some very interesting facts, although at a lamentable loss on the stock generally. Some two hundred and fifty plants in pots were experimented on, comprising most of the known species and a great many of my own hybrids, in quantities of from six to twenty of each. The result has been directly opposed to what I should have thought would have been the case—that is to say, all the soft pale or bright green shiny-leaved species, viz., N. flexuosa, N. undulata, N. angustifolia, N. humilis, and all the hybrids in which either of them had made one of the parents, passed the winter, frozen hard for weeks together, in perfect health, while the larger-bulbed N. curvifolia, and indeed all the others, although they survived the first and longest run of severe weather, succumbed to the second cold period.

In bringing about this result, I find again that the question of altitude in the native habitat gives us the key to the relative hardiness of these bulbs in the same manner as with the Cyrtanthi. Nerine flexuosa is from 4,000 to 5,000 ft., N. angustifolia from a still greater height, and all the others mentioned as passing the winter well, are upland plants. Of the hardiest is my beautiful winter-flowering N. Manselli, which has broad bright green leaves like an Agapanthus, and, when strong, a 3 ft. scape of rose-pink or light crimson flowers. It was obtained by intercrossing N. flexuosa and a fine form of N. curvifolia, and on both occasions of my raising it I only succeeded in getting some four or five to grow. N. erubescens × flexuosa and undulata, N. excellens × flexuosa and humilis major, and crosses between N. flexuosa and N. pudica also came through the winter well; not one variety in which N. flexuosa was one of the parents died. But it must be understood that I merely set down the result of my experiments, and make the suggestions I have made as to the fitness of some Cape bulbs for outdoor culture rather as a basis on which others may work, and an inducement for them to continue carefully experiments in the open ground, than to advise the indiscriminate planting of these beautiful bulbs; a pro-

ceeding which might result in loss and disappointment. I think, however, there may be many who have surplus stock who would like to make a trial of this method of Cape bulb culture, and again, there may be some—indeed I know there are some who are now doing it—who would like to grow them in the open ground, if possible, but who either cannot, or do not care to give them space under glass.

But for the general culture of Cape bulbs in a manner in which they may all be grown together with certainty, the cold greenhouse is the best; and as they prefer a dry rather than a moist air in the house they occupy, there is no class of plants better adapted for growing in conservatories, either in town or country; indeed, so grown, they thrive far better than they do in the warm plant-houses, in which too many of them meet their end.

Generally speaking the Nerines and many other Cape bulbs grow through the winter, and careful observation of their foliage will give the grower a good guide as to his procedure in the matter of giving water. As soon as the leaves turn yellow (generally in May) water should be withheld from the deciduous kinds, and not a drop given until the flower-spikes appear in the end of the summer, or until, by the advancing growth of the leaves, it is seen that water must be given. During the resting season, if the atmosphere of the house in which the Nerines and other deciduous Cape bulbs are grown cannot be kept dry and airy, or if a shelf in a well-ventilated place cannot be found for them, they had better be placed in a cold frame, with the lights tilted back and front (but still left over them to keep rains off), for abundance of air they must have, or degeneration and inability to flower results. These remarks apply especially to N. curvifolia and others grouped with it. N. flexuosa and its hybrids; N. angustifolia, N. pulchella, and their hybrids, partake more of an evergreen character, and require a shorter dry period than the others. As requiring the same treatment as the Nerines should be mentioned the Hæmanthus, Brunsvigia, Buphane, Hessea, and the Gastronema section of Cyrtanthus, which appears to me to differ mainly from the Monella section in the treatment they require by their being deciduous, and consequently wanting a distinct dry season of rest.—*From a paper by Mr. James O'Brien, read at a meeting of the R.H.S. on Ap. 21.*

(To be continued.)

INTERNATIONAL EXHIBITIONS.

Though International horticultural exhibitions held in this country never strongly bring out the cultural capabilities of other nations, as Industrial exhibitions, when of an International character, do as regards the arts and sciences, it is very probable that at such an exhibition as that recently held at Edinburgh, were good prizes offered to foreign fruit growers, exhibits from foreign countries would have been forthcoming. Doubtless, many of your readers remember the grand Fruit Show held at South Kensington in October, 1862, at which fruits of foreign growth were strongly represented. The collections of foreign grapes were certainly very interesting, and to those engaged in the wine trade were especially so.

The immense variety of grapes, as seen both in form and colour, many of them brown or "grizzly," and the berries mostly small, in compactly set bunches, were very characteristic, but the exhibits of which I retain the most vivid recollection were the grand pyramids of fruit set up in such an imposing manner by the Covent Garden salesmen, and by the Messrs. Soloman in particular. It was freely asserted by experienced fruit growers and salesmen that finer Apples and Pears had never previously been seen in this country, certainly never by myself, and both before that time and since I have spent much of my time in the best fruit growing counties of England.

The greater portion of the salesmen's grand collections came from France, but of course the Grapes as regards quality were not to be compared with those seen at the great Edinburgh shows. The magnificent samples of Muscat of Alexandria, from a Mr. Drummond, however, were regarded as the finest ever seen in London previous to that time. I remember well that the late Mr. G. Tillyard's splendid bunches of the same variety, 18 in. long, had to be placed second, Mr. Tillyard also had Hamburgh such as admirers of that excellent black Grape would go a long distance to see, yet Mr. Drummond had better and was placed first. Mr. Tillyard's collection of fruit from Stanmore Priory was also of great excellence, and certainly would have compared most favourably with any of the collections at the late Edinburgh show.

The memorable exhibition of May, 1866, is still more within our recollection, but that was chiefly a great plant show and mostly English. Foreigners can easily bring fruit to this country, but would not so readily risk the journey with collections of plants. Reverting to the show of 1862, it may be remarked that Scotland took high honours for a most meritorious collection of Pears exhibited by Lord Stair's then gardener, Mr. Anderson. I could say much about the first International Show held in Britain, and which although got up in a hurry brought together the greatest assemblage of horticulturists of all classes that I have ever seen, the predominating influence no doubt being the second great World's Fair which was held the same year. What the horticulturists did so grandly in 1862 and in 1866 they could easily do again if they so willed it.—*Stirling.*

GARDENING MISCELLANY.

BOLTONIA ASTEROIDES DECURRENS.

The resemblance between the stems and flower heads of this plant and those of an Aster is considerable as implied by the specific name. The variety is more valuable for garden purposes than the type in several respects. The stems are dwarfer, but being 4 ft. to 4½ ft. high, may still be considered tall. The lanceolate, elongated, deep glaucous green leaves are decurrent upon the stems, as implied by decurrens, and herein lies a leading distinction for botanical purposes. The flower heads are of relatively large size, rosy-lilac and slightly deflexed, showing a bold and prominent golden-yellow disc. Those of the type are smaller, white, and considerably less ornamental. The most suitable place for it is in the back line of a herbaceous border, or in the shrubbery, where it would be seen to great advantage by contrast with the usual occupants. It is at its best during October, but commences long previously to that, and is, therefore, worthy of consideration for autumn flowering.

WHITEWASHING.

In most gardens at this time of the year there is generally a good deal of cleaning going on in plant and fruit houses, conservatories, &c., and it occurs to me that many may be glad of a wrinkle in connection with whitewashing. It is often a cause of complaint among gardeners that ordinary whitewash put on the walls of the houses comes off when the syringe is used, to the disfigurement of the occupants of the houses, but I find that this is easily avoided by adding some paraffin to the lime when it is of the consistency of putty. Mix one pint of the oil with about half a pail full of lime, as I said before when in the putty state, and thin down the mixture with water to the consistency desired. The paraffin effectually hardens the lime, and when put on the walls will neither rub off on to clothes, nor come off when syringed. The preparation also acts as a disinfectant and insecticide, effectually killing mealy bug, thrips, red spider, &c., that may be in the walls. Those who try the mixture will find it a great boon.—*H. B.*

COLOURING GRAPES.

I saw the "dewy" Grapes at Edinburgh, the intense bloom on which it was alleged had been laid on by the aid of sulphur or some other agency. I know what colour the Gros Maroc will sometimes lay on, and have some now which are daily becoming much like those at Edinburgh, and it is certain that sulphur has never been used in the house, nor anything else but clear water. The vines were lifted last year and are somewhat stunted, but have not given a bad crop of fruit, notwithstanding. I remember distinctly the amount of interest that was centred in some Grapes shown at one of the Manchester exhibitions by Mr. Coleman, of Eastnor. They were almost white, but no one suspected that they had been in any way tampered with. The question is, will sulphur change the colour of Grapes, or add to the bloom in any form? I never used sulphur with Grapes hanging on the vines, but often have sulphured the fruit room when the Grapes have been hanging in bottles of water, without noticing any visible change. Sulphur may be used in this way to destroy mealy bug, but I have never put it to the test.—*Stirling.*

TROPÆOLUM SPITFIRE.

Several varieties of Tropæolum are recommended for bedding purposes. I have used the above two seasons and like it much. It is not a creeper or trailer, but forms a compact plant, and with me scarcely exceeds 8 in. in height. The foliage is very dark green, and the flowers are a fiery scarlet. It is a continuous bloomer, and a shy seeder. I propagate it by cuttings, and allow them to remain in the cutting pots all the winter. It blooms until destroyed by frost or bad weather, and does not run riot towards the end of the season as so many bedding plants do.—*T. W.*

VERONICA BIDWILLI.

The stems of this species are very slender and procumbent, in some respects resembling those of some of our native annual Veronicas, but the general appearance is that of a sub-shrubbery type from Australia or New Zealand. The shoots have a wiry look about them, and the small, ovate, serrate leaves are of a rich dark green. The flowers are white, and borne upon axillary racemes, after the style of V. Teucrium or some of its varieties. A specimen on a small rockery in the herbaceous ground at Kew has been flowering for some time past.

THE JEPHSON GARDENS, LEAMINGTON.

Principal amongst the many attractions of the beautiful town of Leamington are the Jephson Gardens which are situated in the very heart of the town, and being of easy access are consequently well patronized by inhabitants and visitors. The gardens are very extensive and exceedingly well kept; the various kinds of bedding being well done. The ordinary bedding is grand, and carpet bedding is a specially fine feature, some of the designs being very beautiful and well carried out. The borders are well filled with herbaceous plants and annuals. Tuberous Begonias do remarkably well and are used with telling effect, some of the beds being now in great perfection. Some well-grown standards of Pelargonium Henri Jacoby are most attractive. This variety needs no commendation from me, as it has proved itself to be one of the very best, and grown as a standard and used as it is here it will still maintain its reputation. Mr. Dell, the enthusiastic superintendent, is to be congratulated upon the condition of the place, which is so great a credit to him as well to the town of Leamington.—*Rusticus.*

BLACKBERRIES.

I think it may be safely assumed that the American varieties of Blackberries which were introduced a few years since have settled down as failures in the old country, for we hear nothing about them now. I was in a garden close to a very large manufacturing town in the Midlands, and when a great flourish of trumpets was being made about these American varieties, a few of what were supposed to be the best kinds were planted, but, although free growers, very little fruit was to be seen upon them. In the same garden were several plants of the old Parsley-leaved Bramble, some on trellises and others planted out singly and tied to stakes, and in both cases the plants had an abundant crop of fine fruit. This variety does not grow so wildly as the others, and the handsome foliage makes it a pretty ornamental plant. I think it was at the Handsworth nurseries, Sheffield, where I first saw it in fruit, a long number of years since, and I have seen it in other nurseries and gardens, when cared for, producing large crops of excellent fruit.—*Rubus*

EVERLASTING FLOWERS

These beautiful flowers are so much used for decoration that perhaps a few hints on how to prepare them for bouquets may be useful to some of your readers. The flower heads should be gathered with a small piece of the flower stalk when they show signs of opening, as this will not only insure good centres, but well-coloured flowers. The individual flower heads should be wired immediately after being gathered. Push the wire through the

flower stalk, but be careful not to show the wire in the centre of the flower. As the process of drying goes on the flower stalk will contract, and the sap will rust the inserted part of the wire, which will act like cement. Put the flowers into a flower pot or anything similar that will keep them in an upright position. Do not expose them to the sun, but place them in a cool, dry place until they are properly dried. Those who adopt this method of wiring should be careful that their wires are not greased. The Everlastings may be made into bouquets or mixed with dried ornamental Grasses in vases for winter use. Those who wish to make bouquets of their Everlastings should use a piece of stake to commence to build them on. To prevent packing, gently bend the wires from the stake towards the flower heads and that will insure a good finish, mix a few dried ornamental grasses through it and finish with the bouquet paper.—*Gifford.*

THE POTATO DISEASE.

An unusual experience is felt this season by many people who have lifted their early Potatos and stored them away. They lifted apparently tolerably free from disease, but a month later when looking them over a great number of diseased tubers were found—almost a fifth of the crop were bad. In lifting the late kinds we find a terrible mess. The yield would have been very great if the disease had not shown itself so badly. Still I think the supply will be better than last year; the tubers are large and clean of those that are sound, if they don't go after storing, the same as the earlies have done. The Beauty of Hebron and all of its type are much worse than the round ones are in taking the disease.—*T. W., Yelverton, Norfolk.*

STORMY WEATHER AND THE BEDDING PLANTS.

It is certainly true that where carpet bedding and fine foliaged plants have been largely used in flower garden decoration this year they have the best of it. It is not the class of plants that have been used for carpet bedding that have been objected to, so much as the clipping and pinching required to keep them in trim, and the amount of labour withdrawn from other departments to do the clipping. Dwarf foliage plants, with many hardy subjects such as Pentstemons, Pansies, White Antirrhinums, Violas, etc., can be turned to fine account. The tuberous Begonias are standing the drenching rains grandly, notably at Keir, near Bridge of Allan, and at Norwood, Stirling, and our own are by no means insignificant. The Ageratum named Zoo, in beds with bands of Golden Balm, defy wind and rain.—*Stirling.*

THE IRIS-FLOWERED CROCUS.

Amongst the Crocuses there are some which vie with the spring flowering kinds in beauty, and not the least of them is C. iridiflorus. Its most striking peculiarity is the difference in size between the three outer and the three inner segments of the flower. The outer ones are elliptic and of a rich purple, shaded with blue, while the inner ones are pale lilac, sometimes almost white or even variously and irregularly striped with the same rich hue as the outer segments. When fully expanded the difference in size between the two sets becomes well marked and conspicuous. The much branched style is also of a rich purple. The species is a native of Banat and Transylvania, and with regard to flowering is contemporaneous with the autumn-flowering Colchicums during September and October. It often therefore, escapes the severe weather which destroys some of the winter and early spring kinds. The leaves are not produced till some time after the flowers have fulfilled their mission.

CUPHEA LANCEOLATA.

Amongst the annual species of Cuphea, the above-mentioned species recommends itself on account of its dwarf and free-flowering character. It has even been likened to a Silene by some authorities and named C. silenoides. The stems are about 12 in. to 15 in. high, and freely branched and floriferous. The leaves are lanceolate and of medium size for this class of plants. The tube of the flowers is purple with red hairs, and the petals are purple and six in number, with the two upper ones considerably the largest. Seeds are ripened abundantly and those who care to take the trouble can save a sufficient quantity to stock the grounds the following year. By sowing a pot or two of seed in March and transplanting them to a cold frame, they would be ready to plant out by the beginning of May, and keep up a succession of bloom all through the summer and autumn, provided they are not crowded to such an extent as to cause the plants to run to seed.

WOOLTON GARDENERS' MUTUAL IMPROVEMENT SOCIETY.

May I be allowed through the medium of your valuable paper to tender the grateful thanks of the Committee of the above society to the numerous contributors to this society's successful exhibition held in the parochial hall last week, which formed an imposing and instructive display, and highly interesting to all lovers of horticulture, and to those kind donors who by their generous gifts have enriched the society's library with many valuable works on gardening, also to the ladies who undertook the management of the refreshment department which added to the comfort and enjoyment of the visitors present. The committee desire further to express their deep obligations and heartfelt thanks to the donors for many useful gifts of plants, fruit, flowers, and honey for the sale stall, on behalf of the Gardeners' Orphan Fund which realised nearly £10 to be handed over to this deserving charity. This debt of gratitude includes the young ladies who so ably and efficiently worked as saleswomen at the stall.—*J. Rothwell, Hon. Sec*

THE WILLIAM HOLMES MEMORIAL.

Fearing lest it might be supposed I am in any way reponsible for the "absolute inaction" in regard to this matter, I shall be thankful if you will allow me to state that I am simply a member of the committee of the William Holmes' Memorial Fund, and not its secretary, as, I fear, some suppose. I was instrumental, as the secretary of the N.C.S., in calling a public meeting of the friends of the late William Holmes, at the Royal Aquarium, on the 15th of October, 1890. At that meeting a committee was appointed with Mr. Lewis Castle as secretary. I am constantly in receipt of applications asking for information as to the position and prospects of the Fund, and any request of mine to Mr. Castle for this information brings no response. I am as much in the dark as "A Member of the N. C. S." The treasurer is Mr. Robert Ballantine. I do not know what information he may possess; but I wish to state most distinctly that I am as desirous of getting the necessary information as anyone else, and the collapse of which I think "A Member of the N.C.S." justly complains is as much deplored by me as by him.—*Richard Dean, Secretary National Chrysanthemum Society.* [Mr. R. Ballantine, the treasurer of the fund, informs us that up to Tuesday night he had received on account of the fund £56 2s., and had expended the sum of £13, leaving a balance in his hands of £43 2s.—Ed.]

HELIANTHUS ORGYALIS.

Those who desire a stately Sunflower something out of the usual type should try H. orgyalis, which blooms during October, but is not particularly recommendable on that account, as the flower heads are small and produced in a terminal cluster. The stems, however, under good treatment run up to a height of 6 ft. or 8 ft. and are thickly clothed with long linear-lanceolate leaves of much more refined appearance than those of H. doronicoides, H. maximus, H. decapetalus, or others of that class. The beautiful foliage and the stately stems are the chief recommendation. Strong pieces should be planted in well prepared soil and they will sooner get established than if little bits were inserted in an ordinary border without any preparation. For the wild or picturesque garden it is also well suited by reason of its tall habit and long-lived nature. As the season advances so the plant increases in stature, and is just in its prime during September and October when many trees are beginning to cast their leaves.

CRUCIANELLA STYLOSA COCCINEA.

The free-flowering nature of this herbaceous subject is a strong recommendation for planting it more freely than has hitherto been the case. The procumbent stems and whorled leaves give it the appearance of a Woodruff, to which it is indeed allied, but the flowers present a colour not seen in the cultivated species of Asperula. In the typical form the flowers are of a soft rosy-pink, but those of the variety under notice are deep reddish-purple, not scarlet as the name would lead one to suppose. Individually they are small, but being produced in a dense, umbel-like head, they are particularly effective in the mass. Broad patches of the plant continue flowering for months together, and even now are as floriferous as in summer. The rockery is the best place for it provided it is in rich and tolerably moist soil, so as to encourage a continuous growth, thereby ensuring a succession of bloom. The stems are well adapted for hanging over the ledges and partly concealing rough blocks of stone.

SAXIFRAGA FORTUNEI.

Not the least important are the species of Saxifrage which flower in early spring, or in autumn, because there is a lack of competition at those periods for the public favour. The flowers of S. Fortunei are remarkably clean and pure white compared with S. cortusæfolia which flowers at the same time. Botanically they are notable for their irregularity, all the five petals being of different lengths, and curiously serrated along the edges. The leaves are of a rich dark shining green and serve as a background to the racemes of flowers. A sheltered place should be accorded it, as the flowers and foliage are liable to be injured by early frosts. At present a broad patch of it is flowering finely at Kew in an open border, showing that soil and position are matters of small consequence provided the weather remains open to the end of the flowering period. As a pot subject for the hardy plant house it is exceedingly well adapted, owing to its compact habit, beautiful foliage, and flowers. Under such protection and without fire-heat a fine display can be kept up for some time.

AUTUMN FLOWERING PHLOXES.

The moist and dripping season has been unusually favourable to the well-being of these moisture-loving plants in England. In Scotland they do well most seasons. We have just been favoured with a large boxful of bloom of many varieties from Mr. John Forbes, of the Buccleuch Nurseries, Hawick. From amongst them we singled out a number as exceptionally meritorious, including Iris, deep violet blue, and the nearest approach to a true blue we have seen; also Paul Bert, with huge panicles of Periwinkle blue flowers shaded with white; Lucy Baltet, palest lavender, shaded on the middle with mauve blue; Aurore Boreale, brilliant carmine with a purple eye and large; and Neptune, large, soft rosy-pink with a white eye.

Scarcely less meritorious were Neil Glass, large, deep salmon-rose; Pluton, small, dark purple; Amazon, pure white of medium size; Jeanne d'Arc, of like purity but small, and the plant only 12 in. high; and Lady McDonald, large, soft rose with a purple eye. A sport from the latter was a curious thing with greenish-white flowers, darker veins, and more or less splashed or striped with pale rose. Showy varieties also are Gladiator, shaded with soft purple on a lilac ground; Ornament, deep reddish-purple with a crimson eye; Madame Dariene, small deep purple shaded with blue, especially in bud; and Champs Elysées, flaked with violet purple on a white ground, and therefore very distinct. The latter reminds us of the Sweet Pea, Princess of Wales.

The range of variation is exceedingly great, and includes not only colour, but the size of the trusses, size of individual blooms, and the habit of the plant as to stature. The under-mentioned kinds although less striking, are all distinct and useful for border decoration or for cut flowers, namely, Robert Knox, white flushed lilac, with a purple eye; Eugene Schott, large pinkish-purple, shaded white round the eye; Mrs. Kinghorn, rose purple; Leonec, purple; Roi des Roses, salmon-rose with a magenta eye; Shirley Hibberd, soft rose with a crimson eye and pretty; and M. Jules Roche, irregularly shaded and mottled carmine on a lilac ground. Accompanying the above was a bunch of flowers of a dwarf crimson Antirrhinum, useful for bedding purposes. The best way to propagate it in order to preserve it true to character is by cuttings, which strike readily.

SOCIETIES.

Royal Horticultural, *October 6th, 7th, and 8th.*—The Coniferæ were most decidedly the great feature of the Exhibition opened at Chiswick on Tuesday, but the greatest amount of interest centred in the miniature Pinetum, or Conifer Garden, consisting of the live trees and shrubs plunged in beds and borders of Cocoanut fibre on a piece of ground by the pits and frames Three large oval beds occupied the centre, and along each side was a border varying in width according to the space and the outline of the central beds. The specimens varied considerably in height from 1 ft. to 12 ft., and a few were even higher.

One of the oval beds was occupied with specimens grown in the Combe Wood Nursery of Messrs. J. Veitch & Sons, Chelsea. Very fine were the trees of Sciadopitys verticillata, Retinospora squarosa, R. pisifera, R. p. aurea, R. plumosa flavescens, R.p.aurea, R. filifera aurea, R. plumosa albo-picta, and others. The central of the three oval beds was filled by Mr. A. Waterer, Knap Hill, Woking. The trees in the centre were very tall and consisted of Cupressus Lawsoniana Fraseri, Cedrus atlantica, C. a. glauca, Juniperus chinensis aurea, Retinospora pisifera aurea, and others. He also had a small side group. The third bed was filled by Messrs. Dicksons, Limited, of Chester, and consisted of several forms of Cupressus Lawsoniana, Thuyopsis dolobrata, Juniperus chinensis, Retinospora, Sciadopytis and others, surrounded by a line of the golden Cupressus Lawsoniana. One of the long curved beds was filled with a miscellaneous assortment of conifers from Messrs. Fisher, Son & Sibray, Handsworth Nurseries, Sheffield. The species of Abies and Picea, Cupressus and Retinospora were fairly well represented in bushy specimens, each according to its habit. Messrs. Chas. Lee & Son occupied another plot of the ground, and had some fine samples of Cupressus Lawsoniana erecta viridis, C. L. e. v. variegata, Wellingtonia gigantea, W. g. pendula, Retinospora plumosa aurea, and numerous others. Messrs. Wm. Barron & Sons, Elvaston Nurseries, Barrowash, Derby, had the corner at the far end from the above, and their specimens although as notably small as the last group was large, yet they were of a useful size for decorative purposes, Cupressus, Juniperus, Retinospora, Abies, Picea, Cryptomeria and Pinus were representative genera. A larger group was set up by Messrs. Wm. Cutbush & Son, Highgate, and the specimens were moderate in height. The taller specimens consisted of Cupressus Lawsoniana erecta viridis and Retinospora plumosa aurea, the latter being fine conical or pyramidal bushes. Picea was represented by numerous specimens. A side group was also set up by Messrs. John Jefferies & Sons, Cirencester. They had some tall samples of Abies lassiocarpa, Pinus parviflora, Cupresus Lawsoniana and Thuya gigantea, besides some neat trees of Cupressus Lawsoniana Fraseri, Abies nobilis, Thuya orientalis, and its varieties. A large group was set up by Messrs. Paul & Son, Cheshunt, at one corner of the ground, including tall specimens of Retinospora pisifera aurea, Juniperus chinensis aurea, Cupressus Lawsoniana erecta Allumi, and others. They also had a small group in a tent close by. A small group of Conifers was brought up from the Royal Gardens, Kew, consisting chiefly of kinds that require a greenhouse temperature, such as Phyllocladus asplenifolia, Libocedrus Gunniana, Agathis australis, Dacrydium Franklinii, and Microcachrys tetragona, etc.

A large number of exhibits consisted of cut branches, in most cases bearing cones. Amongst these was a collection from Mr. Wm. Smythe, gardener to Wm. Nicholson, Esq., J.P., Bassing Park, Alton, Hants, including male and female cones of Araucaria imbricata, Abies Nordmanniana, Tsuga Albertiana, and others. Even larger cones of Araucaria imbricata were shown by Mrs. Ford (gardener, Mr. H. Jones), Pencarrow, Bodmin, also Pinus insignis, Abies Webbiana, Abies Nordmanniana, and others. R. G. Lakes, Esq., Trevarrick, St. Austell, Cornwall, had cones of Pinus Pinea, Abies cephalonica, wood of Cryptomeria japonica, &c. C. J. Lucas, Esq., Warnham Court, Horsham (gardener Mr. Duncan), had Pinus Inops and a large number of others. Sir T. Dyke Ackland, Bart., Kilerton, Exeter (gardener Mr. Garland), had fine cones of Abies nobilis, Cedrus atlantica, Abies Webbiana, and others. F. S. Cornwallis, Esq. (gardener Mr. Mackenzie), Linton Park, Maidstone, had a rather extensive lot, including Abies cephalonica, Pinus insignis, and others. A large collection from Mr. W. F. Gunn, Strathpeffer, Ross-shire, cut from the Castle Leod policies, showed clean growth of Sequoia gigantea, Pseudotsuga Douglasii, Araucaria imbricata and others. A collection of specimens also came from J. Rashleigh, Esq. (gardener Mr. Bennett), Menabilly, including Abies Webbiana, Pinus parviflora, &c. A few specimens came from Mrs. Williams (gardener Mr. Hutchison), Scorrier House, Cornwall. Some fine cones came from Mr. Martin, gardener to Lord Poltimore, Poltimore Park, Exeter. A collection came from Hopetoun, N.B., and several other exhibits from the North which were not labelled as to the exhibitor's name. A collection came from Colonel Tremayne (gardener Mr. Simmonds), Carclew, Cornwall. A very extensive collection was sent up by Sir P. K. Murray, of Ochtertyre, N.B. In his exhibit were cone-bearing samples of Pinus Koraiensis, Abies cephalonica, Sequoia gigantea, Picea Menziesii, &c.

A fine collection of Cones came from Messrs. Dicksons Limited, Chester, including Abies Webbiana, Araucaria imbricata, Cedrus Deodora, Pinus Pinea, P. maritima, &c. Another collection came from the Mansfield estates, sent by Mr. Bayne, including coning samples of Pinus Coulteri, P. ponderosa, Abies Pinsapo, Pseudotsuga Douglasii, and others. In another tent a small collection was shown by Messrs. R. Veitch & Sons, Exeter. Alongside of it was another from Colonel Parker, Pampesford Hall, Cambridge; and a collection of Conifer branches came from Rossie Priory, Perthshire.

In the large vinery were some more collections of Conifers, including a very large exhibit consisting of some 550 species and varieties from the Royal Gardens, Kew. Amongst them were some fine cones of Pinus Pinea, P. Pinaster, P. Jeffreyi, Cedrus atlantica glauca, and many others, some of which are common and others rare in collections. A fine collection of specimens in cone was shown by Lady Fortescue (gardener, Mr. C. Herrin), Dropmore, Maidenhead. The male and female cones of Araucaria imbricata, Abies cephalonica, A. nobilis, Pinus insignis, and others.

Some prizes were offered for exhibits of Conifers by amateurs, and the first prize (Veitch Memorial Medal and £5) was taken by the Dowager Marchioness of Huntly (gardener Mr. A. Harding), Orton Hall, Peterborough. The cones of Pinus macrocarpa, P. Jeffreyi, and others were fine. The second prize (a Silver Knightian Medal and £2 10s.), was awarded to Lord Wimborne (gardener, Mr. T. H. Crasp), Canford Manor, Dorset. Another admirable collection of cut branches and cones was that of the Duke of Buccleuch (gardener, Mr. Malcolm Dunn), Dalkeith Palace, Dalkeith, in the pure atmosphere of which Conifers and other subjects always look clean.

The hardy perennials were quite a feature of the exhibition, and although the Exhibition and Conference was mainly intended for Sunflowers and Asters, yet these exhibits were largely supplemented by various other plants flowering at this season. Some prizes in three classes were offered in competition by amateurs for hardy perennials. The first prize for eighteen bunches went to E. M. Nelson, Esq. (gardener, Mr. E. Chadwick), Hanger Hill House, Ealing, who had Asters and Sunflowers well represented, as well as various other plants in season. The second place was taken by the Earl of Dysart (gardener, Mr. G. H. Sage), Ham House, Richmond. An exhibit of twelve bunches, shown by O. T. Hodges, Esq., Chislehurst, was disqualified because it contained some specimens which the judges did not consider hardy perennials in a garden sense. Another exhibit shown by W. Marshall, Esq., Auchinraithe, Bexley, was also disqualified for the same reason. In both cases the exhibits were very fine. The second prize for twelve bunches was awarded to Mr. A. Harding, gardener to the Dowager Marchioness of Huntley, Orton Hall, Peterborough. The first prize for eight bunches was awarded to Mr. R. Debenham, St. Peter's, St. Albans.

The collections of Asters and Sunflowers brought up for the inspection of the Committee were very representative of the plants of that class grown in gardens. A large collection of Asters was brought up from the Royal Gardens, Kew, illustrating many kinds worthy of cultivation in private gardens, and others of interest for botanical collections. A Bronze Banksian Medal was awarded to the Rev. C. Wolley-Dod for a large collection of choice varieties suitable for garden purposes, including a large number of fine forms of Aster Novi-Belgi, such as A. N.-B. densus and A. N.-B. floribundus. A large collection from the Society's gardens at Chiswick, occupying a considerable amount of table space, would give a general idea of the Asters in commerce, for a large portion of them had been sent from various sources for trial. Bunches of all the Sunflowers grown upon trial were also shown. A Silver Banksian Medal was awarded to Messrs. Paul & Son, Cheshunt, for a collection of Asters set up in large and very imposing bunches.

Other exhibits of hardy flowers were brought up for the inspection of the Committees. A Silver Banksian Medal was awarded to Messrs. J. Laing & Sons, Forest Hill, for a showy lot of seasonable herbaceous plants of many kinds, besides Asters and Sunflowers. A Silver Flora Medal was awarded to Messrs. Collins Brothers & Gabriel for a showy lot of late or autumn flowering herbaceous subjects. A Bronze Banskian Medal was awarded to Messrs. Wm. Cutbush & Son, Highgate, for a moderate sized but neat group of herbaceous perennials and Pompon Chrysanthemums. A similar award was made to Mr. W. Salmon, West Norwood. Some stands of hybrid greenhouse Rhododendrous were shown by Messrs. J. Veitch & Sons. Cactus Dahlias and Cannas in flower were shown by Messrs. H. Cannell & Sons, Swanley. Some stands of early flowering Japanese Chrysanthemums were shown by Mr. R. Owen, Maidenhead. Some Marguerite Carnations were shown by Mr. J. Hudson, gardener to the Messrs. de Rothschild, Gunnersbury House, Acton. Some Hypericums and Pernettyas were staged by Mr. A. Waterer, Woking. A small group of a beautiful white Carnation named Lizzie McGowan was staged by Messrs. Pitcher & Manda, Hextable, Swanley, Kent.

At a meeting of the Fruit Committee a Silver Banskian Medal was awarded to Mr. G. Reynolds, gardener to the Messrs. de Rothschild, Gunnersbury Park, Acton, for an exhibit of thirty-six good sized fruits of Hero of Lochinge, Melon in fine condition. Mr. Hudson showed Coe's Golden Drop Plum. Some Peaches were shown by Messrs. R. Veitch & Sons, Exeter. A cultural commendatiom was awarded to Mr. James Shuter, 66, The Grove, Hammersmith, for some Peaches and Louise Bonne of Jersey Pears.

ORCHID NOTES AND GLEANINGS.

Orchid Growers' Calendar.

Now will be a good time to have a thorough clean down. All glass and woodwork should be washed and the inside walls lime washed. All pots should be washed, and the plants sponged. Odontoglossums and others liable to the attacks of yellow thrip should be dipped in a mixture of soft soapy water and tobacco juice, laying the plants on their sides for half an hour afterwards to allow them to drip, afterwards syringing with clear water. In rearranging the plants keep them well up to the light, using inverted pots for this purpose. Do not overcrowd the plants; leave room for the free circulation of fresh air, which is of the greatest importance in keeping the plants in good health, and in securing dwarf sturdy growths, from which a profusion of flower may be expected.

Odontoglossum grande as they finish flowering may be kept a little drier and cooler by being placed at the cool end of the house. Flower spikes of Odontoglossum now being thrown up should have some cotton wool placed round them as soon as they appear out of the protection of the leaf to prevent slugs from eating them. Plants when coming into flower should, if possible, be removed to a drier house where the syringe can be kept from them. Cattleyas finishing their growths should be moved to the cool end of the house. Dendrobiums flower more freely by being moved into a cool house after completing their growth, and as the flower buds begin to appear the plants may again be placed in heat. Calanthes vestita. and Veitchii are now throwing up their flower spikes, and water will require to be given more sparingly, and the use of manure water abandoned as the flowers begin to open. In the neighbourhood of London and other large towns, where fogs are so destructive during the winter to this class of plants, it will be found a

good plan to get the plants as early as possible, and so get them in flower before the appearance of the fogs. Dendrobium Wardianum, nobile, &c., may also be treated in this way, and so escape the danger of fogs.

After the experience of last winter with Calanthes and Dendrobes it makes one consider if there are any means by which we can obtain those plants in flower before the fogs become so destructive. I am at least trying what can be done in this way, and if we cannot get them to flower before the fogs become prevalent, Calanthe growing will have to be given up. Those who grow their plants in the fresh country air have not this disadvantage to contend against, and can secure a grand display with Calanthes in the early months of the year, when flowers are valuable.

The temperature of the houses with the approach of cold weather may be gradually reduced, the cool house 50° to 55° at night; the Cattleya house 60° to 65° at night; and the hottest house 65° to 70° at night, with a corresponding rise with sun heat by day.—*A. W.*

Odontoglossum grande.

THIS fine old Odontoglot can be put to excellent purpose during the autumn months, when flowering Orchids are not particularly plentiful. The flowers are amongst the largest in the genus, measuring 5 in. to 7 in. across. It is a species which amateurs, who have a moderate amount of heat at command, should add to their collections, for it responds to moderate amount of attention in an intermediate house such as that accorded the Cattleyas. Some years ago a quantity of small pseudo-bulbs were added to the collection at Devonhurst, and they soon attained a fine flowering size. For weeks past they have been quite gay, and notwithstanding their being taken into the rooms of the dwelling house, their duration has given great satisfaction. The flowers of the different pieces vary to some extent in the richness of the brown markings and bars on the bright shining yellow ground colour. The lip in the more typical forms is spotted with brown on a creamy-yellow ground, but some of the plants have a white lip spotted with the usual hue.

Ionopsis paniculata.

THE individual flowers of this Orchid have been compared to those of a Violet, to which they bear a slight resemblance; but it is only when seen in the aggregate that their beauty becomes manifest. Well established plants throw up a panicle of bloom, which is very graceful owing to the slender nature of the branches. The sepals and petals are white, the latter being veined with purple in addition. The lip is similar, but has a violet blotch towards the base, giving tone and character to the whole. Some cultivators grow it on a block, but great care is necessary to maintain it in robust health all the year round when grown in that way. The sphagnum surrounding it has to be kept continually moist at all times. An easier method of keeping it in this condition would be to grow it in small baskets suspended from the roof, as is done in the nursery of Messrs. H. Low & Co., Clapton, where plants have been flowering for some time past. The species is a native of Brazil, and requires a stove temperature.

Pilumna Wageneri.

THE flowers of this species are much smaller than either those of P. fragrans or P. nobilis, and the reflexed sepals and petals are of a pale green. The lip is a large and more ornamental organ, obovate, emarginate, toothed at the margin, and pure white with an orange-yellow spot in the throat. It flowers in September, and might find admirers amongst those who are fond of Trichopilias. The species of Pilumna do not differ very much from Trichopilia, and are now included in the latter genus by botanists. The subject of this note is now flowering in the nursery of Messrs. Hugh Low & Co., at Clapton.

WHAT TO DO IN THE GARDEN.

Ixoras.—A considerable amount of cut flowers may yet be obtained from good sized plants of Ixora, provided they are kept in a genial growing temperature of 70° by night. In feeding with liquid manure give it frequently, but in a highly diluted state. Cuttings taken now and rooted in strong heat will make nice little flowering plants by summer.

Camellias.—Get all plants under cover at once if it has not already been done. If any plants look pale and sickly owing to the overcrowded nature of their roots, they may now receive a shift provided the buds are well set. A clear inch of fresh soil all round the old ball will be quite sufficient. Press it down moderately firm with a blunt-pointed stick and water with care for the first few months, till the roots take a good hold of the fresh soil.

Hyacinths.—A second batch of Roman Hyacinths should now be potted or put into boxes according to requirements, to succeed those which have already made roots, and are begun to push up their crowns. The earlier varieties of the large flowering kinds should also be potted now, using a good rich compost. Single flowered varieties are generally found the most useful, for early work especially. One good bulb in a 5-in. or 6-in. pot generally looks better than a greater number in large pots, and is more suitable for decorative purposes.

Gladioli, Tulips, &c.—For pot culture the varieties of Gladiolus Colvillei are found most useful, including The Bride with white flowers, and other delicately coloured and spotted varieties. Freesias are indispensable either for cut flowers or decorative work in pots. Early-flowering Tulips of the Duc Van Thol type had better be potted at once to furnish the first batch of flowering plants for conservatory work. The Paper White Narcissus is also indispensable for early work.

Bedding Calceolarias.—Cuttings of this class of plants may be put in now, selecting those cuttings which are short, and may be pulled off with a heel. Cold frames or turf pits are most suitable. Make up a bed of light sandy soil about 4 in. deep, press it firmly and insert the cuttings moderately closely in lines. Give a good watering to settle the soil about the cuttings, and put on the light, keeping them close for a few days until all danger of flagging is over. Shading will not be necessary unless the sun is bright.

Alternantheras. — The best way to preserve stock both of this class of plants and also Lobelias is to keep six or a dozen of each kind in pots, or more as the requirements of the place demand it. These should have been potted up at the time the others were put in the open ground. If such has been done the flower stems should be cut off in order to get a low growth of young shoots. They would keep all the better if this cutting down were done earlier in the season. In the event of no stock being in pots a number of plants should be put singly into 60-size pots, making the soil firm about the roots. Cut off the flower stems, but do not denude the plants of foliage until the roots have taken to the fresh soil. The flowering tops only of the Alternantheras need be taken off.

QUESTIONS AND ANSWERS.

NAMES OF PLANTS.—*J. C.:* 1, Euonymus japonicus foliis variegatis; 2, Cedrus Deodara; 3, Negundo aceroides variegata; 4, Retinospora plumosa; 5, Retinospora pisifera; 6, Retinospora plumosa aurea. *Pyrus:* 6, Polypodium plesiosorum, var., usually called Goniophlebium appendiculatum in gardens; 7, Pellionea pulchella. *Gifford:* 1, Phormium tenax; 2, Coronilla Emerus; 3, Kerria japonica flore pleno; 4, see separate answer; 5, Taxus baccata elegantissima; 6. Rudbeckia speciosa, often called R. Newmanni in gardens; 7, Helianthus rigidus, often called Harpalium rigidum; 8, Blechnum occidentale. *A. C.:* Lycesteria formosa. *Rose:* 1. Pteris tremula; 2, Asplenium bulbiferum; 3, Polypodium sp. (next week); 4, Asplenium Filix-fæmina; 5, Asplenium Fabianum; 6, Pteris umbrosa; 7, Nephrolepis cordifolia; 8, Woodwardia radicans; 9, Sedum spectabile; 10, Alonsoa incisa; 11, Jasminum grandiflora.

BORDER CARNATIONS.—Having seen some lovely beds and borders of these I should be glad if some enthusiast in their culture would give me the names of a couple of dozen varieties suitable for cutting.—*B. L.*

IMPERFECT LEAVES OF CHRYSANTHEMUMS.—*Gifford:* The specimen you sent us had its leaves partly eaten, evidently by the caterpillars of some moth; but we suppose you refer to their imperfect development and bract-like condition. Some varieties habitually produce leaves of that kind for some distance below the flower heads; and if others do so occasionally it may be spoken of as a freak of growth. It would seem as if the mild wet weather had started them into a second growth after the flower buds were set, and in their efforts to elongate some of the bracts have enlarged, resembling leaves. This should not, however, interfere with their flowering provided the buds are well set. The bud on the specimen you sent us was injured by one of the green plant bugs which hid away amongst the young leaves for some days after we received the specimen. We should advise you to look over them frequently to see whether they are much infested in that way.

HORSE CHESTNUT LEAVES.—*Omega:* It is impossible from leaves merely to say what your trees are. We can detect a difference easily between the two kinds, but we have known considerable variation even amongst the leaves on different branches of the same tree. That labelled No. 2 appears to us to be the Reddish flowered Horse chestnut or Buck-eye (Œsculus rubicunda). The leaflets were shorter, broader, and much more closely arranged than those of the other specimens. Failing that tree, it must simply be a variety of the common Horse chestnut (Œsculus Hippocastanum), and might be named Œ. H. compacta. What about the flowers?

HOT-WATER PIPES.—*Omega:* Provided the house is not very wide, we should make the pipes go up one side of the house and down the other just under the edge of the central staging. That would heat the house and leave the sides free to plant Roses or other climbers as you may think fit. If, of course, the house is a wide one, and you have side stages of moderate width, it would economise fire-heat to put the pipes under the side stages leaving plenty of room for climbers behind them without the stems of the same being too close to the pipes. The points to be observed are economy of heating and economy of space. Of course it is always most economical of fuel to put the pipes round the sides of the house, because the cold air gets somewhat heated when passing over the pipes into the interior of the house. If the latter is narrow, then the heat will radiate to the sides as far as is necessary.

GARDEN EDGING.—In answer to "T. K.," I may say that I think nothing could be better for his purpose than the Westmoreland Slate Edging Tiles, to be obtained from Mr. G. H. Pattinson, Applethwaite Fell Slate Quarry, Windermere. The edges are self or natural and do not break. They are made in various lengths, and from 9 in. to 14 in. deep, and from ¾ to 1 in. thick. They are extensively used by the well known landscape gardener of Windermere, Mr. T. H. Mawson.—*E. E.*

NAMES OF FRUITS.—*H. J. S.:* 1, Fondante d'Autumne; 3, Williams' Bon Chrêtien; 4, Durandeau. *P. M.:* 1, Mank's Codlin; 3, Lord Suffield; 5, Hawthornden; 6, Early Julien; 7, Nonsuch. *Perth:* Plum, Victoria; Apples, 2, Warner's King. The others were too small to be identified. *Pyrus:* 1, Colonel Vaughan; 2, not recognised; 3, Nonsuch; 4, too small; 5, Margil. *J. B.:* 1, Coe's Golden Drop; 2, Next week; 3, Poupart's Plum; 4, Victoria; 6, Not recognised, and worthless.

ELEPHANT PLANT.—*T. C. S.:* The plant you have got is probably Cotyledon gibbiflora metallica, commonly called Echeveria metallica, but we should not say for certain without seeing a characteristic leaf. If it is really that plant, the flowers should be orange-red tipped with yellow. It should be kept in a dry greenhouse during winter where frost is entirely kept out, and if the temperature is kept up to about 45° so much the better. The Elephant's Ear, is a name applied to Begonia rex, its varieties, and to some other allied kinds. Elephant's Foot is applied to Testitudinaria elephantipes, but we think it very unlikely that you may have got that plant.

MYRSIPHYLLUM ASPARAGOIDES.—*T. C. S.:* This plant is not as a rule grown for the sake of its flowers, which are small and greenish white. The foliage is the ornamental part, the stems being allowed to run up wire, or sometimes pieces of twine, when the intention is to cut it for decorative purposes. A compost of good fibrous loam, a quantity of leaf soil, and a liberal allowances of sand will suit the plant quite well. It must be established and allowed to get to good size before you can expect any flowers to be produced. A fernhouse is the best place for it. Not being a delicate plant it can be grown either in a cool or a warm fernery, but it will grow more rampantly in the warm place where the atmosphere can be kept tolerably moist. The foliage will always be of a warmer and richer green under those conditions, and you could cut more specimens for decorative purposes.

KEEPING PEARS.—*J. A. H.:* Your best plan would be to wrap the pears carefully and separately in soft paper and place them in single layers, in drawers or boxes, in a cool room with an equable temperature.

COMMUNICATIONS RECEIVED.—H. C. Z.—J. W.—B. L.—R. G. W.—R. B.—Experience.—Sir C. J.—T. J. B.—T. N.—R. D.—J. K.—A. H.—J. C. & Co.—C. M.—P. M.

TRADE CATALOGUES RECEIVED.

E. S. DODWELL, Stanley Road, Oxford.—New Carnations, Picotees, &c.

JAMES WALTERS, Mount Radford Nurseries, Exeter.—Catalogue of Roses.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Oct. 19.—Bulb sales at Protheroe & Morris' and Stevens' Rooms.

TUESDAY, Oct. 20.—Fruit Show in the Town Hall, Manchester (4 days). Bulb sale at Protheroe & Morris' Rooms.

WEDNESDAY, Oct. 21.—Fruit Conference in the Town Hall, Manchester (2 days). Sale of the late Mr. Neville Wyatt's Orchids at Stevens' Rooms. Bulb sales at Protheroe & Morris' and Stevens' Rooms.

THURSDAY, Oct. 22.—Bulb sale at Protheroe & Morris' Rooms.

FRIDAY, Oct. 23.—Orchid sale at Protheroe & Morris' Rooms.

SATURDAY, Oct. 24.—Bulb sales at Protheroe & Morris' and Stevens' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, OCTOBER 17th, 1891.

THE CONIFER CONFERENCE.—The Royal Horticultural Society was distinctly unfortunate in regard to much of the weather which prevailed during the holding of the recent Conferences at Chiswick. As an exhibition of species and varieties of Conifers, nothing like it has ever been previously seen, and probably there was hardly a form in cultivation which was not duly represented. Just as the show of cut branches was very dull, flat, and except to a few uninteresting, the Conifer Garden was the reverse in being delightful.

It was not possible to gaze upon the many beautiful varieties there shown, in a picturesque and growing form, especially when the rain poured down so pitilessly as it did on the 6th inst., without realising that for hardy winter gardening no material could be more pleasing. What a sensation would have been created in London could this charming Conifer Garden have been bodily transferred to one or other of our Metropolitan Parks. How many thousands, catching at the new idea, would have flocked to see the Conifer Garden! We commend the idea to the authorities of the Royal and Municipal Parks, and would suggest to them that they should contract with one or more nurserymen to furnish the Parks with something similar annually, in the shape of a Conifer Garden, intermingling the trees with various pleasing hardy shrubs.

Anything which will serve to make the Parks at once as interesting and as gardenesque as possible should be readily seized upon and utilised. It may be that, perhaps, some of the choicer or more tender forms of Conifers would not stand a few months of our London smoke, but many will. Generally it may be expected that some stimulus to Conifer culture will result from the Conference, and when the papers read are published our knowledge will be considerably extended. When we see noble specimens like those growing at Dropmore, Orton, Elvaston, Murthly, and other noble demesnes, indeed do Conifers command our highest admiration.

MICHAELMAS DAISIES.—It was but too evident from the plentiful use of note book and pencil seen on every hand at the Hardy Perennial Show at Chiswick last week, that many of the very beautiful Michaelmas Daisies there exhibited came as a revelation. It is now seen that the family is a very prolific one, and, still further, that it is being rapidly extended. Many of the old, small flowered sorts are nowhere, and, for any present good they are, may just as well be cast away on the rubbish heap, for they are occupying in gardens places that might be better filled.

There are some of the small flowered sorts that, because they look so graceful, even elegant in form, are charming as well as enduring for vase decoration. Such species as Aster ptarmicoides and A. cordifolius elegans are indeed delightful for cutting, but there is a wealth of the larger flowered forms which merit the widest cultivation. Pity 'tis that we have not in them more variety of colour, as the prevailing tone is blue or mauve. Still, such varieties as Aster Novæ-Angliæ ruber, dark red and a late bloomer, and A. Novæ-Angliæ roseus, a lovely variety, shows that there is promise of greater variation in colour if it be sought for. Some forms are of a white, or French white hue, but mauve, lavender, blue, and purplish blue predominate.

Any garden which possesses a dozen strong clumps of the finest varieties is distinctly favoured; and we earnestly advise all our readers who have not been able to see the Chiswick collection and take their own notes, to obtain a few of the best varieties, such as have recently been noticed in our columns, and grow them for both garden decoration and to furnish cut flowers. The Asters are very hardy, very enduring bloomers, positively thriving and flowering best under October skies, liking cold rather than heat, and seemingly revelling in rain. Practically, the Michaelmas Daisies lengthen out our hardy flower season to the latest months of the year, and we may well favour flowers of this nature in the interest of those who have no glass houses.

PRESERVED PLUMS.—As the Mayforth apparatus now in operation for fruit drying at Chiswick seems to be the only one accessible to the public, so far as we know, it commands some attention because its operations have so far been tested with success, and, even though there may be much in its *modus operandi* which seems objectionable, yet it is evident that in the evaporating or drying of fruit, it is the best machine that has yet been presented. With the drying of Apples in a sliced state, all the cores and rhind being first removed, we were long since made familiar, and, although the product in its dry condition

does not seem attractive, yet it is when cooked, after a few hours soaking, very nice indeed, and must prove a great boon in localities where green or fresh Apples are not obtainable.

But just recently the Chiswick apparatus has been tested in the drying of Plums to resemble French Prunes, and we are pleased to find with marked success. Specially satisfactory were the results with the Poupart's and Fellenberg varieties, and it is very probable that many others possessing fairly stout skins would dry equally well. The above-named Plums, when cooked or stewed with sugar, proved to be most delicious, making a grand preserve. We learn that seven pounds of fruit are reduced to two pounds only in the drying, but that, being stewed, a large portion of the original weight is regained.

What is evident in relation to fruit evaporation, if it is to become an industry in this country, is that we must grow varieties specially suited for the purpose, especially of Plums. Good, stout-skinned sorts, not too juicy, may be fully utilised, provided they are abundant croppers and thrive well generally. Of course there is much to be said with regard to the commercial aspect of fruit drying, but it ought to prove a profitable industry.

Next Year's Fruit Prospects.—We have had generally such fine crops of fruit this year, that it is not possible to look for full crops, or even moderate ones next year. Had we been favoured with one of the finest of autumns the prospect would have been better. As it is, the gloom and persistent rains only serve to make next year's prospects exceedingly dull, because now well ripened wood will not be generally possible, buds will not plump up, and flowers must, almost of necessity, be very imperfect in the spring. It is too late now, even if really fine dry weather were to set in for some time, for appreciable good to be done.

When the leaf falls, the forces of nature are weakened, and possess little power for good in plumping fruit buds or ripening young wood. We certainly now shall have to take the fruit trees and fruit prospects for next year pretty much as the present month will leave them. Generally, so far as ordinary forest or decorative trees and hardy shrubs are concerned, there is perhaps less to be concerned about, as these have little of fruit to produce. That all this class of material will be in a very good condition for transplanting there can be no doubt, and nurserymen probably will soon be busy. So far as the transplanting of fruit trees is concerned, there can be little doubt that the sooner it is accomplished the better. Some such check to root action as lifting and transplanting induces will be beneficial, and if it fail to ripen wood in the best sense it may help to stop sap creation, and thus harden the wood tissues before hard frosts set in.

Apart from that particular benefit, it is always best to get fruit trees planted early, because the soil being warmer in October than in December, new roots are early encouraged and developed. It is to be deplored that the fruit prospects for the coming year are so indifferent, but we have to take things as we find them and make the best of them. We only hope that the winter may be lenient, as the continuous rainfall indifferently prepares trees and shrubs for much endurance.

Plant Distribution.—The annual free distribution of bedding plants will take place on October 21, at Battersea, Kennington, Victoria, Finsbury, Southwark, Ravenscourt, and Clissold Parks, and the Victoria Embankment Gardens.

Mr. Charles P. Anderson, who has been well known for years as one of the leading rose growers for the New York market, died at his home in Flushing, L. I., on Wednesday evening, September 16, aged forty-six years. Mr. Anderson was born in Sheffield, and his first horticultural training was at the establishment of Messrs. B. S. Williams & Son, from which he went to Kew Gardens, where he remained about four years. He went to America when twenty-one years of age. Mr. Anderson (says *The American Florist*) was a man of fine physique and commanding presence, of manly deportment and exceedingly well informed in his chosen business. He stood high in the esteem of his associates in the trade as a man of rare intelligence and sterling honour, whom to know was to respect.

Jamaica International Exhibition, 1891.—Messrs. Carter & Co., High Holborn, have been awarded the highest possible Prize (a Gold Medal) for their exhibits of English "tested" seeds, packed for the tropics in accordance with their own system. The display also comprised growing examples of some of the most beautiful varieties of Annuals, many of which originated upon Messrs. Carter's seed farms in Essex.

Mr. B. Marks, formerly of Alfreton Park Gardens, Derbyshire, has been engaged by T. M. Gibson Cullum, Esq., to succeed Mr. D. T. Fish as gardener at Hardwicke House, Bury St. Edmunds. Mr. Fish leaves shortly, and will not seek a similar engagement.

Chrysanthemums in Finsbury Park will be worthy of inspection during the next seven or eight weeks. The collection is arranged under cover near the entrance to the park, and although there are countless blossoms yet to open, a great variety, both as to the character and colour of the flowers, is already presented.

Mr. McKenzie, who has been fourteen years gardener to John Stewart, Esq., Ballechin, has been engaged as gardener to Mrs. Bullock, Meggennie Castle, Perthshire, and enters upon his new duties in November.

Spiræa rotundifolia alba.—The mild and wet character of the weather which has prevailed for some time past has had the effect of starting many plants, whether herbaceous or shrubby, into fresh growth, and in many cases a second bloom. Such is the case with a shrubby Spiræa in the gardens at Kew. The stems are about 4 ft. high, and the flowers are produced in cymes much in the same way as those of S. media, better known in gardens as S. confusa. The flowers are as pure white as they might be in July or August. The leaves are roundly obovate, very slightly toothed, and therefore different from those of S. media.

Chiswick Gardeners' Mutual Improvement Association.—The annual general meeting for the election of officers of this association was held on the 2nd inst., and on the 9th, a paper on Flowering Trees and Shrubs, from Mr. Dunkin, gardener to the Earl of Warwick, was read. On the 16th, a first prize essay by Mr. Smith, of the R.H.S. Gardens, Chiswick, will be read and discussed. Other papers are promised by Mr. G. Cannon of Ealing, Mr. G. Wythes of Syon House, Mr. A. Wright of Devonhurst, Chiswick, and others. As has been customary for some years past the association has again undertaken to organise a concert, to be held in the Vestry Hall, Chiswick, on the 29th inst., in aid of the Gardeners' Orphan Fund.

Chrysanthemum Shows.—The Bristol Chrysanthemum show will be held on November 18th and 19th, and not on the 19th and 20th as announced last week. The Sheffield and Hallamshire Society will hold its annual exhibition on November 13th and 14th; the Liverpool society on 17th and 18th; the Chorley society on November 20th and 21st; and the Tiverton society on the 12th.

Preston and Fulwood Horticultural Society.—At the meeting of this society held last Saturday evening, Mr. Councillor J. Brown presiding, Mr. J. Hathaway, gardener to the Earl of Lathom, at Lathom House, near Ormskirk, read a paper on "The Cultivation of the Chrysanthemum," which was to a large extent technical and eminently useful to practical gardeners. Few plants, he remarked, had made such rapid strides in public favour as the Chrysanthemum. This was hardly surprising if they bore in mind that it was available for decorative purposes at a time when scarcely any other flowers could be had. Chrysanthemum shows, as they knew, were always popular, and he hoped the time was not far distant when they would be having such an exhibition under the auspices of their own organisation. Mr. Hathaway proceeded to give some useful hints, based on considerable practical experience, as to the propagation and general treatment of the Chrysanthemum. No hard and fast rule could be laid down with regard to compost. That must depend on circumstances, and he was of opinion that judicious feeding, and general treatment of the plants had more to do with successful results than the soil. For growth, he recommended a situation that was open to the full rays of the sun, and protected as much as possible from the wind. The plants should never be watered unless they required it, for too much moisture in their case was quite as injurious as too little. An interesting discussion followed, in which Mr. Kirkman, a successful Chrysanthemum grower, Mr. Roberts, Mr. Brindle, and others took part. All concurred in complimenting the writer of the paper upon the care and attention which he had devoted to the subject.

NEW & RARE PLANTS.

The undermentioned subjects were exhibited at a meeting of the Committees of the Royal Horticultural Society at Chiswick, on the occasion of the Exhibition and Conference on perennial Sunflowers, Michaelmas Daisies and Conifers, on the 6th, 7th and 8th inst. when certificates were awarded according to their merit.

Ixora macrothyrsa.—The large branching heads of this species, generally known in gardens under the name of I. Duffii, measure from 10 in. to 12 in. across on well-grown plants. The flowers expand of a soft orange, but soon change to a scarlet red; and the slender stalks as well as the tube of the flowers are of a paler red, giving to the whole a showy appearance. The segments of the flowers are oblanceolate and of considerable length for an Ixora, but they are revolute at the sides near the base, making them look narrower than they really are. The stems are much stouter than those of other species in cultivation, and must not be stopped till they have flowered. The leaves are also fine, being dark green, oblong-lanceolate, and 9 in. to 12 in. long, by 3 in. broad. A large truss was exhibited by Sir Trevor Lawrence, Bart., M.P. (gardener Mr. Baines), Burford Lodge, Dorking, and received a First-class Certificate.

Chrysanthemum Madame Leon Colin.—The heads of this Japanese sort are of medium size, with the florets decurved, revolute at the edges, and yellow suffused with bronze. The stems under natural conditions are only 3 ft. high, and develop flower heads early, as some flowering plant of it appeared in public about the beginning of September.

Chrysanthemum Madame Edouard Lefort.—For description of this new Pompon see our issue for September 19th, p. 35. Both this and the last-named variety were shown by Mr. R. Owen, Maidenhead, and received Awards of Merit.

Carnation Lizzie McGowan.—About two dozen plants of this beautiful Carnation in 60 and 48-size pots were exhibited by Messrs. Pitcher & Manda, Hextable, Swanley. The stems were 12 in. to 18 in. high, and well furnished with glaucous leaves. The flowers were mostly all open and fit to cut, pure white and fragrant, which is too seldom the case with new varieties at the present day. Although quite double the blooms are not at all crowded, the petals, however, being broad and toothed at the margins. An Award of Merit was accorded the variety.

Dahlia Princess Christian.—This may be admitted amongst Cactus Dahlias on account of its long, ovate, flattened and pointed florets; but the medium sized heads are very compact and on that account show an approach to the decorative type. The basal portion of each floret is very dark or almost crimson, while the upper portion is magenta, shaded with purple.

Chrysanthemum Miss Watson.—The heads of this Japanese variety are of medium or sometimes large size, and soft yellow, deepening towards the centre, where a few of the florets are sometimes tinted with bronze. The central florets are often small, but hidden by longer ones which curve over them. The outer ones are recurved. Both of the last named were shown by Messrs. H. Cannell & Sons, Swanley, and received Awards of Merit.

WHAT IS A HARDY PERENNIAL?

In answer to the enquiry of a "Lover of Hardy Flowers," I am sorry to say that at the present moment I do not know. I have had a number of years' experience in growing, exhibiting, and judging them, and I thought I did know, but the judging at Chiswick last week has shown me that I am wrong; whether the judging was right is another question. I was under the impression that a plant that can stand out without any protection for more than two years and flower yearly was a hardy perennial, in contradistinction to annuals and biennials.

Now, as to the judging; in the eighteen that took the first prize there was a bunch of a seedling Pentstemon. I never knew that this was considered a hardy plant; mine certainly all died last winter. I should have disqualified that entry. The next collection of eighteen was disqualified for showing Liliums. I maintain that the exhibitor was justified in so doing, but should have been disqualified for showing a *single* spike of L. auratum; perennials are always shown in bunches, by which I understand three or more spikes. The third eighteen was the one that ought to have received the medal; that collection was quite in order. As regards the twelves, as I previously remarked, if Colchicum variegatum is not a hardy perennial, I am most anxious to know what it is. The other twelve that received the second prize ought certainly to have been disqualified for showing the fruiting spikes of the Cape Gooseberry (Physalis). I cannot see how that could be considered to represent a bunch of flowers. The eight was quite in order. I am glad the question has been raised as it ought to be settled once and for all.—*W. Marshall, Auchinraith, Bexley.*

I was much amused that a correspondent should, under existing and very peculiar circumstances have invited the excellent chairman of the Floral Committee of the Royal Horticultural Society to define what is a Hardy Perennial. I think it is probable Mr. Marshall's reply would be, "Prior to the 6th instant I thought I knew, but now I don't know, neither do I think any one else can give a satisfactory answer."

It is very evident that when such an excellent authority as Mr. Marshall finds his box of twelve bunches of hardy flowers disqualified because one bunch is composed of flowers of a Colchicum, or autumn Crocus, one of the very hardiest and most persistent of all garden bulbs, there must be some very varied ideas as to what is a hardy perennial afloat. That the Colchicum is hardy cannot be disputed. The same may be said of most of the Lily roots, and many other bulbs also. No one who grows Colchicums probably takes the trouble to lift the bulbs regularly after the foliage dies down. It is far more likely that every one allows the bulbs to remain where planted and thus continue to leaf and flower for many years. Hence to a certain extent the Colchicum is both hardy and perennial.

But it is evident that in the particular case in question, the adverse decision was given not from a gardener's but from a botanist's point of view, and therefore we must assume that the botanist does not admit bulbs to be perennials. The decision looked at hastily seems absurd; still there is ground for it. All bulbs so far as my knowledge of them go, are annuals (I say so much of course subject to correction), that is they produce new bulbs from the old ones every year, and as both root and growth, even though continuous, are yet annual, such things as ordinary bulbous plants cannot be classed as perennials. If that be not the reason for excluding Colchicums and Liliums then I fail absolutely to understand the basis of the Chiswick disqualification. —*A. D.*

TOP DRESSING VINE BORDERS.

When Vines show signs of failing vigour it is not always in the power of the gardener to root them out, make new borders, and plant young canes, though evidently that is the best course to pursue where it can be done; but where the bunches are small a good deal can be accomplished by training in young rods and top dressing the borders. The non-colouring and shanking of Grapes is in my opinion due to ineffective root action, though I admit that both evils may also result from over-cropping, but a case that lately came under my notice inclines to the correctness of the former supposition as to the cause of non-colouring and shanking.

In a lean-to house situated in a garden that stands high and dry above the surrounding ground the rods are much crowded, quite half want cutting out, but as it is the custom to sell the produce, quantity stands before quality. The vines are planted in an inside border, with the opportunity to root outside as well. The Black Hamburghs were rather small in the berry, but well coloured, considering the heavy crop they carried; but if that vinery were situated in a low-lying garden with a wet cold subsoil, I do not know what the crop would have been like this wet summer; as the excessive rainfall saturated, and in some instances stagnated, vine borders situated on clay, consequently many roots rot instead of performing their proper functions towards shoots and bunches.

When the Lambton Grapes were so famous some years ago, I was surprised to read in one of the Gardening papers an account of the thousands of gallons of water that was applied to those borders; evidently the drainage was good, probably the borders were on gravel; and it may be due to the hilly and rocky formation of Scotland that such splendid Grapes are produced there.

If the surface of borders are now pricked over carefully with a fork and receive a top dressing of fibrous loam and finely crushed bones, they will be greatly benefited, as that will induce the formation of young fibres near the surface, and when the leaves begin to fall cover the outside borders with those of the Oak, Beech, or Spanish Chestnut to a depth of two or three feet, sloping from the vinery, thatching with straw or long litter to prevent the leaves blowing about. Such a covering will keep the border warm, and ward off the cold rains, frosts, and snow that we may experience during the winter. The covering should be removed when warm weather sets in. I have removed it in May and utilised the material for making up beds for Vegetable Marrows. Do not clear it off too close as I have generally found that the young fibres have started working into it when they have not received a top dressing of loam.

Another thing very detrimental to the well being of Vines is the cropping of the borders; in some instances we find them carrying a crop of early Potatos or turned into a flower border, by planting such soil exhausting things as Dahlias, and other rampant growing subjects, and after they are cleared off the border receives a coat of manure, which is dug in with the spade! Poor fibres; but such cultivation is absolutely necessary to cope with the requirements in many instances. In my own case I am glad to utilise the borders for early Lettuce, Radishes, etc. I do not believe in it—the practice is bad; but we cannot always render unto Vines the conditions they ought to receive and which are necessary for the production of first-class Grapes.—*George Potts, Herondon Hall Gardens, Tenterden, Kent.*

SCOTTISH NOTES.

The Education of Gardeners.—We are exceedingly pleased to learn that the Horticulture class at the Heriot-Watt College, Edinburgh, which was instituted in 1888, continued the following year, but for want of support had to be dropped in 1890, has been re-instituted, and we hope will now go on and prosper. The lecturer, Dr. J. H. Wilson, formerly of St. Andrew's, is now located at the Edinburgh Botanic Garden, a circumstance that will be of the greatest benefit to the class in keeping the students together. The class meets on Fridays, 7.15 to 8.15 p.m., commencing Friday, October 16, and terminating March 19, 1892. "A Gardener's Training" will form the subject of the introductory lecture.

The lines to be followed in the course are briefly indicated in the following syllabus:—Good and Bad Soils.—The plants which grow on them naturally. The effects of cultivation on the soil and on the plant. The introduction and "acclimatisation" of exotics. Vegetables, Fruits, and Flowers.—The history, uses, and peculiarities of varieties commonly grown. A Flowering Plant.—Its structure and life history. Conditions conducive to healthy growth. Natural and Artificial Regeneration of the Soil. Diseases of Garden Crops.—Methods of prevention and cure. Choice of Site for a Garden.—The Physiography and Climatology of the Garden. Landscape Gardening—its various Schools. Land Surveying.—The application of Geometry, Mensuration, and Levelling in the Laying-out of Grounds. Hothouses.—Their design, construction, and uses. Heating and Ventilating.—Culture of Culinary Vegetables. — Growing for Market. Culture of Fruits.—Pruning, Thinning, and Training. Culture of Herbaceous and Pot Plants. Principles of Propagation.—Cuttings, Layers, and Grafts. Sports. The Fertilisation of Flowers. The reproduction of Ferns and Selaginellas. The "improvement" of Plants by hybridisation and selection. A Review of the Progress of Horticulture.—A gardener's education. Horticulture as a recreation. Town Gardens. School Gardens.

Scottish Horticultural Association.—A meeting of this association was held on the 6th inst., Mr. W. Welsh presiding. There was a good attendance. Mr. P. W. Fairgrieve, Dunkeld, read a communication on "Shrubs: their cultivation and arrangement." Discussing the preparation of the ground, he urged that it should be first of all well drained, then trenched thoroughly, and, if possible, depth should be added to it during the process. If the soil was poor it shold be manured, and for American plants peat and sand should be added. Mr. Fairgrieve then touched on the various modes of arranging shrubs, and described the varieties which seemed to him the best suited for each style, and in this connection remarked that, thanks to Scottish nurserymen at no time could so many choice and beautiful shrubs be obtained so cheaply as now. Coming to the subject of pruning, he declared it most important not to prune or shorten more than one-third of the shoots at one time. By this means, he said, the plants would be kept flowering every year and not in excess; secondly, they would be kept in shape and prevented from getting bare; and thirdly, the size of the flowers would be improved, and the plant would not be able to overflower itself, while an annual distribution of fine, young, healthy wood would be created. Some discussion followed Mr. Fairgrieve's paper. A small exhibition of plants and fruits was on view during the evening, including a Magnolia grandiflora, Exmouth var., which has only flowered twice in fifty years, sent by Dr. Paterson, Bridge of Allan; and a fine Crinum Moorei, sent by Mrs. Lyle, North Berwick. A Dracæna (Duchess of Portland) and an Asparagus plumosus cristata, from Messrs. Laird & Son, received certificates; an Apple, "James Grieve," from Messrs. Dicksons & Co., also received a certificate. Mr. John Downie also contributed a stand of very fine seedling tuberous Begonias.

Hawick Horticultural Mutual Improvement Association.—The usual monthly meeting was held on Friday last, Mr. Geo. Wood presiding. Mr. S. Johnstone, gardener, Sillerbithall, read a paper on "Vegetables of to-day, and how to grow them." There was a large muster of members present, as Mr. Johnstone is a well-known and successful grower of vegetables. The paper proved to be one of the best of the session, and met with a very favourable reception. To illustrate his subject, Mr. Johnstone had the following vegetables on the tables in prime condition. Brussels sprout — President Carnot; Beet—Pragnel's Exhibition; Cauliflower—Eclipse, and Dean's Snowball; Cabbage—Winningstad; Celery —New Yellow and Dobbie's Red; Carrot—Wrench's Main Crop; Cucumber — Lockie's Perfection; Marrow—Johnstone's Golden Drop; Tomato—Perfection; Turnips—Golden Ball and Petrowskii; Onions—Ailsa Craig and Ruckston; Leeks, Peas, Beans, etc., in all twenty-seven varieties. Mr. Johnstone was heartily thanked for his valuable contribution.

The Royal Horticultural Society of Perthshire (Literary Branch).—The monthy meeting of this society was held on the 7th inst., Mr. Galloway, Ballendrick, in the chair. Mr. Fender, Cultoquhey, read an interesting and practical paper on "Growing Vegetables." Being a very successful grower of vegetables himself, Mr. Fender was able to give some useful hints as to the manner in which the many different sorts ought to be treated, both for exhibition and kitchen use, including particulars as to soils, manures, and time for sowing and planting. After the reading of the paper, a friendly discussion took place amongst the members, when regret was expressed that, considering the great benefits to be derived from the meetings, they were not more taken advantage of by gardeners and others in the district. A hearty vote of thanks having been awarded Mr. Fender, the meeting was brought to a close. We understand the next meeting will be held on November 4, when a paper will be read by Mr. Croucher, gardener at Ochtertyre, on Coniferæ.

FLORICULTURE.

Antirrhinums.

Those who, having some fine seedling varieties they are desirous of perpetuating, put in cuttings a few weeks ago, as recommended at the time in these columns, will now have some nicely rooted plants, and they should be potted off singly into small pots and kept in a cold frame all the season as a measure of precaution. It is risky to plant out in the open at this season of the year Antirrhinums of value, hence the advice to winter them in a cold frame. Seedlings from the seed bed in the open ground should be planted out in order to get established before the winter sets in.

Auriculas.

Those who can give their plants a change during the summer, by placing them in a north aspect, will now be thinking about placing them in their winter quarters with a south aspect, whether the quarters be a house or a frame. A house with stages has the advantage of some amount of dryness, and a good circulation can go on below the pots as well as above. Those who have to winter their plants in an ordinary shallow frame should construct a stage of some sort, even if it is only a few narrow shelves placed on inverted flower pots; this keeps the plants near the glass and away from worms and insects, though no stage will prevent the snail from finding his way to them. Each plant should be gone over as they are placed in their winter quarters, and if any show signs of not being at home in the pots, turn them out, shake away the soil from the roots, examine them, and repot in fresh, sweet, suitable soil in pots only just large enough to take the roots. Giving attention of this kind will prevent the loss of a good variety. If the outsides of the pots have become foul they should be washed before being placed in their winter quarters.

Carnations and Picotees.

The general experience among growers this season is that layers are rooting very slowly. As soon as they are sufficiently rooted, even if they are only ½ in. long, they should be potted, placing a pair in a 3-in. or 4-in. pot, according to their size, and placing a little fine Cocoa-nut fibre about the roots to encourage action. At this time of the year the pots of layers, and those of the latter that are potted off, should have a free circulation of air; indeed the former can remain in the open for a time. It is undue confinement which conduces to spot, mildew, etc. Winter flowering varieties should be housed, have as much sun as possible, and a free circulation of air day and night. A little fire heat is necessary in the depth of winter to assist in getting the buds expanded to blossoms. Enough water should be given, supplying it carefully, and creating as little damp as possible.

Cinerarias.

These should be in a dry pit or frame with all the air possible circulating among them. It is of the utmost importance to keep the plants stocky, robust, and thoroughly healthy. Cleanliness is of the first importance. Fire heat will be required in winter, only sufficient to ward off frost. The Cineraria possesses a certain amount of hardihood, and should frost seize upon the plants the best thing to do is to cover up the frame qnite close, and keep the plants in the dark until the frost gets out of them. But it is a great deal the best plan not to allow them to get frosted. If they become infested with thrip a fumigator will soon dislodge the enemy. On no account allow the plants to suffer for want of water, but in watering do not wet the foliage, water lying about and below the plants is apt to generate mildew.

Daffodils.

Bulbs of these taken up in early summer may now be planted. I flower some of the choice varieties, such as Sir Watkin, Emperor, Empress, Princess, and a few others, in pots every season, and I have just potted the bulbs. They occupy a cold frame until the flower buds put in an appearance, then they are taken to a cold house to blossom. I am in favour of taking up the roots in early summer and replanting again in autumn.

Dahlias.

On October 1 I saw the Dahlias at the Royal Nursery, Slough, and I was astonished to see such fine blooms upon them. That beautiful light variety, Queen of the Belgians, was simply superb; it has a very stiff habit of growth, and throws its flowers well above the foliage on stiff stems, displaying them to the best advantage. It is a beautiful late variety, and a first-class border flower. Unless a very sharp frosty time comes, and there is danger of it reaching the roots, there is no great hurry necessary in taking the roots up from the ground. The Pompon and single varieties are blooming late and abundantly.

Fuchsias.

Under glass these are still gay and floriferous, and should be encouraged to bloom as long as they will. Plants that have been stood out in the open to harden off should have a watch kept upon them, the temperature becomes low at night and frosts may come; so it is safe to house them.

Hollyhocks.

Such growths as are sent up from round the base of the flowering stalk make good cuttings at this season of the year, and they are all the more valuable if they can be taken off with root fibres to them. But cuttings placed singly in small pots, placed in a cold frame, and kept close will root in course of time and make nice plants by spring. They can be plunged in a bed of cocoa-nut fibre with advantage. Any ripened seed from good sorts should be carefully gathered, and rubbed out for sowing early in the year.

Pansies.

Rooted cuttings of these may be planted out in beds to flower in spring; but those imperfectly rooted can be placed round the sides of pots, or potted singly in small pots, and wintered in a cold frame, placing them out in the open ground early in March. Beds should be prepared for seedlings, and then planted out as soon as convenient, so as to be well established before winter. Pansies in beds have a much finer effect than when planted singly in the border.

Pelargoniums.

Specimen plants that were shaken from the soil, disrooted and repotted at the beginning of August, may now be shifted into the flowering pots. Such plants under proper treatment will flower in May. A succession of plants will keep the flowering period going till the end of August. Any rooted cuttings should be potted off singly into small pots; and any young plants potted a few weeks ago may be shifted with advantage. Pelargoniums, and the fancy varieties especially, will require but little water; but the latter need a closer and warmer atmosphere during the winter than the former. If damp, cold, dull weather sets in, the fancy varieties should have the assistance of a little fire heat.

Polyanthuses.

The gold-laced varieties in pots are now getting established, and they may be stood in the open air, but if possible screened from heavy, drenching rains. Young plants should be potted as quickly as possible, the smaller the pots at the first potting the better. Seedlings may be planted out and the soil pressed firmly about them; and beds of established plants should have the soil drawn up well about them. Caterpillars are very destructive on plants in the open at this season, and should be carefully looked after.

Tulips.

All Tulips, early and late blooming, are best planted by the end of the month; it should be done on a bright, fine, drying day, and such a day is more likely in October than in November. A bed of choice late Tulips should be raised above the ground level to throw off the autumn rains.

Show Dahlias as Border Flowers.

It is sometimes said by those who must be unacquainted with the show varieties of Dahlias, that they are not adapted for border purposes, that they lack freedom of bloom, and that they hang their flowers instead of throwing them up erect on stiff stems, and so display them to the best advantage. I think anyone looking through a collection of Dahlias being grown for exhibition, might reach such a conclusion from taking a cursory glance merely; but an attentive one would soon show there are several of the show varieties particularly well adapted for and most effective as border varieties. Dahlias that are grown to produce show flowers are thinned out—more or less severely according to the variety, three or four or so of main shoots are left to produce flowers, and the lateral growths cut away. This is how it is that an impression sometimes gets abroad that certain Dahlias are not free.

When looking over the Slough collection of Dahlias at the end of September, I made a note of the following varieties of the show and fancy sections as being particularly well adapted for border, being of good average habit, bright in colour, very free and throwing their flowers well up to view on stiff erect stems. The varieties I am about to name are model border varieties, and in a season when Dahlias have grown freely. I selected nothing that exceeded four to four and a half feet in height.

Foremost stands Queen of the Belgians, a delicate variety of great beauty, with a good branching habit and displaying every flower fully to view. Some plants of this had ten and twelve glorious blooms—so free is it—and one great feature of this variety is that it appears to increase in beauty as the days shorten. If any Dahlia deserves to find a place in any garden, it is Queen of the Belgians. Agnes is a fine pure yellow, a first rate late variety, and perhaps the very best yellow for border decoration. Diadem, deep crimson, is a very erect and gay flowering variety, height 3 ft. to 4 ft. James Stephen, bright orange scarlet, 3 ft., is another erect flowering variety. John Bennett, yellow, broadly edged with scarlet; J. T. West, yellow, heavily tipped with purple; Mr. George Harris, crimson scarlet, extra fine; Mrs. C. Humphries, another delicate variety in the way of Queen of the Belgians; Mr. George Rawlings, cream suffused and edged with rosy-pink; Mrs. Shirley Hibberd, cream, shaded with pink, a strong grower and very dwarf; Perfection, orange buff; Prince Bismarck, puce, shot with purple; Prince of Denmark, dark maroon, very fine and bold; Purple Prince, a very distinct bright purple; R. T. Rawlings, clear yellow, very fine; Seraph, blush, a very pretty flower, and very fine late; and William Rawlings, crimson purple, extra fine. I could not resist adding Mrs. George Rawlings, though it grows to a height of 5 ft., but it is exceedingly pretty and throws its flowers up well.

Two new varieties should find a place in this collection, viz., Nugget, deep yellow or orange, slightly tipped with scarlet; and Coronet, dark red; very effective.

I have selected but two fancy varieties, viz., Mrs. John Downie, orange, striped with scarlet, and Mrs. Saunders, to my mind the most charming fancy Dahlia grown, yellow, tipped with white—a variety that always throws good blossoms.

As some of the finest exhibition flowers are excluded in this list, it cannot longer be said they are not adapted for border purposes. They are admirable border varieties, and much more effective than a large number of the so-called Cactus and decorative types.—*R. D.*

CAPE BULBS.

(Concluded from p. 87.)

Vallota purpurea

Is a fine old greenhouse plant probably well known to you all. It affords a familiar example of another section of Amaryllis, which, being of a more nearly evergreen character, does not require the severe and protracted dry season of the Nerines. In these days, when most handsome plants are attempted to be grown in quantity for the purpose of cut flowers or for indoor decoration, this fine bulb has come in for attention in that direction. Lately I have been told that in some places where it has been largely grown the stock has completely died out, and when asked the reason, I have said it was probably due to the plants being kept too warm, and in a too moist atmosphere; to their being over-potted, or too frequently repotted, which is one of the most fruitful causes of decay in Cape bulbs. Wishing to get to the root of the matter, I addressed questions on the subject to an old friend in South Africa, and his reply fully bears out my conjectures. His remarks are brief and to the point, and I give them in his own words: "Vallota purpureas always die here if planted in the open ground. The only way that we can keep them alive is to keep their roots compressed into a small space, either in small pots or among rocks or stones. They will thrive by keeping them in pots until the roots burst the pots, and they will flower profusely." These remarks give the key of success to the culture of all Cape bulbs. Nothing is more fatal to them than the annual repotting which gardeners are so fond of giving to all plants alike,

The same correspondent informs me that the "white form of Vallota purpurea" recorded in some botanical works must refer to Cyrtanthus (Gastronema) uniflorus, which he remembers being sent to Dutch gardens many years ago, where it was named Vallota Brehmii, and his suggestion is doubtless correct and consequently worth recording.

That there is a close affinity between the Gastronema section of Cyrtanthus and Vallota purpurea may be seen by careful examination, but the question has been definitely settled by the production of a cross between the two, viz., Cyrtanthus intermedius.

CLIVEAS, OR IMANTOPHYLLUMS,

Are familiar Cape plants which are usually included among bulbs, their root-stock being imperfectly developed bulbs. The finest, and indeed the only one in general cultivation is Clivea miniata, and it, by the gardener's art, has been improved until now we have a fine series of distinct named varieties raised from seeds in Europe, which are one and all better than the imported type. The variety "Marie Reimers" is a good example, and there are numerous other kinds equally attractive, but different in some respect. Some have flowers approaching to the blood-red tint, others have a white eye, and one which I saw exhibited in this hall at the last meeting may be said to have a creamy-white flower, the segments broadly edged with orange.

All the bulbs hitherto mentioned do well in a cold greenhouse or conservatory all the year round, subject to the remarks before made as to summer treatment in a cold frame. But if more convenient, in a frame from which the frost is excluded in winter will do, or if needs be, and no better accommodation can be given, in an unheated frame if the pots are plunged in dry leaves, and three or four inches of dry leaves such as are swept up in parks and gardens be placed lightly over them at the beginning of winter, and kept over them while the frosts last. If the last mode of culture is attempted care should be taken that the winter finds the plants dry in the pots.

The proper method of culture where it can be compassed, and the one which will give the best results as regards flower, is to winter these things on a cool greenhouse shelf—for it is through that season that Nerines and many other Cape bulbs grow—and to keep them for the summer months in a cold frame, the deciduous ones being kept at one end, for at that season they require no water, and the Cyrtanthi of the evergreen section, which require water more or less all the year, at the other. If I may be allowed to travel from the subject too, and to touch on other than Cape bulbs, I should like to say that the Zephyranthes, Coburgias, Stenomessons, and other South American bulbs should be grown with those touched on in this paper, and treated like them. The fine Zephyranthes carinata also comes into the list of those bulbs of whose hardiness I have no doubt.

SOIL, &c.

My experience of all the bulbs we are here dealing with is that as a potting material nothing suits them better than a good turfy yellow loam, broken up by hand, and not sifted, and without admixture of sand or any other material. The practice of sifting soil is far too common in gardens, and I am sure it is a bad practice, especially for bulbs. Potted in sifted soil, if a bulb does not root very quickly it perishes, but in the more porous, or open material carefully broken up and not sifted, such is not the case. In the matter of repotting, all these things do best, are safest, and flower most profusely when allowed to get pot-bound, many of them not requiring to be repotted for two, three, or even four years. When repotting takes place, succession should be looked after by potting up the offsets, or small bulbs, separately to grow on to take the place of the old ones which mishap or decay may carry off, and also with the same view seedlings of each of the more delicate should be raised, for this is a sure way of keeping the stock up, as home-raised seedlings generally grow with greater vigour than the old or imported plants. In potting the old bulbs it is best to leave half of the larger bulbs above the soil, and the small ones just beneath it.

WATERING,

In conclusion, dealing with the question of watering generally, it will be sufficient to say that if the leaf growth is watched and the watering regulated according to the condition of the foliage, the grower can have no better guide. Thus when the leaves of the deciduous kinds turn yellow, and until growth commences again, no water is required, but when growth commences water is as it were asked for. And with the more or less evergreen kinds there comes a time when active growth is not going on and less water is required; and at other times when the leaves indicate active growth it is easy to understand that water to assist in its development is required. In fact in all our dealings with plants, if we are observant, we can get from them by careful observation a safe and certain guide in many particulars as to the treatment they require.—*From a paper by Mr. James O'Brien, read at a meeting of the Royal Horticultural Society on April 21.*

HARDY TREES & SHRUBS.

HARDINESS OF OLEARIA HAASTII.

YOUR remarks (p. 72), that the past winter has had no appreciable effect on this shrub will unfortunately not apply, nor be a passport to its hardiness for all districts alike. Here, I am sorry to say, a fair sized bush of it, planted in a fully exposed and open position, after passing through several winters unscathed, has succumbed to the protracted severity of the weather of last winter, killed it in fact to the ground-line. It is now pushing fresh shoots from round the base of the stem below the soil, but the shoots are puny and weak, and will require protection to save them through the coming winter.—*J. Kipling, Knebworth, Herts.*

BERBERIS VULGARIS.

THIS shrub is at the present time in its best garb, and forms a grand autumn object here as an isolated clump in the wilderness. Its ornamental character mainly lies in its many shoots being tipped with pendant wreaths of very bright coral-red berries. To have it in its best form it requires to be planted in an open sunny position on a rather dry and warm soil, and left to nature—no pruning of it should be done—to form its own outline and perfect its growths. This, at least, is our experience of it. It forms a conspicuous object as a wilding in a few of the dry hedge banks in this locality. Its sprays of pendant berries are very useful for dinner table decoration, a purpose to which we frequently put it, intermingled with long wreaths of the silvery-grey bearded Clematis Vitalba, to form the drapery lines on the cloth. In this way the two combined form an informal light and pleasing decoration, and withal a very simple and very cheap one. The effect is very good under candle light. The old man's-beard, as the Clematis is called hereabouts, is now at its best, and drapes many a hedgerow for miles round this neighbourhood.—*J. Kipling, Knebworth.*

CUPRESSUS LAWSONIANA ALLUMI.

THE variability of Lawson's Cypress from seed is well known to all raisers, and the distinct form and habit of many of the selected kinds is no less remarkable. The variety under notice has been in existence for a considerable number of years, but is as yet comparatively little known in private gardens. The plants, or more properly trees, retain the same columnar or narrowly pyramidal habit, no matter what their size, and this is due to the lateral plumy branches taking an ascending direction, more or less closely adpressed to the main axis. In these respects there is little or no difference between it and C. L. Fraseri, but while the latter is of a pale green hue, the former is of a warm silvery or glaucous tint that should find it admirers amongst lovers of distinct and neat habited Conifers.. The narrow columnar habit would prevent accumulations of snow, and the shortness and pliability of the branches would also be a safe-guard against their getting broken down. As specimens for villa gardens, small lawns and other restricted areas this Cypress should prove an acquisition.

CEDRUS ATLANTICA GLAUCA.

WHEN this is obtained true it is always a conspicuous tree whether planted by itself or in association with other Conifers in the pleasure ground. In the latter case it should be placed in front of other evergreen, coniferous subjects with dark green foliage, which would show off the silvery whiteness of this Cedar to the best advantage. It could not fail to attract notice, however, in an open situation upon grass, whether planted singly or in groups. There seems to be no question about its hardiness, for young trees of it in various situations kept their foliage much better than old trees of the same sort, or even the Cedar of Lebanon, close by. The leader is very strong, and the tree assumes a narrowly pyramidal habit from the first, and retains it till it gets a large tree provided it meets with no accident.

Gleanings from the World of Science.

The Wild Cockscomb.—Few gardeners would recognise the Cockscomb in its primitive wild condition, and what is more remarkable, there is some doubt amongst botanists themselves whether Celosia cristata is anything more than a mere variety of C. argenter. The latter is now so widely spread in tropical countries that there is considerable doubt as to which was its aboriginal home. The crested form is usually regarded as the type, and this is probably what was introduced to this country in 1570. The wild form has a narrowly pyramidal inflorescence of small densely arranged flowers, and several other cultivated forms or varieties agree in this respect, and therefore show a considerable approach to the well-known Celosia pyramidalis. Several dark red and a yellow variety were introduced from Asia in 1570, but from what part is not stated. The variety C. c. comosa has a drooping panicle, and was introduced from India in 1802, and C. c. coccinea from China in 1597. Both were supposed to represent distinct species. C. castrensis is synonymous with C. cristata, but was considered a distinct species when introduced in 1739 from the East Indies. C. cristata itself occurs in a half wild state in China, according to Messrs. Forbes and Hemsley's Index Floræ Sinensis, but whether in the crested or normal form is not stated. We should suspect the latter.

An Elm with red cambium.—An Elm originating upon the Continent, and sent out under the name of Ulmus libero-rubra is apparently a variety of the Mountain Elm (Ulmus montana) and is remarkable for the dark orange-red or vermillion-red colour of the cambium larger which is laid bare by the removal of the bark. When a shoot is newly cut the brightness of the colour is remarkable, but as it dries the colour fades until it becomes of a pale testaceous hue, or almost straw colour. For the purpose ornament the variety is in no way superior to the common form, and can only be grown as a curiosity. The question arises as to what purpose (if any) the colouring matter can serve the tree. It is evidently secreted and deposited in the cambium larger under different conditions as to soil and climate, and whatever it may be it gets dissipated or looses its colour in the drying process whether the bark is removed or left on.

Rust of the Silver Fir.—Like the rust of Wheat that of the Silver Fir completes its life cycle, according to Prof. Marshall Ward, on more than one host plant. The leaves of the Silver Fir are attacked by one form which gives rise to Œcidium like cups containing filaments of the fungus, which become constricted at regular intervals forming necklace-like rows of spores which fall from the trees on plants beneath; and should there be plants of the Whortleberry (Vaccinium Myrtillus) within reach of the falling spores they get attacked, and the stems become swollen and gouty, assuming a pink appearance. When the fruiting stage of this form is reached the spores find their way back to the foliage of the Silver Fir. Thus one species of plant hands on the spores of its fungoid enemy to the other. This has been determined partly by experiment and partly by accident. Pinus Sylvestris and P. Laricio also have their rusts. A method of prevention would consist in planting the Silver Fir in places where no Whortleberries grow, or by destroying the latter where they occur.

Simple-leaved Robinia.—Nature often reveals, by freaks or accidents as it were, the steps by which certain trees or other plants have reached their present highly-developed state. The Common Robinia or False Acacia (Robinia Pseud-Acacia) has normally pinnate leaves with numerous pairs of leaflets and an odd terminal one, but there are forms with few or only one leaflet on the petiole. The variety known in gardens as R. P.-A. pyramidalis or integrifolia has leaves consisting of two to five leaflets with the terminal one much the largest; but by far the greater number of them consist of only one oblong, blunt, and entire leaflet terminating the petiole. The tree is of upright or pyramidal habit, and otherwise presents an appearance totally different from that of a Robinia as we are accustomed to see it; and one has to look at it very closely to identify it as a Robinia at all. This no doubt represents an ancestral form of the species, and shows some steps in the process by which that tree came to have pinnate leaves. There are specimens of this curious tree in the Gardens at Kew.

CHRYSANTHEMUM PROSPECTS.

A Coming Feature of the Chrysanthemum.

Referring back to the early autumn show of the National Chrysanthemum Society of a few years ago, surprise was expressed by some that several of the large-flowering Japanese Chrysanthemums, which are usually expected to flower with the rest in November, should be fit to take a place in competitive groups along with early-flowering Pompons, and such of the summer-flowering kinds as Madame Desgranges and G. Wermig in the second week of September. Mons. Freeman and William Holmes were amongst the kinds that created surprise on the particular occasion referred to; but even in such a late and unfavourable season as the past has been, it was shown to be possible to have a considerable number of the old Japanese types in flower by the 9th of September. This was illustrated by flowering plants of Mons. Freeman, W. H. Lincoln, Etoile de Lyon, Baronne de Prailly, and others of more recent date, such as Annie Clibran, Madame Leon Collin, Marvel, &c.

T. H. ELLIS. C. H. SHARMAN. S. AINSWORTH. S. N. SAMPSON. C. HURST. M. YOUNG. C. H. SHARMAN, JUNR. F. POLLARD. R. POLLARD. C. PEARSON. D. PUGH. F. YOUNG. R. CANNELL. T. PARR.

Most of the above would appear in the ordinary course of cultivation at the November exhibitions; and it is pretty well known amongst a section of cultivators that the flowering of late varieties at that date is simply the result of a certain mode of treatment. Beginners, especially amateurs, who take for granted that the above will flower early in September under similar conditions to that accorded November flowering sorts are liable to be disappointed should they undertake their culture from that point of view. The cutting back system is adopted early in summer, and the first bud, that is the "crown bud" of cultivators, that appears is encouraged to develop by the disbudding or pinching out of the side shoots. Of course there are kinds that would turn out very poor, even if they responded to this treatment at all; but by a judicious selection of the most suitable, a considerable number might be had in bloom by the second week in September.

A fact of more importance is that a large importation of new sorts, chiefly Japanese from the Continent as well as English raised seedlings, now finding their way into the hands of leading growers, indicate what may be done, not only in the near future, but next season if Chrysanthemum societies feel so inclined, namely to hold exhibitions about the middle or end of September, so as to encourage the cultivation of early-flowering Japanese varieties of the various types including the typical as well as the incurved and reflexed groups. Their utility will become more and more apparent when it gets known that they may be used for cut flowers, as decorative plants for the conservatory to fill up the gap between the summer flowering subjects and the November Chrysanthemums, for commercial purposes, and above all for culture by amateurs who have not the convenience of glass structures to shelter the late-flowering kinds, and bring them to a successful issue. Herein lies an issue at stake which Chrysanthemum societies would do well to foster and encourage by arranging for exhibitions to be held in September, say the third or fourth week. A large number of the new kinds may be had in flower in the open air by that time, and there can be little question that an impetus would be given to a new departure, and that the special stands would be filled with something more than Madame Desgranges and its yellow sports, to wit G. Wermig, Mrs. Hawkins and Mrs. Burrell, which everybody expects, but more particularly the two first-named. Should it be urged that the older societies already have their hands quite full, and that additional shows would tax their resources and burden their exchequer, then other societies might find it to their advantage to hold exhibitions at intermediate dates to those already existing.

It is too early as yet to predict to what perfection and size the early-flowering kinds may be brought; but one thing certain is that large sections of the flower-loving public consider that the blooms as they have been already shown are large enough on all hands for ordinary decorative purposes. Prizes offered at exhibitions would soon show what these new Japanese varieties were capable of doing in the hands of able cultivators. A new set of growers would also be induced to swell the competitive lists, if they were taught by exhibitions, conferences, or otherwise, that collections of Japanese Chrysanthemums might be flowered successfully without the aid of glass structures. Some amateurs there are who would be highly pleased to learn that they could render the front of their villas and windows gay by easily grown Chrysanthemums during the months of September and October.—*F.*

Their History as the Imperial Sign of Japan. History records that the Chrysanthemums popularly cultivated at present are not the natives of our empire, though the wild ones have undoubtedly existed here. Various written records of ancient time give us the facts that in the year 386, Kudara (Corea) paid as a tribute blue, yellow, red, white and black coloured Chrysanthemums to the Emperor Nintoku. In the year 797, the Emperor Kammu made a poem on the subject of the flower, and in the years 889, 901 and 947 respectively, emperors of the time held great festivals with their subjects in favour of Chrysanthemums. From these data we know that Chrysanthemums have been cultivated widely and favoured by us from 1504 years ago.

During about 823 years (from 889 to 1712) they were cultivated popularly, and in the latter part of the period a book on Chrysanthemum culture, entitled "Nochi-no-Hana," was published; but the most flourishing period of kiku (Chrysanthemum) culture seems to have been the middle part of the 18th century.

The kinds cultivated since the year 386 are roughly divided into three sorts, according to the size and form of the flowers. They are as follows: (1) Sho-kiku, or middle sized flowers, have been popularly favoured and cultivated from very old times; (2) O-kiku, or large sized flowers, have prevailed since the year 1704; (3) Ko-giku, or small sized flowers, became popular about 1716. No. 1, or Sho-kiku, again prevailed at about the year 1751.

Varieties cultivated at present besides the above three are as follows; Saga or Ito-giku, petals of fine tubular threads. Natsu-giku, summer varieties; Kan-giku, winter varieties.

With regard to popular favour, the Chrysanthemum occupies the first place throughout the empire, and none is superior to it in popularity or in the quantity used as cut flowers for vases in the flower market. Consequently many florists devote themselves entirely to kiku culture.

Of the Chrysanthemum as the sign of our imperial family our historical knowledge is rather obscure, and we cannot trace back clearly to its origin. A record entitled "Toshoryo-Kiroku," published in 1887 by the Imperial library, states as follows: "Kiku seems to have been used as the royal seal some time after 'kiri' (another sign of the imperial family composed of three racemes and one leaf of Paulownia imperialis, but less esteemed in the court), and first made its appearance as the sign on the bricks of the Buddha temple call Horiuji, established by the ex-emperor Shirakawa in the year 1075."

Lately, Dr. M. Konakamura in a book, "Mondokoro and Kokki-no-Nissho," says that the signs of families in general have their origin in ornamental figures woven in cloths. In this manner the Chrysanthemum, as the sign of the imperial family, had its origin in the ornamental figures on the court dress

worn by an ex-emperor. A written record, dated August 9, 1260, tells us that the Emperor Kameyama wore a red coloured court dress which had the figure of a Chrysanthemum of eight petals woven within circular linings. Moreover, a sword, known to us as that of ex-emperor Gotoba, has the stamp of Chrysanthemum on its handle. This ex-emperor Gotoba had been driven to an islet (Oki) by civil contest, and died there in 1239. From the above facts we are able to suppose that the Chrysanthemum had already been in use as the imperial sign from the beginning of the eleventh century—a long period of time.—*H. Tukuba, Japan, in "The American Garden."*

GARDENING CRICKET.

We have the pleasure this week to give a couple of illustrations which we doubt not will prove of considerable interest to those of our readers who are devotees of the national game of cricket, and their name is legion among the young men engaged in the pursuit of horticulture. For the first time, so far as we know, the nurserymen, seedsmen, and gardeners of this country met in friendly rivalry, in anything like a national match, at the Crystal Palace on the occasion of the late fête in aid of the Gardeners' Orphan Fund, and although time only permitted of one innings each being played, the game was so much enjoyed by all that we hope it may become an annual event. The match it will be remembered was played between the Nurserymen and Seedsmen *v.* the Gardeners of England, the first-named team being selected by Mr. Charles H. Sharman, of the firm of Messrs. James Carter & Co., of High Holborn, and the latter by Mr. Edwin Molyneux, the famous Chrysanthemum grower, and gardener at Swanmore Park, Bishop's Waltham.

The players representing the Nursery and Seed trade were the captain, Mr. Sharman, who was one of the earliest promoters of The Gardeners' Orphan Fund, and is still an active member of its executive committee. Mr. J. H. Ellis is nursery clerk in the establishment of Messrs. J. Cheal & Sons, at Crawley, Sussex. Mr. S. Ainsworth is a veteran in the great Holborn seed house, and a veteran cricketer to boot. Mr. C. Hurst, who represented Leicestershire, is a son of Mr. Hurst, of Banbridge, Lincoln. Mr. R. Pollard, Mr. D. Pugh, and Mr. C. Pearson are employes of the firm of Messrs. James Carter & Co. Mr. J. Parr hails from the establishment of Messrs. Cooper, Taber & Co., the well-known wholesale seed merchants of Southwark Street. Mr. S. N. Sampson represented the famous house of Messrs. Hurst & Son, of 152, Houndsditch. The Messrs. M. and F. Young, of the Milford Nurseries, Godalming, worthily bear the name of one who was in life greatly respected in the nursery trade. Mr. E. Pollard represented another Surrey nursery, that of Mr. Slocock, of Woking. Mr. C. H. Sharman, jun., is the eldest son of the captain of the team, a member of the first eleven of his school, Margate College, and a most promising young player; and Mr. Robert Cannell represented the well-known Swanley establishment.

The Gardeners' team was composed of Mr. Edwin Molyneux, captain; Mr. J. Agate, gardener to — Rawson, Esq., Havant; Mr. J. Rose, gardener to Lord Wantage, Lockinge Park, Wantage; Mr. T. Record, foreman in the gardens at Bellingbear Park, Wokingham; Mr. J. Hathaway, gardener to Earl Latham, Latham House, Ormskirk; Mr. E. Dives, Sacombe Lodge Gardens, Harbledown, Canterbury; Mr. R. Battell, Field's Cottages, Balham, Surrey; Mr. J. Fassum, a young journeyman from the neighbourhood of Canterbury; Mr. A. Allman, and Mr. J. Floyd, from the Turnford Gardens, Broxbourne; Mr. B. Cripps, foreman at Castle Ashby, Northampton; Mr. Carver, gardener to Lord Campbell, Wimbledon; Mr. Doe, gardener to H. W. Tugwell, Esq., Crowe Hall, Bath; and Mr. E. Rowbottom, gardener to H. Williams, Esq., The Priory, Hornsey, N.

J. AGATE. J. ROSE. T. RECORD. J HATHAWAY. E. DIVES. R. BATTELL.
J. FASSUM. A. ALLMAN. J FLOYD. E. MOLYNEUX.
B. CRIPPS. —. CARVER. —. DOE. E. ROWBOTTOM.

PINE-APPLE CULTIVATION IN FLORIDA.

In a report recently issued by the United States Secretary of Agriculture, it is stated that it may not be generally known that Pine-apples are grown successfully in field culture in that country. The industry is, however, limited to Southern Florida, for not only does a slight frost slightly damage the plant, but chilly air, either day or night, is injurious, and dry air at any temperature is not suitable. Many persons think that any situation where frost does not come will suit the Pine-apple and other tropical plants and trees, but this is far from being the case. In the extreme southern part of Texas and in many places in California it would succeed if the nights were as hot as the days and the air moist. A few partially successful attempts have been made in California. Even the central part of Florida does not seem so well suited to Pine-apple culture as the coast regions from Merritt's Island southward to Key West, and northward from there to Tampa Bay, in which region there are hundreds of acres yielding this fruit abundantly. The islands seem especially favourable, as their foundation is usually coral rock, upon which is a well-drained sandy soil mixed with decayed vegetable matter.

Although thin sandy soil may produce light crops, rich soil is much better. Key Largo, Plantation Key, and Pine Island are some of the most profitable places for Pine-apple culture in all Florida. At Biscayne Bay, on the east coast, are very many fine plantations, and also on the shores of Lake Worth, which lies opposite the south end of Lake Okechobee. Northward of this place lies the narrow sound, which is known as Indian River, and for over a hundred miles along its shores may be found patches of this fruit at the home of almost every settler. At Eden, which is on the mainland side, are some of the largest plantations in Florida. It is estimated that fully half a million fruits of marketable size were shipped from this place in 1820. On Merritt's Island are also many commercial plantations, and it may be stated that this is the northern limit of the Pine-apple cultivation. It is true that all over the Orange-growing region of Florida the Pine-apple is occasionally grown under temporary protection, but not otherwise, except in a few favoured situations. Near Orlando there are some fields which are reported as yielding a large and paying crop this year.

The plants thrive best which are set from 3 to 4 ft. apart each way, although some growers set them closer. The hoe is the principal tool used in cultivating, but horse cultivators are used with advantage until the plants get too large. The edges of the leaves of nearly all varieties are armed with sharp teeth. A plantation will last about three years without renewal, and bear good crops. The first year the young plants bear little or no fruit, but the second year each should have at least one good large one, and the third year two or more, but there is usually a considerable proportion of small ones, which are unmarketable, of less than about 4 in. in diameter. Propagation is always conducted by offshoots, which are of three kinds, and known by the names "crowns," "sets" or "slips," and "suckers." The crown is that part which appears at the top of the fruit, and consists of a single bud in the centre of a cluster of leaves. Very small shoots, called "crownlets," are sometimes found at their base. The slips or sets are found about the base of the

fruit, and, although small, are numerous, and usually used for propagation. The suckers are branches which come out of the main stalk near the ground, and come into bearing sconest of all. All the above take root very easily.

There are many named varieties, which differ in style of plant, and the fruit varies in size, shape, colour, flavour, and time of ripening. Specimens have been exhibited weighing nearly ten pounds, and even larger pines than these have been grown. New varieties are produced from seeds as are other new fruits. The "Queen" is one of the varieties about which there is considerable confusion as to name. In Florida it is called "Egyptian Queen," and also "Gypsy." It is one of the best flavoured varieties, and is of a beautiful lemon-yellow colour. No variety fetches a higher price in the market, according to the experience of Florida growers. In shape it is rather elongated and is only medium sized. The "Porto Rico" pine is grown to some extent, but does not multiply rapidly. The plant is very large, and the leaves often attain a length of 5 ft. The fruit grows to the largest size, and specimens weighing ten pounds are not rare—some even reach twenty pounds in weight. The colour, when fully ripe, is a pale pinkish yellow. The protuberances are very large, and the flavour is sub-acid. The "Red Spanish" is the variety which is generally grown in Florida. It is not large, and rarely weighs more than five pounds. The shape is almost globular, and the colour a brownish yellow, at maturity. The flavour is sub-acid, vinous, and very delicious when fully ripe.—*Society of Arts Journal.*

CONFERENCE ON SUNFLOWERS, ASTERS, AND CONIFERS.

THE Conference on the above subjects inaugurated by the Royal Horticultural Society in the gardens at Chiswick, was continued over three consecutive days, namely, the 6th, 7th, and 8th inst. The first day was devoted to the reading of papers on Asters and Sunflowers. The chair was taken at 2 p.m., by Mr. J. G. Baker, F.R.S., who gave an opening address on the Composite family, which he divided into three leading types, namely, those with ligulate, homogamous, and heterogamous flowers, giving illustrative examples of each, and explaining what he meant by the aid of diagrams. The Compositæ, he continued, was divided into thirteen tribes, and the Michaelmas Daisies, or Asters, belonged to the Asteroideæ, which included ninety genera. The species of Erigeron were so closely allied to Aster that some of them were occasionally placed amongst the Asters by different authors. The genus was represented in New Zealand and at the Cape by allied genera of a shrubby type. Historical associations prevented botanists of the present day from dealing with plants according to our knowledge, otherwise several of the old genera would be lumped together, and otherwise classified. Helianthus belonged to the tribe Helianthoideæ, and the genus was confined to North America. The differences between this and allied genera he explained, including Coreopsis and Rudbeckia. An interesting question presented itself in the case of three of the oldest garden plants, namely, Helianthus multiflorus, H. tuberosus and H. annua, which have been so altered by garden cultivation that we now fail to recognise their wild prototypes.

THE ASTERS OF EUROPE AND AMERICA.

Professor G. L. Goodall, director of the Botanic Gardens, Harvard University, was unable to be present, and his paper was read by the secretary, the Rev. W. Wilks. The Professor compared the Asters grown in European gardens with the wild types of North America, aud mentioned several, such as A. patulus, A. Novi-Belgii lævigatus, A. diffusus horizontalis, and others, which were known in cultivation only, or very sparingly in a wild state. Cultivation and seed raising had so altered them that they could not be exactly matched by wild specimens. The genus included 200 species confined to the northern hemisphere, mostly North America, with a few in Europe and Asia. It was divided into thirteen subgenera by the late Asa Gray, but many of these groups graduated into one another. Hybridisation was most productive of improvement in the large genera. Aster itself typified one large group containing seventy-four species. Several of the small groups contained species which were scarcely amenable for cultivation owing to the conditions under which they grow in a wild state. A. Novæ-Angliæ he considered a good basis for hybridisation. In America the distance of a few miles makes a great difference to some species when removed from their native homes. A. Novæ-Angliæ and Novi-Belgii were two of the most widely distributed species. A study of geographical distribution, he considered, would show something of the direction in which improvements might be made.

MICHAELMAS DAISIES.

The Rev. C. Wolley-Dod, M.A., read a paper on Michaelmas Daisies, and said that they varied greatly in habit from Aster undulatus, 8 ft. to 9 ft. high, to A. dumosus, a bushy plant as wide as high. The weakest point in Michaelmas Daisies was their want of colour. The whites were not pure, the blues tinted with purple, and the pink not clear. Aster alpinus, and other dwarf summer-flowering kinds, he did not consider Michaelmas Daisies. The nearest approach to blue occurred in A. spectabilis. He referred to the great alteration in nomenclature, and the difficulty of determining to what species many garden kinds belonged. His aim is to limit his collection to fifty sorts, whether species or not, but at present he has about 200 or 300 names attached to plants collected from all sources. A fancy name he considered better than a misapplied botanical name. Some of the good kinds were A. Novi-Belgii, A. versicolor, A. Novæ-Angliæ, A. amethystinus, and A. diffusus horizontalis. By far the best belong to the A. Amellus group. The latter will continue to thrive in the same soil for several years without moving, but tall kinds such as A. Novæ-Angliæ soon exhaust the soil. Some recommend a special border, but he grows his plants in mixture with other border subjects. He advocated seed sowing by thousands by those interested in Asters, with the view of obtaining really good kinds. A. Amellus produces no seed. Asters could not be compared with many other garden plants, but were well worthy of growing for autumn decoration. In discussing the paper, Mr. Baker said that the American flora runs down the continent in three lines, and that cultivated Asters were mostly from the Eastern United States, with a few from the Rocky Mountains and California. Another gentleman said that Asters had been very much neglected, and that weedy kinds often take the place that should be occupied with better ones. He also alluded to the difficulty of getting the proper names.

PERENNIAL SUNFLOWERS.

Mr. D. Dewar, of Kew, followed with a paper on "Perennial Sunflowers," and said that some of them were eagerly sought after in the days of Peter Collinson of the Chelsea Botanic garden. The collection at Chiswick had been obtained from various sources, and from it he had taken his notes. The tubers of Helianthus tuberosus were used as food, and the seeds of H. annus were so employed in some countries. There were fifty species of Sunflowers according to some, but the late Asa Gray had reduced them to forty. Their head-quarters were in North America, some growing on dry ground, some in woods, and others along the river courses. All these were often confined to a few feet of space when grown in gardens. Where space is limited, however, each grower would choose his own species, or favourites. He divided Sunflowers into three groups, according to the length of the bracts of the flower heads. Group I, with short bracts included only H. rigidus; but of this there were half-a-dozen forms in gardens differing in height and time of flowering. These were H. rigidus æstivus, H. rigidus, H. r. grandiflorus, H. r. elegans, H. r. latifolius, and H. r. semiplenus. The group with medium bracts included H. lætiflorus, distinguished from the last species by its yellow disc, H. mollis and H. occidentalis. The third group with long bracts included H. decapetalus, H. multiflorus, H. divaricatus, H. giganteus, H. Maximillianus, H. orgyalis, H. tuberosus, and H. doronicoides. All of the above he described and defined. H. tuberosus was found in 1660 by Columbus. The Rev. C. Wolley-Dod considered H. multiflorus a hybrid because it never produces any seed. Mr. Baker said it had never been found in a wild state, and that its history, like that of H. tuberosus and H. annus dates back for a long period in garden culture.

CULTURE OF SUNFLOWERS.

The first day's Conference was concluded by a paper on the "Culture of Sunflowers" by Mr. E. Jenkins. He said that the wild garden or woodland were suitable places for permanent planting without culture, but when Sunflowers are introduced to the garden they should receive proper culture. The first thing is to consider their adaptabilities, whether suitable for the flower garden, herbaceous border, or for planting in masses upon the lawn. H. giganteus, H. maximus and H. Maximillianus he considered suitable for shrubberies. Some kinds are suitable for smoky districts, and amongst them H. multiflorus is all important and is largely planted in public parks. Amateurs who are limited in the matter of space object to the great height of Sunflowers. H. orgyalis should be isolated so as to show off its fine foliage to advantage; it grows 10 ft. high. Sunflowers are of great service for harvest festivals. The plants can be accommodated in almost any soil; but stoloniferous kinds are more inclined to ramble in light than heavy soil. When the stems are cut down, the ground should be mulched with manure or liberally supplied with liquid manure during the winter. They should be divided and replanted every second year to get the best results. Those producing underground tubers or buds may be propagated in that way. Scarce kinds may be increased by means of cuttings or single eyes, two of which can be obtained from a single joint; and they should be put in a dung frame at a temperature of 65°. If planted out as soon as rooted they will flower within six months. Mr. Baker and the Rev C. Wolley-Dod spoke of improving Sunflowers by hybridisation.

SECOND DAY.

The chair was taken by Dr. M. T. Masters, who in his opening address said that Conifers were the most wonderful of all plants, and that their pedigree referred back to a date long prior to Noah's flood. Araucarias and Pine-like trees were as perfect then as now. Selaginellas and Lycopodiums resemble the Conifers of olden times, and those now existing are believed to be allied to the Selaginellas. As evidence of the importance of Conifers he said that the greater part of the timber used at the present day belonged to that family. The duty of the Conference was to point out the best trees to plant in this country and the Colonies for timber purposes. During the last fifty years a wealth of introductions had been made, and it was now time to consider which were the most useful for the production of timber. He also referred to the sending out of Douglas, Hartweg and Fortune by the Royal Horticultural Society, with the object of collecting seeds of Conifers and other plants. Other collectors who had done good service to the cause were also mentioned. One of the best, but neglected town trees, belonging to the family, was Ginkgo biloba, at one time occupying an area from Scotland to Japan, as testified by geological strata. The Deodar Cedar had not, in his opinion, justified the expectations entertained about it when first introduced. The Douglas Fir is likely to be valuable in Scotland. The Larch had been a failure, owing to a fungus, and amongst others he mentioned as likely substitutes, the Douglas Fir, Thuya gigantea, Cupressus Lawsoniana, Taxodium, and Abies brachyphylla.

JAPANESE CONIFERS, ETC.

Mr. H. J. Veitch, F.L.S., was to have read a paper entitled "Japanese, Chinese, and Californian Conifers," but confined himself to the Japanese kinds only, as each group would require a paper for itself. He referred to the works of Kæmpfer, Thunberg, and Siebold as affording us the earliest information concerning Japanese Conifers. More recently Fortune, Maries, and J. Gould Veitch introduced many kinds and collected information concerning them, and Maries had done so very extensively. Dr. Myers had given the latest information. The Umbrella Pine (Sciadopitys verticillata) was peculiar to Japan. Other typical genera were Picea, Abies, Pinus, Tsuga, Larix, Thuya, Biota, Retinospora, and Cryptomeria, including in all about forty-one species. These were included within the 30° to the 45° of latitude, and were mostly all suitable for parks and pleasure grounds in Britain. The climate, rainfall, and humidity of Yesso, the most northern island, approached most closely to that of the north of Scotland. The Gulf Stream affects the climate of this country, and something equivalent affects that of Japan. Niphon, the southern island, was much warmer, and various Orchids, such as Angræcum, Calanthe, and others, were indigenous there. The Larch occurs almost up to the snow line. The Crypto-

merias of Japan, the Cedars of the Himalayas, and the Sequoias of California, all reach a great height, which they can never do in this country. The northern islands of the Japan group are sparsely inhabited, but are covered with forests of Conifers of the Siberian type. The English climate induces premature growth, and that of Scotland would probably prove more suitable for Conifers from thence. Several kinds he mentioned as attaining a great height in Niphon, including Abies brachyphylla, 150 ft., were suitable for cultivation in England. He attributed the difficulty of distinguishing some Japanese conifers to the cones of one Pine being pollinated from another tree.

CONIFERS FOR LANDSCAPE GARDENING.

A paper on "Conifers as Specimens for Landscape Gardening" was read by Mr. Geo. Nicholson, A.L.S. Some grow in wet places and others on dry, stony land, and in planting those things had to be taken into consideration. A good effect was produced in the landscape by massing in groups according to form and tints of a colour. He advocated limiting the selection to the more effective kinds, and mentioned the following as suitable, namely, Norway Spruce, Abies polita, Picea ajanensis, Tsuga canadensis, Abies brachyphylla, Cupressus Lawsoniana, Thuya occidentalis, Retinospora obtusa, R. pisifera, Thuyopsis dolobrata, Juniperus chinensis, J. c. variegata, Cupressus arizonica, Juniperus Oxycedrus, Sciadopitys, Pinus muricata, P. sylvestris fastigiata, P. s aurea, P. Bunglana, and others. Conifers suitable for chalk were Norway Spruce, Abies cephalonica, A. nobilis, Pinus austriaca, P. Pinaster, P. insignis, P. sylvestris, Larix leptolepis, Picea orientalis, the Wellingtonia, and Deodar Cedar. Suitable for seaside planting were Cupressus macrocarpa, Pinus insignis, P. haleppensis, and probably P. muricata. Mr. M. Dunn said that a distinction should be made between decorative and landscape Conifers. He also related that Cupressus macrocarpa and Pinus insignis did well exposed to the sea blast on the coast of Connemara, and that Araucaria imbricata overtopped Larch and Scotch Fir under similar conditions on the west coast of Scotland. Mr. W. Goldring said that only about thirty-six Conifers were suitable for landscape gardening. The difference in form and colour were the principal points. Gardens were overdone with variegated Conifers, and Araucarias and Sequoias were planted in unsuitable positions. Mr. Watt objected to the remarks of the last speaker as applied to villa gardens, and said that Conifers for timber planting were more important. The Rev. C. Wolley-Dod remarked that his clay soil was unsuitable for many Conifers, and that Abies Nordmanniana had died out where planted.

CONIFERS FOR TIMBER.

A paper on "Conifers for Timber and in Plantations" was read by Mr. A. D. Webster. He said that Larch was largely used for mining and railway purposes on account of its durability and light weight, but that plantations had suffered greatly from canker and blight. The large demand for seeds induced people to collect the cones in autumn, and a large proportion of them were unsuitable for propagation purposes. The question at present was to consider the best substitutes, and he gave about sixteen species. The Corsican Pine (Pinus Laricio) he considered the best substitute on account of its strong, tough, but elastic and durable wood. It will grow at an altitude of 1,000 ft. The Silver Fir took the second place. The Douglas Fir grew very rapidly in sheltered valleys but would not stand exposure. Pinus sylvestris was very suitable for poor land, and under those conditions the wood was of the best quality. Thuya gigantea he stated was a valuable addition to trees, because it grew rapidly, was hardy at an altitude of 1,000 ft., and easily accommodated. The wood of Pinus austriaca was of fairly good quality, but knotty and hard to work. Other but less important substitutes were Pinus Pinaster, Abies Nordmanniana, Sequoia sempervirens, Pinus rigida, and Cupressus Lawsoniana. The last named was of rapid growth, but liked a fair amount of shelter. The newer introductions were less suitable except for ornamental purposes. A gentleman present said that the leading shoots of the Silver Fir always got frosted in spring, and instead of placing it second he would substitute Abies Menzsiesii by reason of its rapid growth and hard wood. Mr. M. Dunn said that foreign timber was selected and should not be compared with home-grown wood. Silver Firs planted in 1834-35 now girthed 13 ft. 9 ins., and he considered there was no tree quicker in growth. The Redwood was liable to lose its leader. Mr. Alex. Milne said that in the north of Scotland, the Scotch Fir was planted on some of the highest hills, but Larch would always be planted on good Larch soil. The Silver Fir in the young state was not liable to lose its leader when planted behind a north wall while yet in the nursery rows.

Mr. Edmund J. Baillie, F.L.S., the Hon. Mark Rolle, and Mr. Charles Herrin were to have given papers, but not being present their papers were taken as read.

THIRD DAY.

An opening address was to be given by Prof. Bayley Balfour, M.A., F.R.S., but being unable to be present, the chair was taken by Prof. W. T. Thistleton Dyer, C.M.G., F.R.S. He spoke of the suitability or otherwise of different parts of this country for Conifers. The climatic conditions in the north were highly suitable, but less favourable in the south-east of England. The south-western counties were, however, more highly suitable for Mexican Pines and other Conifers which demand a warm climate. He then referred to the grand and welcome display brought from Scotland.

VALUE OF INTRODUCED CONIFERS.

Mr. Malcolm Dunn then read a paper on "The Value in the British Islands of introduced Conifers," and said that for shelter and ornamental purposes they had become immensely popular during the century now nearing a close. He also mentioned several collectors who had been instrumental in introducing many of the finer kinds. His subject was dealt with under two headings, namely, Coniferous forest trees, and Ornamental trees and shrubs. Perth was *par excellence* the county for forest trees of large size, such as the Scotch Fir and Norway Spruce. About forty-five years ago some land that would scarcely grow anything was now covered with large specimens of Conifers. Aberdeenshire and Sutherland were also suitable for Conifers. He thought that forest trees would also grow as well in England if proprietors would give them the same attention they received in the north. While in Ireland for six years his experience gave him a great love for Conifers. He then gave a summary of facts and measurements he had made of numerous trees in various parts of the country, and when such statistics are placed on record with the conditions under which the trees are growing, it should prove a valuable addition to our knowledge concerning the value of introduced Conifers for timber. The following are a few of the measurements given:—Abies Albertii, at Castle Menzies, 72 ft. high, 5 ft. 9 in. in girth; Abies concolor, in Kent, 64 ft. high, and girth 8 ft. 7 in.; Douglas Fir, in Scotland, 91 ft. 9 in. high, and girth 12 ft., growing at an altitude of 340 ft.; and Pinus Laricio, 50 ft. high, and 3 ft. 11 in. in girth. The Douglas Fir has done best of all out of thousands planted in Ireland. Abies Nordmanniana, introduced from the Crimea in 1848, had reached a height of 70 ft. to 80 ft. in various parts of Scotland, but was liable to be attacked by insects. Cupressus macrocarpa was one of the best for deer forests, Araucaria imbricata stood the sea blast well in the Orkney Islands, the west of Scotland, England, and Connemara in Ireland. Amongst ornamental trees and shrubs he mentioned the Retinosporas, Cryptomerias, Ginkgo, Thuya, Thuyopsis, Cupressus, etc. The colours of ornamental Conifers were very effective for ornamental purposes. Conifers were also useful for making hedges, and planting as memorial trees, because showy and durable. Whoever planted Conifers should study their habits, soil and other things necessary for judicious planting.

DISEASES OF CONIFERS.

Professor Marshall Ward, M.A., F.L.S., gave an address on "Fungoid and other Diseases of Conifers." No plants, he said, increase faster or proved so destructive as fungi. Any one might know about soil, temperature or climate, but fungoid diseases were less known and more subtle. Drought, frost and fungi were enemies of Conifers, but owing to the large quantities of resin in Coniferous trees, they were not subject to many of the coarser, or as he should term them, surgical diseases. He spoke of injury to the roots due to a water-logged soil, atmospheric influences on certain trees, and the destructive nature of fog. Toad Stools represented one type of injurious fungi; and the Rust of Conifers another. The mycelium of the latter penetrated the wood in all directions, the vascular tissue got broken, and water being unable to travel by this tissue the tree died. A large number of fungi, in attacking the cells, reduced them to a jelly of different colours, according to the particular fungus. The rust of the Silver Fir passed one stage of its existence upon the Whortleberry. The disease of the Spruce was caused by a fungus belonging to the Ascomycetes, and the canker of the Larch was due to a Pezizo also belonging to that family. The disease was not epidemic in the Alps to the same extent as here. Wet soil and a continuously moist atmosphere in Britain has favoured the spread of the fungus, while inimical to the Larch. Sound trees were easily affected when wounded by hail, late spring frosts, heavy falls of snow, or by artificial means. A moth and a species of aphis were also credited with assisting the fungus. Prof. W. T. T. Dyer said that it was necessary to make proper investigations before we can attempt to prevent or cure diseases. He proposed a vote of thanks to the readers of papers. A gentleman present proposed a vote of thanks to the chairman, and spoke of the immense importance of Conifers to the wealth of this country, especially in view of the failing agricultural interest. Papers promised by Dr. Wm. Somerville, Mr. D. F. Mackenzie, and Mr. W. F. H. Blandford, M.A., were taken as read, and will be printed in the Society's Journal.

The following are the awards made to groups of Conifers exhibited:—

Silver Gilt Banskian Medal to MR. A. WATERER, Woking; Messrs. J. VEITCH & SONS, Chelsea. Silver Banskian Medal to Messrs. DICKSONS Limited, Chester; Messrs. PAUL & SON, Cheshunt; Messrs. CHAS. LEE & SON, Hammersmith. Bronze Banskian Medal to Messrs. JEFFERIES & SON, Cirencester; Messrs. W. BARRON & SON, Elvaston; Messrs. WM. CUTBUSH & SON, Highgate.

Votes of thanks to Messrs. Little & Ballantine, Carlisle; Messrs. Fisher, Son & Sibray, Sheffield; and the Royal Gardens, Kew.

GARDENING MISCELLANY.

THE POTATO DISEASE AND THE SULPHATE OF COPPER REMEDY.

I HAVE in common with most of your readers been much interested in the accounts appearing in your columns from time to time respecting the sulphate of copper remedy against the Potato disease, the ravages of which have this season hit many of us rather hard. I had brought under my notice this season a case in which at least one variety, Early Vermont, was badly affected in the tubers, while at the same time the foliage and stems were, to all appearances, perfectly healthy. This is not the first time that I have noticed the same phenomenon, but I never before made the same critical examination into the facts of the case. My friend had some six or eight kinds growing in his garden, most of which were examined, and we could not find the least trace of the blight above ground. In only the early varieties were the tubers affected, the Early Vermonts having at least one half of the crop quite rotten. Now if the disease comes in the air, how is a case of this kind to be explained? and would not any application to the foliage have been useless? Our own Tomatos have suffered badly outside, but the difference in the ravages of the disease is clearly traceable to the differences there are in the dryness of soil in varying positions. Those on the walls facing the east or where the ground has been kept dry by overhanging trees have stood out the longest, and I think had there been the means of keeping them dry at the roots, the major part of the crop would have been saved. We gave one advertised remedy a good fair trial, but after all have lost at least a ton of Tomatos, so you will see we have some reason to feel interested in anything connected with this subject. If you or any of your readers can give an explanation of the phenomena referred to, it will, no doubt, be of interest to many.—*W. B. Glasscock.*

A MOUSE EATING MEALY-BUG.

THE note respecting mice eating scale at p. 56, reminds me of an incident which occurred one day in our stove. When engaged in looking over some plants my attention was drawn to a Thunbergia

trained against the wall by a slight rustling of the foliage. On examining it from a short distance off I discovered a half-grown mouse searching for and devouring every bit of mealy-bug that it could find. I watched it for some time to make sure it was mealy-bug that it was eating.—*Charles Marchant, Milgate Park, Maidstone.*

BEDDING VIOLAS.

From plants that have been in flower since spring, I send you a gathering of Viola blooms, showing that for a continuance of flower for a long period these have no rival. Even amidst the dashing winds and rains which have been such a conspicuous feature of the season, they shine even when most other things are dashed to pieces.—*John Forbes, Buccleuch Nurseries, Hawick.* [A beautiful lot of blooms, wondrously clean and bright in colour.—Ed.]

KADSURA JAPONICA.

The leaves of this plant are elliptic, leathery, and deep green, somewhat resembling those of a Camellia, but the plant, nevertheless, belongs to the Magnolia family. The stems are slender and twining, quite unlike most of the other members of the order in habit. Being a native of Japan it proves hardy against a wall in the southern counties of Britain, just as the Camellia does, and in the favoured localities might be grown as a pillar plant in the open. The foliage is evergreen, and the flowers curiously enough appear during the month of October, when flowering shrubs of any kind are getting scarce. As in the case of the Magnolias, there is little difference between the sepals and petals of Kadsura, for they merge one into the other, only a few of the outer parts being small and scale-like. The flowers are fleshy, soft yellow, and, although not large, are numerously produced and deliciously fragrant. A few sprays might be utilised amongst cut flowers, or even finely tinted autumn foliage, for the sake of their agreeable odour. The warm and dry atmosphere of a room would help to strengthen the fragrance.

CAMPANULA PUMILA ALBA.

The Bellflower under notice is considered by some to be only a form of C. pusilla, or merely a synonym. It may be a form of it, but is certainly not identical, and for garden purposes the plant known as C. pumila is certainly the best. Flowering commences in summer, and a patch of the plant at that time soon becomes a mass of bloom on stems not exceeding 6 in. in height, and frequently less. The whole bears some resemblance to a mass of the common Harebell, but the stems are furnished with ovate leaves up to the base of the short peduncles. The flowers of the typical form are of a clear blue, bell-shaped, and of good size for the plant. The variety under notice has pure white flowers very abundantly produced, and in a wet season like what the past has been keeps flowering up to a late period: for a tuft of stems sent us the other day was quite pretty with bloom. C. pusilla has a few broadly-ovate leaves quite close to the ground, while the rest are narrow and lanceolate. The stems, though short, look naked compared with those of C. pumila and C. p. alba.

VARIEGATED ABUTILON AT HAMPTON COURT.

In your report of the bedding at Hampton Court—and the carpet bedding has this year proved amidst the rain and wind exceptionally beautiful—the variegated Abutilon so largely and so effectively employed there is called Thompsoni. Possibly your reporter did not examine the labels as I did when there recently, as thinking the variety had much larger and more finely marked foliage than Thompsoni. I looked for the name and found it to be A. Væveum maculatum. It is the best variety for bedding purposes I have seen, and is specially effective on a dense body of some dark flowering plant, such as Heliotrope.—*A.D.*

THE POTATO DISEASE.

The result to a quantity of early lifted and stored Potatos pointed out by "T. W." last week, is but a natural product of too early lifting of Potatos, when the disease spores are abundant on the foliage and in the air. Mr. Jensen, whose statements have never been disputed, said that Potatos got up whilst the spores were active on leafage and then stored, were almost certain later to prove badly diseased, because the spores shaken from the tips alighted thickly on to the newly dug tubers, penetrated the skins, and when put into bulk, when the tubers slightly heated, the spores spread rapidly and produced rot in the most distressing way. I invariably allowed the earliest of Potatos to remain in the ground until the foliage had quite decayed, and the spores were no longer active. The percentage of diseased tubers after storing was therefore always small. Of course there are many tubers slightly affected when in the soil, the spots not being visible when lifted. These of course soon become quite rotten after being stored. I am sure it is always best to allow the tubers to remain in the ground as long as is possible rather than lift before the disease is fully apparent.—*A.D.*

CALLUNA VULGARIS INCANA.

It is well known that the common Ling or Heath varies considerably even in a wild state, but the variations as a rule consist of single, isolated specimens which have been added to collections from time to time by different collectors. Height and habit, as well as the relative length of the spikes and the colour of the flowers, are all subject to variation. In some cases the colour of the foliage varies, and such may be ascribed to the plant under notice. The leaves are densely downy, and notwithstanding their small size they become quite conspicuous in the aggregate, even at a distance suggesting the varietal name. The variety is evidently quite common in various parts of Surrey, and even abundant in some localities. It occurs mixed up with the ordinary form on Bisley Common, and on Oak Hill, Woking, as well as other places not far off, it is the only prevalent form, and is evidently very vigorous, giving the herbage a hoary appearance.

GEUM MINIATUM.

The continuous flowering nature of this Geum, particularly in wet seasons like the present, should recommend it to lovers of hardy plants. The foliage is similar in type to that of G. coccineum and G. montanum, and after the return of moist autumn weather grows with great vigour, at the same time throwing up young stems which flower in due time. At present the quantity of large, orange-coloured flowers is considerable, and are highly ornamental either in beds, borders or in the cut state. The plant is hardy, and easily propagated by division, either in early autumn or spring. Of course if a large number of plants is wanted, every crown should be carefully separated with a knife, and inserted firmly in sandy soil in pots. This may be done early in spring if a mild artificial heat can be given, but otherwise the operation should be deferred till summer, when the crowns or cuttings would root in a cold frame. The constitution of the plants would be less injured by this than the former method.

CLEMATIS ORIENTALIS GRAVEOLENS.

The vigour of this Clematis should render it suitable for planting against old and half-decayed trees, the life or death of which is a matter of no consequence. In the case of trees with a good head, no Clematis should be allowed to clamber amongst the branches, otherwise the tree would be ruined in the course of a few summers: but the naked trunk might be covered to advantage. An old tree covered with a rampant Clematis becomes at once a picturesque object. The leaves of the plant are ample and much divided with wedge-shaped segments; they are deciduous, but the old stems remain and increase in thickness every year, while a great amount of fresh growth is annually made. The flowers consist of four pale yellow sepals, and after they fall away the long styles develop like masses of feathery tails of a hoary or grey hue similar to that of our native species in the autumn and winter months. The plant proves perfectly hardy and ripens good seeds in this country. It enjoys a wide distribution over temperate Asia.

CUPHEA VISCOSISSIMA.

The stems of this species form an intricate mass 2 ft. to 3 ft. high, and flower continuously for a long period. The calyx tube is glandular, and crimson, while the six petals are violet-purple, the two upper ones, as usual, being the largest. The plant is less showy than C. lanceolata, and perhaps less desirable in the better kept parts of the garden, but it might on account of its continuous and free flowering nature find a place in the shrubbery. A peculiarity of this species, is that the glands covering the various parts of the plant, but especially the calyx, give off an odour resembling that of our native weed, Spergula arvenis. C. Zimapani also emits a similar and even stronger odour counterfeiting that of the plant named.

HARDY FRUIT CULTURE.

A good deal has been written and spoken from time to time on the extension of the cultivation of hardy fruits in the British Isles; and hints on the cultivation of the various fruits, with lists of varieties of the same, papers telling the best way to prepare the ground, &c., have not been wanting. Yet we hear many good men at times expressing a doubt as to the wisdom of extending the culture of hardy fruits. Without wishing to say one word against the extension of hardy fruits, I cannot help thinking that it is a subject that requires much thought, and probably the part of the business that requires as much consideration as any is the disposal of the fruit after it has been grown.

Only a few days ago I read of the case of a grower sending a quantity of fruit to market and being out of pocket by the transaction; at the same time another large grower in one of the midland counties told me he was making a very fair price for his fruit. In both cases the fruit sold was Plums, one of our most perishable fruits. The cause of this difference was not difficult to find, and in both cases the matter rested with the growers. One appears to have sent his fruit to a market already glutted; the other sent a small quantity to the same market, and finding that the prices realized were insufficient, he immediately tried other markets with the result already mentioned.

For some reason or other many appear to think there is but one market of any importance, and that is Covent Garden. It may be one of the best markets to some, especially the middleman, but the producer and consumer are more often than not better satisfied with results obtained in many of our large provincial markets. What is wanted is a better system of distribution, especially in London and its suburbs, some system by which the consumer can be brought into closer contact with the producer than is the case at the present time. There are too many intermediate channels through which the fruit has to pass; consequently in many cases it is disposed of at a ruinous price as far as the grower is concerned, whilst on the other hand the consumer has more often than not to pay an exorbitant figure for articles which, if a better system were in use, might be purchased at a rate that would be within the reach of most people.

It also seems to me that, as far as Plums are concerned, a heavy crop such as we have experienced this season might be made much more profitable if, as soon as the fruit is sufficiently large for the purpose, fully one half of the crop was gathered and disposed of for jam, as green Plums to my mind make better jam than ripe ones. Gathered in this way an immense benefit would be done to the trees, and the crop not being so perishable in a green state, growers would not be so often compelled to sell at a sacrifice.

Should the Fruiterers' Company or any other society offer prizes for essays as to the best means of distributing fruit, I believe they would be doing quite as much, if not more, to encourage fruit growing for profit in these islands than by offering prizes for papers on hardy fruit culture and varieties suited for the purpose. However admirably essays on varieties of fruit and culture of the same may be prepared, they will still to a certain extent fail to meet each individual case. As an illustration, I might collect a list of fruits that succeed in Hertfordshire, and yet name many varieties of Apples and Pears that thrive remarkably well in one part of the county, whilst perhaps only a few miles off the same varieties would be a complete failure. As a further illustration, I may mention a case in point. Some years ago, when living in Lancashire, under one of the ablest gardeners I ever met, we found a difficulty in growing Apricots, in fact a house had to be devoted to them, and yet within a distance of four miles or less, at another place there seemed to be no difficulty at all in securing good crops outside. Everything depends upon soil, aspect, and the atmosphere in which trees are to grow; there certainly are some

varieties of fruit whose constitution is so good and hardy that they will thrive almost anywhere.

What I would suggest to those who intend planting is not to trust too much to any lists they may see published, but to endeavour, if possible, to see the fruits growing. At most, if not all our principal nurseries this can be done, and people living in the immediate vicinity of any of these nurseries ought to have no difficulty in securing a good selection of varieties suitable for their purpose; and where these facilities do not exist, I should say go to any garden or gardens of any extent in the neighbourhood, and note the varieties that do succeed. There are very few gardeners but who would always be quite willing to give the intending planter the benefit of their experience. By doing this many disappointments which would arise through trying to grow too many varieties would be avoided, and a really good selection might be made with very little trouble.

No doubt there will always be some difficulties to contend with, but I trust the time is not far distant when the question of security to tenants of all kinds for tree planting may be satisfactorily settled. Then with reduced railway rates, and greater facilities for the disposal of our fruits, we may reasonably hope to successfully compete with our foreign rivals, who at the present time have so large a share in supplying our markets.—*Thomas Nutting, Childwickbury Gardens, St. Albans.*

Fruit Notes.

Pear Beurre d'Amanlis.

The fruit of this Pear is of medium size or above that when grown upon vigorous young trees. It is an old sort, but valuable on account of its regular and free fruiting nature, and, being a September Pear, it proves suitable for gardens in the northern counties, where it does well upon walls, and ripens there in ordinary seasons. The skin is pale green closely mottled with russet, and sometimes with a dense splash of russet on the exposed side. The shape is somewhat peculiar, being thickest above the middle, suddenly contracted a little above the base, and tapering slightly to the crown. The flesh is white, very juicy and melting, but the richest and certainly most piquant flavour is in the centre just around the small core, which often contains imperfect seeds. There is a variety named Beurré d'Amanlis Panachée which differs merely by being variegated with longitudinal stripes of red and yellow. Of course there is nothing in this beyond the colour, but that is sufficient when well developed to give a collection of fruit on the table some additional diversity. This particular form is grown in the collection at Devonhurst, Chiswick.

Pear Beurré Diel.

Old standard or pyramidal trees of this variety frequently yield remarkably heavy crops of fruit, but under such circumstances the individual fruits cannot be expected to be of large size. Although less imposing than that grown upon young trees, yet one can afford to undergo that gratification in view of the supply obtained from old trees. Some cultivators object to pruning their Pear trees in pyramidal form, but Beurré Diel naturally assumes that habit when allowed to take its own course in an orchard. A large tree of this form well loaded with fruit is a handsome object in a garden or even in some prominent position on the grass. The fruits are obovate, thickest above the middle, but often rather abrupt at the base, making them nearly oval in outline. The skin is closely marked with russety spots almost after the style of Easter Beurré. The flesh is rich, juicy, and gritty, but very agreeable when in prime condition, and lasts good for some time.

SOCIETIES.

Crystal Palace Autumn Fruit Show.—The exhibition of hardy fruits held at Sydenham on the Thursday, and two following days of last week, in no way belied general expectations that it would be a good one. As a matter of fact it was a much larger show than, of its kind, had been held there for some years, the number of dishes of fruit staged being some 3,500. Apples and Pears of course formed the bulk, and it is no exaggeration to say of the former that larger samples all round could hardly have been seen before. Brighter coloured fruit we have had many a time, but summer sunshine has not been sufficiently in evidence this year to put on a great wealth of colour.

The competition all round was very keen, and in the open class for a collection of Apples not to exceed 100 dishes there were no less than eight lots staged, and all of the highest quality. Messrs. George Bunyard & Co., of Maidstone, secured the premier award with a grand lot, fine in size, good in colour, clean and well set up. The second award went to Mr. C. G. Sclater, Devon Nursery, Heavitree, Exeter, the third to Mr. J. Watkins, Pomona Farm, Withington, Hereford; and the fourth to Mr. H. Berwick, Sidmouth, Devon. For the best exhibition of Pears, not exceeding fifty dishes, Mr. G. Goldsmith, The Gardens, Leonardslee, Horsham, came in first with fine clean samples; Mr. G. Woodward, gardener, Barham Court, Maidstone, being second; Messrs. Bunyard & Co., third; and Messrs. J. Cheal & Sons, Crawley, fourth. Messrs. Bunyard & Co. were the only exhibitors of Apples and Pears grown in orchard houses, but their collection was so good that the premier award was given to them.

In the amateurs' competitions, Mr. G. Woodward staged the best collection of kitchen and dessert Apples, and it is doubtful if a finer lot has ever been staged by any grower—certainly of such well-known sorts as Lord Suffield, Warner's King, Golden Spire, Belle Dubois, Mere de Menage, Yorkshire Beauty, Lord Grosvenor, The Queen, Washington, Cellini Pippin, Peasgood's Nonsuch, Queen Caroline, Alfriston, Emperor Alexander, Tyler's Kernel, Northern Dumpling, Gascoigne's Scarlet Seedling, Ecklinville, New Hawthornden, Stone's Apple, Bedfordshire Foundling, Golden Noble, Cox's Orange Pippin and Stirling Castle, we have never seen excelled. Mr. G. Goldsmith was a good second, and Mr. A. Waterman, Preston Hall Gardens, Aylesford, third. For twenty-four dishes of Apples, Mr. Waterman came in first, beating Mr. G. Reynolds of Gunnersbury, by only a few points, the last-named exhibitor's collection being a remarkably good one for the London district.

Mr. Woodward also had the best twenty-four dishes of Pears, beating Mr. Waterman, and Mr. Crasp, Canford Manor; and the best dozen dishes came from Mr. G. Goldsmith, who was followed closely in the prize list by Mr. R. Smith, Kenward, Yalding, and Mr. W. Cottrell, Oxon Heath Gardens, Tunbridge. Mr. Fred. Bridger, Penshurst Place, had the best dozen dishes of Apples, followed by Mr. Goodwin, Smorkswell, Mereworth, and Mr. Thompsett, Hadlow.

Though somewhat on the coarse side, as might have been expected, the display of vegetables was singularly fine. The Veitch Memorial Medal and £5 for a collection of twelve kinds was won by Mr. C. J. Waite, Glenhurst, Esher, in a very keen competition, each of the other competitors being deserving of the highest recognition. Mr. Waite also had the best collection, arranged for effect, a very fine lot. Mr. W. Palmer, Thames Ditton, Mr. Salmon, Elder Road, West Norwood, and Mr. Barney, Boxley Road, Maidstone, secured the other awards in the order named. Messrs. Carter & Co.'s special prizes for a collection of vegetables went to Mr. Wilkins, Inwood House, Mr. Waite, and Mr. Pope, Highclere Castle. Messrs. Sutton & Sons offered special awards for six dishes and three dishes of Potatos respectively. In the former competition the prizes went to Mr. E. Wiles, Edgcote, Mr. Simkins, Shillington, and Mr. W. Pope; and in the latter to Mr. Lye, Sydmonton, Mr. Peckover, Wardington, and Mr. Howard, Canterbury.

Messrs. G. Bunyard & Co. offered special prizes for the best flavoured three dishes of Pears and six of Apples, for which there was a heavy competition in both cases, which made the judging very heavy and difficult. Mr. A. Cooke, Compton Bassett, Calne, was first for the former, and Mr. W. Taylor, Hampton, for the latter.

The Ceanothus.—It may not be generally known that Ceanothus Azureus is largely used as a stock for working others upon. Cuttings of C. azureus strike freely in March and April. They are placed in pots of light sandy soil, and rooted in heat. The cuttings are taken from out-door plants. When rooted they are potted on until they are in 2 in. and 3 in. pots, and they are then fit to sell, in June or July. It is said in the nurseries that the great secret of success with the Ceanothus is to keep the plants growing.

ORCHID NOTES AND GLEANINGS.

Lælia Perrinii alba.

The species is decidedly an autumn and early winter flowering Orchid, but very distinct in its way on account of the peculiar form of the flowers and the arching of some of the segments, which give them an attitude of flying. There are few varieties of it in cultivation, and that under notice is the best, as the flowers are pure white, with exception of a faint purplish tint on the front lobe of the lip. A specimen bearing three flowers was exhibited by Baron Schroder (gardener, Mr. Ballantine), The Dell, Egham, at a meeting of the Royal Horticultural Society, held at Chiswick on the 6th inst., when a First-class Certificate was awarded it.

Cattleya aurea marmorata.

The above was the name under which a sub-variety of Cattleya labiata Dowiana was exhibited at a meeting of the Royal Horticultural Society, held at Chiswick on the 6th inst. The sepals and the much broader petals were rose coloured, the latter having darker veins. The lip, as usual, was the most conspicuous organ of the flower, and had the terminal lobe of a warm amethyst purple, with two very large orange-yellow blotches at the base of the side lobes and at the entrance to the tubular portion. The throat was suffused with purple and striated with orange. It was exhibited by G. O. Sloper, Esq., Highworth, Wilts, and was accorded an Award of Merit.

WHAT TO DO IN THE GARDEN.

Chrysanthemums.—Mildew is playing havoc with the newly-housed plants owing to the dampness of the weather. The disease had commenced while the plants were in the open air, but the shelter afforded has increased the virulence of the malady. All the air possible must be given so as to keep the plants cool, and maintain a circulation of air. Fire heat should be resorted to only in the mornings to dispel damp. Dust the foliage with flour of sulphur to keep the mildew in check.

Vines.—The rods in the earliest house should now be pruned so that the wounds may be quite dried up before the time for forcing commences. In the case of early houses it is more important to prune back to a plump bud than to prune to the basal one for the sake of keeping the rods tidy. Rub off the loose bark with the hand, but never use a knife to peel off the bark as it injures the rods. The latter can then be well scrubbed with a solution of soft soap or Gishurst compound in warm water, mixing with it a wineglassful of paraffin to three gallons of water. Look over the Grapes in late vineries, as the continued wet weather is causing some of the berries to damp off.

Melons.—A night temperature of 65° or 70° will be necessary to ripen Melons during this month, with a corresponding rise by day with artificial heat, and even more with sun heat. As the fruits approach maturity, a high temperature, a dry and airy atmosphere must be added, otherwise they will be deficient in flavour. No syringing will be necessary except on bright days, when it may be given in the morning and afternoon.

Bedding Violas.—Cuttings put in to root in the autumn always make the best stuff for planting out in spring. In the neighbourhood of large towns it is necessary to root Violas in cold frames in order to keep them clean, otherwise the deposits from a smoky atmosphere kills great numbers of them. Those in rural disticts may prepare borders alongside of close fences or garden walls, using a considerable quantity of sand or sandy-loam and leaf soil to encourage roots. Into this when made firm they may be dibbled in close lines. In selecting cuttings give preference to those which arise from the roots, as they succeed best.

Lilium candidum.—Those who intend lifting or transplanting their bulbs should do so before fresh growth commences. The larger and radical leaves are thrown up before the approach of winter, and if left till this takes place serious injury will be done to the roots, and frequently no flower stems are produced the following season.

Strawberry Plantations.—No delay should now be made in completing what fresh plantations the cultivator may still have in view. Roots are now being largely produced, favoured by the mild nature

of the weather and the moist nature of the soil. A mulching of old hot-bed manure would greatly favour the establishment of newly-made plantations. The soil between the rows should occasionally be hoed during dry weather, not merely to keep it clean but to keep it in a loose condition and allow the free passage of surface water and the aerating of the soil during winter.

Celery and Leeks.—Take advantage of dry weather to earth up such things as Celery and Leeks. The early crops may now receive a final earthing up; but late crops may yet be expected to make a considerable amount of growth and should be treated accordingly. Leeks will also attain a considerable size yet provided the weather remains open.

Beetroot.—Being one of the roots most susceptible to injury, great care should be exercised in lifting them not to break any of the leading roots, otherwise they will bleed to the injury of the quality of the vegetable. In cutting off the tops do not in any way injure the crown. Store in moist sand in a dry cool shed or cellar where frost will be all but excluded in severe weather.

Carrots.—The main crop may be lifted and stored in the same way as Beetroot, provided they have ceased growing, a fact which may be determined by the condition of the foliage. The operation should be performed in dry weather so that the roots may come out of the soil clean. The moist sand will then be sufficient to keep them plump, and the convenience of getting at them in winter is great.

Cabbages.—Prepare a piece of ground for planting the main crop of spring Cabbages. The soil should be freely manured, dug, and allowed to settle before planting. The smaller kinds such as Ellam's Early, Veitch's Earliest of All, Wheeler's Imperial, Little Pixie, and others, may be planted at 9 in. apart in the row if the intention is to pull every alternate one for use in the young state.

QUESTIONS AND ANSWERS.

Names of Plants.—*Ferns:* 1, Blechnum occidentale; 2, Asplenium flaccidum; 3, Nephrolepis exaltata; 4, Adiantum formosum; 5, Asplenium bulbiferum. *T. H. B.:* 1, Adiantum macrophyllum; 2 and 5, Adiantum hispidulum; 3, Polypodium Billardieri; 4, Aspidium angulare proliferum; 6, Pteris cretica albo-lineata; 7, Nephrodium Molle; 8, Pteris serrulata; 9, Gymnogramme calomelanos var. *Fife Reader:* Maxillaria grandiflora. *J. Ward:* 1, Achimenes garden var.; 2, Achimenes rosea; 3, Begonia insignis; 4, Begonia Ascotensis; 5, Centranthus ruber; 6, Polygonum affine. *J. Ross:* Campanula pumilla alba. *Constant Reader:* 1, Retinospora plumosa aurea; 2, Thuyopsis dolobrata; 3, Thuya orientalis (there is no colour in the specimen you sent to show that it is the variety T. o. aurea). If the plant is narrow and columnar in habit, then it is the variety T. o. elegantissima; if short, broad and bushy and yellow in spring, then it is T. o. aurea); 4, Abies Nordmanniana; 5, Sequoia gigantea, generally known in gardens as Wellingtonia gigantea. *Gifford:* 1, Passiflora macrocarpa. Cut the fruits when they begin to get yellow, and then treat them like the fruits of a Melon if you want to eat them; 2, Lysimachia vulgaris; 3, Tsuga Albertii probably; 4, Libocedrus, species not recognised; 6, Taxus baccata aurea probably, specimen not in character; 6, Taxus baccata elegantissima; 7, juvenile state of some Pinus, probably P. insignis, but not in character; 8, a seedling of the Norway Spruce, not in character. It is impossible to identify Conifers from such bits. *Allan Cameron:* 1, Cornus sanguinea; 2, not recognised, could you send fruit?; 3, Juniperus chinensis, male plant; 4, Thuyopsis dolobrata; 5, Tradescantia sp.

Names of Fruits.—*H. J. S.:* 1, Pear Durandeau; 2, Cellini; 3, Emperor Alexander; 4, Caroline; *G. J.:* 2, Pine Golden Pippin; 4, Beurré Bachelier; 5, Knight's Monarch; 6, Catillac; 7, Passe Colmar.; 8, Beurré Rance. *M. W.:* Apple, King Pippin. Clapp's Favourite.

Garden Edging.—For neatness and durability nothing can equal for this purpose what is known by geologists as the Elland or Greenmore flagrock, a valuable sandstone strata, which is so extensively quarried in the vicinity of Halifax, Elland and Brighouse in Yorkshire. I would advise "T. H." of Manchester to write Messrs. Marshall & Walker, Elland Edge, near Brighouse, and ask for quotations, thickness, depth, dressed or undressed, etc. The latter are simply the flags uncut, and "T. H." could get his own local mason to cut and finish them off under his own supervision. Thousands of square yards are weekly sent into the provinces from those localities by turnpike, rail, and boat.—*B. L.*

Grubs on Roots of Monochætum, Primulas, &c.—*C. J. W.:* The grubs you sent us are those of some species of Weevil, probably Otiorhynchus picipes or O. tenebricosus, for both are very destructive to garden plants in the larva state by eating the roots, and in the perfect state by eating the young stems and leaves. Their larvæ or grubs, as well as of other species, are very much alike, and we should be pleased to receive some of the perfect weevils which you may no doubt find concealed under stones, clods, in crevices of walls and similar places. Lay down pieces of board, tiles, and other traps, which will serve as a harbour for them. Examine the traps every morning and kill the weevils found. O. picipes is clay coloured, and O. tenebricosus is black, with red legs. Stop up all crevices with cement, and remove all means of concealment possible, with exception of the traps. By these means you will be able to keep them in check. The only way you can get at the grubs is to turn out the plants attacked and repot them, killing the grubs at the same time. The perfect insects lay their eggs about August, and the grubs feed on roots till April, when they pass into the pupa state and hatch out perfect in fourteen days.

Grubs on roots of Auriculas and Begonias.—*Rev. R. W.:* The grubs you sent us are the same as those sent us by C. J. W., and which had been eating the roots of his plants of Monochætum and Primula. For remedies, &c., see answer above.

Fern to Name.—*Rose:* The specimens you sent were those of a species of Nephrodium, not Polypodium; and as several of the Nephrodiums differ merely in size and division but not in structure, would you kindly inform us whether the specimens sent were entire forms or only branches of a frond.

Grubs Killing Scotch Fir, &c.—*L.:* There are numerous weevils and other beetles which attack the Scotch Fir and other Conifers at various ages. A large number of them attack the bark either externally or burrow into it both in the larva and perfect state. Judging from the behaviour of the grubs in eating the roots not only of the Scotch Fir but also those of Cabbages on the same ground the following year, we should doubt whether it be any of the Conifer beetles at all. The grubs or larvæ you sent look like young specimens of the common Cockchafer or May Bug (Melolontha vulgaris). If so they will get three or four times their present size before spring, and continue doing damage up to that time. To get rid of them you should encourage rooks and starlings on the ground, or keep some tame gulls or even poultry on the ground during the winter months. Another method is to dig up the ground in winter, thus exposing the grubs to rooks and starlings, while a large number of them could of course be collected in the process of digging. Another and more wholesale method would be to give the ground a good coating of fresh gas lime, forking it in lightly. Of course the ground must not be planted with anything for at least a month or six weeks afterwards, till the chemical changes which which take place in the gas lime render it harmless to plant life. It will kill a large proportion of the grubs, and afterwards act as a fertiliser of the soil.

Suckers on Peach Trees.—*J. Ward:* The suckers are developed on the roots of the stock upon which your Peach trees are grafted, probably one of the several varieties of Plum. The suckers might be pulled up if you could make certain of getting them clean away Many of them break, however, in the operation, and a better plan would be to remove the soil carefully where the suckers are growing so as to uncover the roots from whence they spring. They might then be pulled away with the heel by which they are attached to the roots, so as to make sure of removing all the buds which may be clustering at their base. If this should endanger the roots on account of the size or strength of the suckers, you might cut them away as close to the roots as possible with a sharp knife. The presence of suckers is certainly no advantage to the tree, and still less to the production of fruit; for while the roots are supporting suckers, the rest of the tree is being starved. The removal of suckers should be as closely attended to as disbudding, and that too before they get to any size.

Communications Received.—A. B.—J. D.—G. M.—R. G. W.—H. G., Berwick-on-Tweed (we shall be happy to insert your note when it is authenticated with your name and address)—J. A.—W. B. G.—J. R., and A. L. (next week).—Sir C. I.

TRADE CATALOGUES RECEIVED.

E. H. Krelage & Son, Haarlem, Holland.—Descriptive List of "Darwin" Tulips.

Charles Toope & Son, Stepney Square, Stepney Green, E.—Hot-water Heating Apparatus, Fog Annihilator, &c.

Fred. W. Kelsey, 145, Broadway, New York.—Choice Trees, Shrubs, and Hardy Plants.

J. Cheal & Sons, Lowfield Nursery, Crawley, Sussex.—Trees and Shrubs, Fruit Trees, &c.

Dammann & Co, San Giovanni a Teduccio, near Naples.—Wholesale price list of Flower and Vegetable Seeds.

LONDON SEED TRADE.

October 12th, 1891.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report little business doing in Trifolium, Tares or Rye. White Clover in Germany is higher owing to Hamburg merchants speculating. Other varieties of Clover seed unchanged. Ryegrasses steady.

COVENT GARDEN MARKET.

October 14th.

Fruit:—Average Wholesale Prices

	s. d.	s. d.		s. d.	s. d.
Apples... per ½-sieve	1 0	3 0	Pine apples.		
Cobbs... per 100 lbs.	35 0		—St. Michael's, each	2 6	5 0
Grapes .....per lb.	0 6	1 6	Peaches .....per doz.	1 0	6 0

Vegetables.—Average Retail Prices.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Beans, French, per lb.	0 4		Lettuces ...per dozen	1 0	1 6
Beet..... per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages ... per doz.	1 6	2 6	Onions.....per bundle	0 4	0 6
Carrots ... per bundle	0 6		Parsley ... per bundle	0 6	
Cauliflowers, English, per doz.	3 0	6 0	Radishes... per dozen	1 6	
Celery.....per bundle	2 6		Small salading, punnet	0 4	
Cucumbers .....each	0 6	0 9	Spinach, per strike ...	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	1 0
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Aralia Sieboldi ...doz.	6 0	12 0	Ferns, invar..per doz.	4 0	18 0
Bouvardias...per doz.	8 0	12 0	Foliage Plants, doz.	12 0	60 0
Chrysanthemums, doz	6 0	12 0	Heliotrope, per doz.	4 0	6 0
— large .....per doz.	12 0	24 0	Lilums, various, doz.	12 0	30 0
Coleus.....per doz.	3 0	6 0	Marguerites, per doz.	6 0	12 0
Cyperus .....per doz.	4 0	12 0	Mignonette, per doz.	4 0	6 0
Dracæna term., doz.	24 0	36 0	Palms in variety, each	2 6	21 0
Dracænaviridis, doz.	9 0	18 0	Pelargoniums ... doz.	6 0	9 0
Evergreens, invar. doz	6 0	24 0	—scarlet .....per doz.	2 0	4 0

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blms.	3 0	5 0	Maidenhair Fern, 12 bs.	4 0	9 0
Asters, doz. bunches	4 0	6 0	Marguerites, 12 bun.	1 6	4 0
— French ,, ,,	9 0	12 0	Mignonette... 12 bun.	1 6	3 0
Bouvardias, per bun.	0 6	1 0	Myosotis..doz. bchs.	2 0	4 0
Carnations, 12 blooms	1 0	2 0	Parme Violets, French, per bun.	1 6	2 6
— per dozen bunches	4 0	6 0	Dark ,, ,, ,,	1 0	2 0
Chrysanthemums, doz. blooms	0 9	3 0	Pelargoniums, 12 sps.	0 4	0 9
Chrysanthemums, doz. bunches	4 0	12 0	— scarlet ... 12 sprays	4 0	6 0
Dahlia, doz. bunches	2 0	4 0	Primula, double, bun.	0 6	1 0
Eucharis ...per doz.	2 0	4 0	Pyrethrum, doz. bchs.	2 0	4 0
Gardenias 12 blooms	1 6	4 0	Roses, yellow, dozen	2 0	4 0
Gaillardia, doz. bun.	2 0	4 0	— mixed... doz. bchs.	1 6	4 0
Heliotropes, 12 sprays	0 3	0 6	— Red..... doz. bchs.	2 0	6 0
Lapageria, 12 blooms	1 0	3 0	— Saffrano...per doz.	0 6	1 0
Lilac, French, per bunch	5 0	7 0	— Tea ..... per dozen	1 0	3 0
Lilium Harrisii, doz. blooms	3 0	6 0	Stephanotis, dz. sprs.	2 0	4 0
Liliums var., doz. blms.	1 0	2 0	Sweet Peas, doz. bhs.	1 6	3 0
			Tuberoses, per doz.	0 3	0 6
			Violets, English per bunch	1 6	2 0

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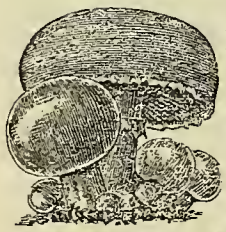

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PROPOSED INTERNATIONAL FRUIT SHOW IN LONDON IN 1892.

HORTICULTURISTS and OTHERS interested in the proposal to hold a GREAT INTERNATIONAL FRUIT SHOW in London, in the Autumn of next year, are cordially invited to attend a PUBLIC MEETING at the CANNON STREET HOTEL, E.C., on FRIDAY, OCTOBER 30th.
The Chair will be taken at 3 p.m., by ALDERMAN SIR JAMES WHITEHEAD.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Oct 26th.—Sale of Nursery Stock at Messrs. Isaac Matthews & Son's Nursery, Milton, Stoke-upon-Trent. Sale at Thomson's Nursery, Wimbledon. Bulb Sales at Protheroe & Morris' and Stevens' Rooms.

TUESDAY, Oct. 27.—Royal Horticultural Society, Meeting of Fruit and Floral Committees at 12 o'clock. Bulb Sale at Protheroe & Morris' Rooms.

WEDNESDAY, Oct. 28.—Sale of Orchids at Messrs. Seeger & Tropp's, East Dulwich. Bulb Sales at Protheroe & Morris' and Stevens' Rooms.

THURSDAY, Oct. 29.—Bulb Sale at Protheroe & Morris' and Stevens' Rooms.

FRIDAY, Oct. 30.—Meeting of Horticulturists at the Cannon Street Hotel at 3 p.m., re proposed International Fruit Show. Orchid Sale at Protheroe & Morris' Rooms.

SATURDAY, Oct. 31.—Bulb Sales at Protheroe & Morris' and Stevens' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, OCTOBER 24th, 1891.

THE POTATO DISEASE AND THE BORDEAUX MIXTURE.—We have heard the virtues of the *Bouillie Bordelaise* praised so much of late, that it was with very special pleasure we accepted an invitation from the eminent Reading Seed firm, Messrs. Sutton & Sons, to visit their trial grounds and see what had been the effect of a trial of this "fungicide" upon their extensive Potato plots. Whenever the Messrs. Sutton undertake to do anything, they always do it well, and on the occasion of our visit last week, we found ourselves in company with some forty representatives of the Press, not only most hospitably entertained, but thoughtfully provided with covered conveyances and other comforts on that cold and cheerless afternoon that one could not fail to appreciate.

The actual results of the Messrs. Suttons interesting and instructive, as well as absolutely impartial, trial of the French Mixture, we give more fully in another

column. Here, it is but fair to the firm to say, that although they took so much trouble and incurred so great an outlay, that the results of the experiments might be thoroughly well displayed to the visitors, teey have no interest in the Mixture, and only took up its application at the urgent request of the Agricultural Department of the Government made last spring. A broader, better, and more conclusive trial of the Mixture could hardly have been made anywhere, and yet in a sense one less conclusive. We say this advisedly, because after the closest scrutiny of the tables of results so admirably prepared by the Messrs. Sutton, and of the products as presented to us in the field, it was impossible for any one to determine whether the Mixture was any good or not.

In some cases the products were dead against its application, in others in its favour; but its effects on the stronger growers and chief croppers were sometimes infinitessimal and often harmful. Whilst we cordially thank the firm for their public spirit, we regret that their efforts to ascertain the value or otherwise of this assumed Potato Disease Destructor should have ended in the conclusion that it was next to worthless.

New Varieties of Potatos.—It has often been said that we have already too many Potatos. No fact, has, however, during the last ten years been made more evident than this, that our present great wealth of sound eating tubers is more due to the regular production of robust, disease resisting varieties, than to disease palliatives or any other cause. But we still have numerous good varieties which do take the disease much too freely, and it is desirable that all of these should if possible be eliminated from our gardens.

We shall, perhaps, never get a race of first early varieties which will have full disease resisting powers such as is the great characteristic of Magnum Bonum and many of its progeny. Still they are well worth trying for. Still further should we seek to maintain and extend our existing disease resisting sorts, and that can only be done by continuing to raise varieties which are robust and hardy. A few days since we saw lying on the ground, soon after being dug, at the Messrs. Sutton's trial ground, some 300 seedling varieties, the bulk of them so good that the work of selecting the very best must be one of exceeding difficulty, and can only be satisfactorily accomplished after some four or five years of patient trial in several different places.

The last thing in the world to pay perhaps is raising and testing seedling Potatos, therefore some credit is due to those who, like Messrs. Sutton, perform this work so well and bear all burthens. From those 300 seedling varieties—which includes a direct cross between Solanum Maglia and a cultivated variety—will come some half dozen specially selected sorts which may make a name in Potato history. Possibly many other seed firms or raisers are doing the same thing, so that with so much of public spirit abounding, we have no fear that our Potatos will wear out, but on the contrary rather look for further development of the most satisfactory kind.

October Chrysanthemums.—The collections of Chrysanthemum blooms exhibited last week, before the Floral Committee of the National Chrysanthemum Society at the Westminster Aquarium, showed very conclusively that a race of October varieties is fast being produced, and that these will equal in size and quality the best flowers produced in November. That the National Society will soon have to consider the holding of a special October Exhibition is evident. We see the early autumn blooms well represented in September, and do not wish to have them in any way depreciated. Their value every year becomes more and more apparent.

That this early blooming section will ever equal in size the best late sorts is improbable, but so far as October is concerned, we practically find a race of the winter blooming section, yet some few weeks earlier. To have their best blooms we must take them early, as late ones only result in the production of inferior flowers. Should the Exhibitions of the Royal Aquarium Company be continued through future years, nothing could be easier than for the National Society to devote a portion of its income to the encouragement of October flowers. That would be better than establishing a special show at the finish, but all who comprehend the real nature of the future of the Chrysanthemum must recognise the fact that in a few years we shall have scores of fine October bloomers in commerce, mostly Japanese of course, but none the worse for that.

After all we think Chrysanthemums are much more attractive and beautiful in October than in December. In the former case we see the finest and freshest flowers; in the latter we have to be content with the tailings. Clearly an October show of Chrysanthemums will soon have to be established.

Mr. Alfred Dickson.—We are glad to hear that Mr. Alfred Dickson, of Chester, whose illness has evoked general sympathy and concern, is a little stronger; but his condition still gives rise to great anxiety.

Proposed International Fruit Show in London.—We are requested to announce that a public meeting, which all horticulturists are invited to attend, will be held at the Cannon Street Hotel, on Friday, October 30th, at 3 p.m., to consider the desirability of holding a great International Fruit Show in London, in the autumn of next year. The chair will be taken by Alderman Sir James Whitehead.

Mr. Thomas Williams, for the last five years gardener to the Honble. G. T. Kenyon, M.P., Llanerch pauna, Ellesmere, has been engaged as gardener to W. F. Gordon, Esq., St. Chads, Lichfield.

The Cirencester Chrysanthemum Society has issued a capital schedule for its first exhibition, which is announced to be held on November 11th and 12th. There are a few open classes, but the majority are confined to a ten mile radius of Cirencester.

An American Agave in flower.—We learn from a Yorkshire correspondent that there is now in bloom a fine specimen of the variegated American Agave in the gardens at Heslington Hall, the seat of the Hon. R. Bateson Yarborough. The roof of the conservatory has had to be made higher to accommodate it, the great spike having attained the height of 19 ft. There are some twenty side growths carrying large bunches of its greenish-yellow flowers, which number about 1,500 in all. It has a fine, majestic appearance.

Bignonia radicans grandiflora.—In some nurseries there is a great demand for this plant. We were in one a short time since where some one thousand plants are propagated yearly, and a considerable number more could be disposed of could they be obtained. It is propagated by eyes in the same way as vines, and one year ripened wood furnishes capital eyes for propagating purposes. They are placed in bottom heat and soon break into growth. and when only 12 in. to 15 in. in height they set for blossom. The plants are generally sold in pots after they have had one shift, and become well established. This climber is nearly hardy, and well deserves a place in every greenhouse.

Royal Horticultural Society.—The next meeting of the Fruit, Floral and Orchid Committees will be held in the Drill Hall, on Tuesday, October 27th, when there will be the usual display of new and rare plants, &c., besides which special prizes are offered in the Schedule for cooking and dessert Apples and Pears, as well as for varieties of Grapes. Intending competitors should at once communicate as to the nature of their exhibits with Mr. Barron, Superintendent R.H.S. Gardens, Chiswick. In the afternoon at three o'clock Mr. Harry J. Veitch will read a paper on "Autumn Tints," and specimens of trees, shrubs, or other plants indicating the season will be welcome as illustrations.

New Market for Kew.—For some years past it has been obvious that a market place for the sale of fruits, flowers and vegetables, was necessary in the neighbourhood of Kew Bridge. Tuesday, Thursday and Saturday are the market mornings for Covent Garden, and on those occasions not a vehicle with market produce would be seen in the vicinity of Kew Bridge; but on the other three week days the large available area of the roadway is simply crowded with carts, vans and vehicles of all descriptions loaded with market produce. To meet this public demand the committee of the Brentford Local Board, ever since June, 1890, have been assiduously engaged in negotiating with the Messrs. de Rothschild, who own the land at Kew Bridge, to purchase a portion for establishing a market opposite Stile Hall. Until recently no satisfactory arrangement had been possible, owing to the conditions imposed by the vendors to safeguard their own interests, and who had no desire to sell the land. Those conditions having at last been withdrawn, with the sole object of benefiting the surrounding district, a piece of land, close upon 2¾ acres, had been purchased for the sum of £3,359 7s. 6d. Upon this piece of ground therefore a public market will be established, with suitable shops, stalls, &c.—the only condition imposed being that the market shall so be conducted as not to become a nuisance to the vendors or their adjoining property.

Late Raspberries.—It is seldom we hear of beneficial effects to plants or their owners through the results of frost. Something of that nature has, however, happened at Milgate Park Gardens, Maidstone, where the Raspberry canes were killed by frost last winter. Mr. C. Marchant, the gardener, sent us some fruiting sprays the other day bearing perfectly ripe fruits of moderate size, but in good condition. There is, of course, nothing absolutely new in the production of Raspberries in October, but it is another illustration besides that systematically practised by gardeners, of how they may be obtained. Gardeners cut down the canes within a foot of the ground in spring, and the shoots produced ripen and then push the flower buds, which would otherwise have remained dormant, during the winter. The canes in the case under notice were cut down by frost, and the after results were similar to that artificially produced.

The French Horticultural Society of London.—About three years ago a society was founded, under the above title, for the benefit of French and other continental gardeners in London. The first bulletin of the Society, for 1889 and 1890, is now before us in French, and from it we learn the objects of the Institution. We may compare the same to a mutual improvement association as understood amongst us, seeing that the members meet at 27, Gerrard Street, W.C., on fixed dates, to increase their knowledge by reciprocal communications on technical subjects by the reading and discussion of papers, &c. But the Society does more, in assisting young gardeners who come over to England to increase their knowledge on horticultural subjects, by finding temporary situations as far as possible for them, and also to procure for English gardeners similar situations in French nurseries. Another object is to furnish to its members, as well as to horticultural societies corresponding with them, all information they want upon horticultural topics in England. A fourth object is to affirm and increase, by more and more frequent reports, the excellent relations already existing in the horticultural world both in France and in England. The Society, further, includes four classes of members, namely, honorary, honorary life, titulary, and corresponding. Amongst other papers which have been read at the meetings we notice Hybridisation and fertilisation of Ferns, Culture of Freesias, Report upon the Nepenthes, Hippiastrums: their hybridisation and fertilisation, Nitrogen, Stove Aquatics, &c.

Fruit Notes.

Mrs. Pince's Black Muscat Grape.

Allow me to enter a protest against the opprobrious observations periodically levelled at Mrs. Pince's Black Muscat Grape by a writer in one of your contemporaries. The said writer may be, and I believe is, sincere in all he says on this subject—but it was sincere bigotry of this type that declared that the earth was flat. Apparently no allowance is made for the fact that there are gardeners and gardeners; and, to quote the contents in the abstract of a note from my friend Dr. Woodman, "It is too bad for those who fail to succeed with Mrs. Pince's Black Muscat, to run it down. We know it to be a heavy cropper, and a sort that will keep longer than others; moreover it is a Grape that has such a flavour and consistency that it is *worth eating*, which cannot be said of some of the late sorts."

Most folks know that this high-class variety is an English raised Grape, for about a year ago I wrote its history (*vide* Gardening World, vol. vii., p. 36), which I will sum up briefly:—In 1859 a bunch of the old Muscatel was given to Mr. Pince by the gardener at Pitt, Chudleigh, and two stones or seeds were found in the fruit by Mrs. Pince, which were perfectly round, and different from the others. These were sown at the Exeter Nursery, and from them sprang a white Grape and a black Grape, the latter being the one under notice, and to which was awarded a First-class Certificate by the Fruit Committee at South Kensington in 1863. The mother plant was therefore the old Muscatel which grew in the vinery at Pitt, between a Black Prince and a Black Frontignan. It was naturally fertilized, and probably by the pollen of the Black Prince, as the bunches of Mrs Pince's Black Muscat have a striking resemblance to those of that kind, the most perfect coming from the older vines — a circumstance which, perhaps, explains away the sport theory, now set afloat by Mr. Igulden; at any rate of the existence of a sport I never heard before, and it appears rather problematical, because Mrs. Pince's Black Muscat is not in need of any improvement. It is simply a matter of correct cultivation.

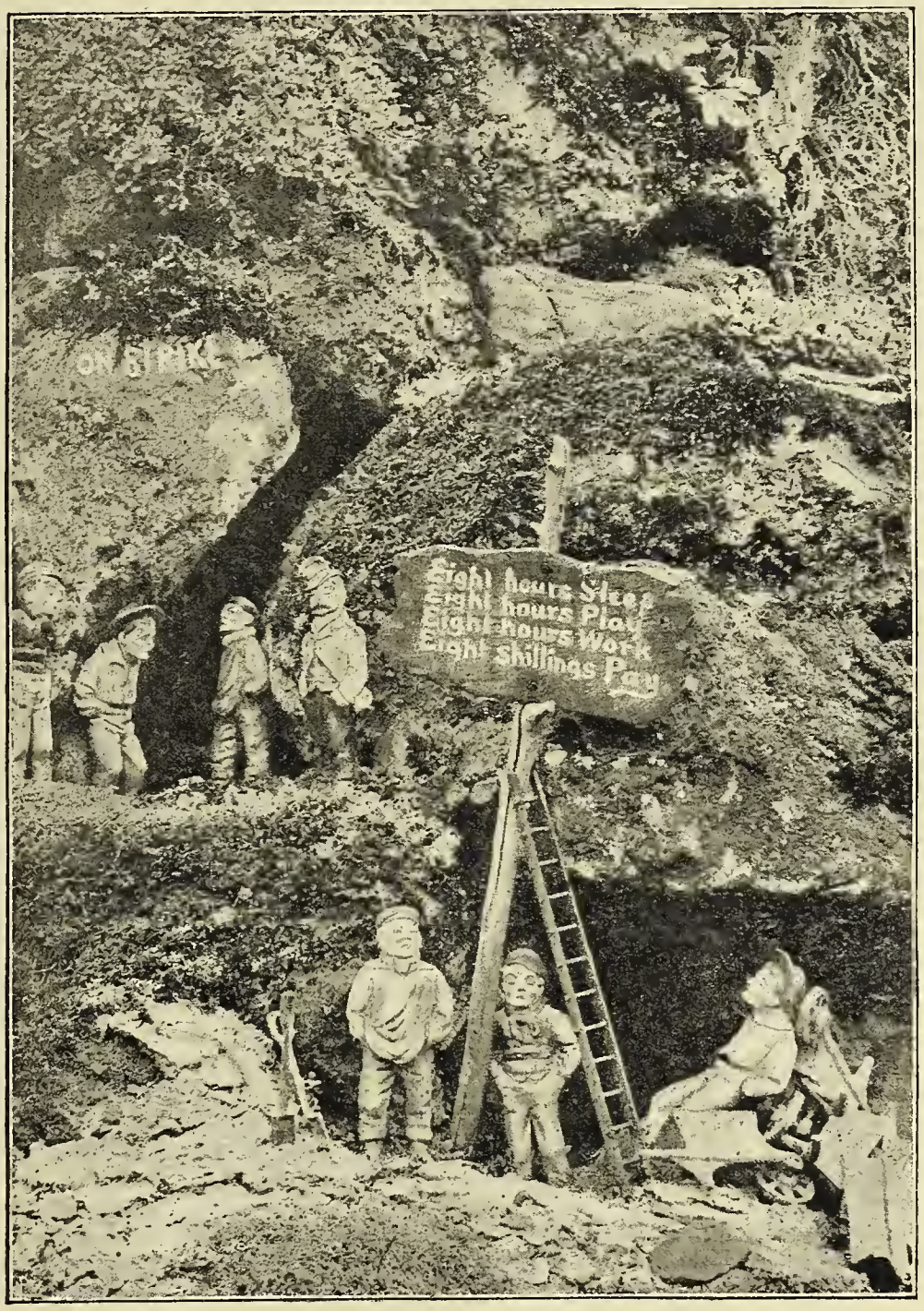
There are many gardeners who grow Mrs. Pince's Black Muscat successfully, and all the leading nurserymen throughout the land still offer it, so how can it be said that it is fast going out of cultivation? On the contrary, my belief is, now that its culture is freely ventilated, there will be more successful growers than heretofore.

The best results are obtainable when the treatment is similar to that usually given to the Muscat of Alexandria, and I have seen splendid work when a whole house or compartment has been given up entirely to Mrs. Pince. Artificial fecundation is also necessary, limiting the number of bunches and berries, and these, if ripened by October, will keep from damp or shrivelling for several months.

Last season the veteran gardener at Eridge Castle, kindly gave his views and experience of Mrs. Pince in most eulogistic terms, saying that he had just tested its flavour against all the kinds grown at Eridge, and the ladies preferred Mrs. Pince. He recommends heat at setting time, and that the shoots should be allowed to run more freely than is usual. He condemns overcropping, considering this the cause of failure in colouring. And no doubt he is right. He further remarks that Lady Downes was growing in the same house, but his intention was to fill the whole house with Mrs. Pince. *I can pause here.—W. Napper, Chelsea.*

Yellow Tomatos.

In the past history of Tomato culture, the red varieties have undoubtedly been more extensively grown than the yellow ones. Now, however, that the latter are considered by some to have superior dessert qualities, there is a likelihood of these coming to the front for that purpose. So far as appearance is concerned, a mixture of the two varieties is very effective when set up on a dish, or in contrast to each other separately. Our first trial of yellow Tomatos was made this year, the variety grown being Sutton's Golden Queen. The plants were restricted to pot culture, and only moderately rich soil used in growing them. When the fruits began to swell, I applied a slight mixture of Thomson's Vine and Plant Manure to the soil, and with the usual routine management the result has been a grand crop of fruit, of good size and highly spoken of for their quality, which was thought superior to Red Perfection of the same raisers.—*D. M., Ayrshire.*



The Rockery at Lamport Hall.—The Quarrymen on Strike!
(*See page* 116.)

Dahlias.—There is no necessity for lifting the roots until frost blackens the stems and destroys the flowers, but all should be in readines for getting them into safe quarters whenever that event happens. Should the autumn remain open many kinds would remain gay till the end of the month.

WHAT IS A HARDY PERENNIAL?

This question has often been asked and answered in various ways, but it is evident, by the action of the judges at the recent meeting of the Royal Horticultural Society at Chiswick, that we are yet a long way from an unanimous decision upon the point. Botanically, a perennial is described as a plant of more than two years' duration. This would, of course, include trees and shrubs as well as herbaceous plants. One exhibitor was disqualified for having a bunch of Lilium auratum in his stand, and another (the chairman of the Floral Committee, of all men) for having a bunch of flowers of Colchicum variegatum, both plants being strictly herbaceous, perennial, and hardy. On the labels attached to the plants in question, a statement was made that they were "not hardy perennials in a garden sense." A bunch of Pentstemons in a third exhibit was passed over without any comment. Now, every gardener knows that Pentstemons are very far from being hardy even in the south of England, that is, when we refer to the garden varieties of P. Hartwegi (P. gentianoides), which are more tender than the unimproved wild form. What a hardy perennial might be "in a garden sense" has never been properly defined, and until that is done and practised by some authoritative body, mistakes will continue to be made by the smaller local societies. Individual opinion differs greatly upon the point, and different societies look upon the matter in very different lights. Naturally enough they look to the larger and more authoritative societies for guidance in cases of this kind, and the matter should certainly be settled upon a broad basis. There is no general understanding amongst gardeners even in this country as to what should or should not be considered a hardy perennial, consequently such a definition as "hardy perennials in the garden sense" falls to the ground.

Some gardeners would, and do actually include shrubs amongst hardy perennials, and when a schedule is so worded they are perfectly correct in doing so, whether the plants are herbaceous or shrubby. Judges should also stand by the wording of the schedule, whether the exhibits correspond with what they expected or not. An old judge recently read the rule very plainly when he said that everything which is not actually forbidden by the schedule, should be admitted in an exhibit. If the words "hardy perennials" are used, the definition is so wide that anything excepting annuals and biennials should pass muster as long as the subjects are hardy. The word hardy can only apply to given districts for certain plants, because the hardiness of different subjects is only a thing of degrees, and many things which are perfectly hardy in Cornwall or Kent, might not be so in Northumberland or Inverness.

Then again, if the framers of schedules use such a wide definition as "hardy perennials," and wish at the same time to limit its application to a narrow but undefined group or class of plants, a great deal of circumlocution must be used in the wording of the schedule which might well be avoided. On the

other hand, when certain things are left to be understood by the general public, there is always a certain amount of vagueness about what is really meant, and disappointed exhibitors are to be commiserated rather than blamed if they express their dissatisfaction openly at such a state of matters. The terms "hardy herbaceous perennials, exclusive of bulbous and tuberous plants," would confine the selection within sufficiently narrow limits. Even then the subjects included would differ widely in habit, appearance and value, but that is always a matter to be legitimately left to the discretion of the judges, and the good sense of the exhibitors, who are always keenly alive to the importance of showing the most effective and ornamental kinds.—*F.*

THE ORCHID NURSERY, EAST DULWICH.

We occasionally hear of large pieces of Cattleyas which get imported to this country on the tree stems which bore them in their native wilds, but they rarely arrive in good condition. A huge piece of Cattleya Mossiæ has, however, been imported by Messrs. Seeger & Tropp, Lordship Lane, East Dulwich, in such fine condition as to give one the impression that it had been in this country for some months, whereas it had only arrived about fourteen days when we saw it last week. The piece consists at least of two plants, one having dark, and the other white flowers, the latter being probably the variety, C. M. Reineckeana, and the former C. M. imperalis. The portion of the tree bearing it consists of three large forks with twenty-five secondary divisions, and all are held together by the interlacing roots of the Cattleya, which are still in fine condition. The logs and the Cattleya together now weigh 1,300 pounds, the wood having dried considerably on the journey home, and the whole measures nearly five yards in circumference. There is every prospect of the piece succeeding as it did in its native wilds or even better.

On the central staging of the house and surrounding the main feature are flowering pieces of other Orchids, including some pretty forms of Oncidium crispum and O. prætextum, the shining brown and yellow colours of which are distinct and well defined. O. ornithorhynchium, a quaint old species, is also in season. Amongst Miltonias we noted M. candida and M. spectabilis Moreliana, and nestling amongst them a piece of the rare, curious and beautiful Phalænopsis Lowii. The marked spotting and the pale purple lip of Epidendrum prismatocarpum render it highly ornamental, especially when compared with the curious Iris-like E. equitans. The brush of white hairs on the lip of Dendrobium bigibbum, gives the species a characteristic appearance. The beautiful soft colours of Cattleya Loddigesii should induce growers to cultivate it on a more extensive scale than has yet been done. A huge piece of Cœlogyne Massangeana in bloom would make a fine specimen to suspend in some prominent position over the pathway of a house. At one end of the same building and on a broad shelf near the glass, is a fine bank of Vandas grown cool, yet in robust health with leaves down to the pots. Some plants of V. tricolor were in bloom close by. Amongst Cypripediums here we noted a rich dark form of C. Harrisianum, and another of C. H. vivicans with paler flowers.

In another house close by are some healthy pieces of Oncidium pumilum which a few years ago was considered rare. It is a pet plant for growing in small pots placed in prominent positions under the eye. Near it is a fine importation of Odontoglossum hastilabium, to be sold at Messrs. Seeger & Tropp's sale on the 28th inst. The pseudobulbs measure 5 in. to 7 in. in length and 1½ in. to 3 in. across near the base. There are several pieces of the rare Vanda Stangeana in the same house, one huge piece consisting of fourteen shoots or branches. Several of the numerous hybrid Cypripediums are in flower, including C. porphyreum, C. calurum, C. Kerchoveanum and others. The last named is a neat and charming hybrid between C. Spicerianum and C. Dauthieri, marked with dark purple on the base and midrib of the upper sepal on a white ground and beautifully spotted petals. Several of the choicest species of Anœctochilus may also be seen. Angræcum pellucidum has nine racemes 6 in. to 14 in. long, of uniform pale buff and almost pellucid flowers which in the aggregate are certainly pretty. The plant has ample foliage, and is suspended so as to show off the flowers to the best advantage.

The Masdevallia house is a *multum in parvo* in itself, the collection of Masdevallias being very extensive, with various allied genera such as Stelis, Pleurothallis and Restrepia. The curious little M. ochthodes is never out of bloom, and the singular M. gibberosa is hardly less continuous; the flowers of both are resupinate, or turned upside down. More attractive to most cultivators are M. chimæra Backhouseana, with richly spotted flowers densely covered with long, pale yellow hairs, and M. Backhouseana bella with smaller flowers, shorter hairs and a different lip. The fiery crimson flowers flushed with violet of M. amabilis are always interesting, and contrast strongly with those of M. maculata, having long, narrow, yellow sepals, the lateral ones being suffused with purple at the base. M. erythrochæte is of the same type as M. chimæra, but has smaller and more numerous flowers differing considerably in detail. Interesting is the pretty yellow flowered M. myriostigma marked with numerous minute brown spots. The collection could not be complete without some of the windowed Masdevallias, such as M. Dayana, M. fenestralis and others of that type, which botanists now relegate to a different genus, namely, Cryptophoranthus. Several of those species may be seen here. There are also numerous unflowered pieces which have not yet been determined as to what they are, and all look healthy and happy.

NEW & RARE PLANTS.

The plants and flowers mentioned below were exhibited at the Royal Aquarium on the 14th inst., on the occasion of the Autumn Fruit Show. The Chrysanthemums were shown at a meeting of the Floral Committee of the National Chrysanthemum Society. A First-class Certificate was awarded in each case.

Begonia Laing's Picotee.—The flowers of this tuberous variety are of large size, perfectly double, and the sepals are all arranged round a single centre. The ground colour of the broad, flat sepals is white suffused with a soft salmony pink, deepening towards the edge which is of a warm rose, and the flower as a whole is not inaptly compared to a Picotee. The edges are slightly crisped. The leaves are of medium size and deep green. The variety is a very choice one.

Begonia Mrs. R. Dean.—The leaves and habit of this plant is similar to that of the last named, and the flowers are also similar in form and the arrangement of the sepals round a single centre, but the latter are more decidedly wavy at the margin and the colour altogether different. The sepals are of a deep salmon-rose, flushed with scarlet. Double flowers having one centre only show a great improvement upon the old densely crowded types, often made up of several centres. Both were shown by Messrs. J. Laing & Sons, Forest Hill.

Shortia galacifolia.—This North American plant is beautiful not only when in bloom in spring, but also in autumn when the leathery, heart-shaped, crenate leaves assume a deep bronzy red tint. The award was evidently made for this reason alone. Mr. M. Pritchard, Southbourne, Christchurch, Hants, was the exhibitor.

Chrysanthemum Vouve Cliquot.—The flowers of this variety are of a good average size for a Pompon, and of an orange-buff when they first expand, but fade ultimately almost to a clear yellow. Flowers which change in this way last a long time in perfect condition. The florets are slightly recurved. It was exhibited by Mr. R. Owen, Maidenhead, and also by Mr. Norman Davis, Lilford Nursery, Camberwell.

Chrysanthemum Souvenir de Louis Ferie.—In this we have another Pompon of good average size, with compactly arranged orange-amber florets, tipped with yellow and fimbriated. It was exhibited by Mr. Norman Davis.

Chrysanthemum Bouquet des Dames.—The heads of this Japanese variety are of a large size, very deep, dense, quite full to the centre and pure white. The florets are recurved and flat except at the tip which is concave after the style of Criterion and others. Some fine heads were shown by Mr. Peter Blair, gardener to the Duke of Sutherland, Trentham, Stoke-upon-Trent.

Chrysanthemum Wm. Tricker.—The florets of this Japanese sort are recurved, and variously interlaced amongst one another, deep purple at the base, and lilac towards the tips suffused with white. The head as a whole is also large and quite full in the centre. Some blooms of it were shown by Mr. E. Rowbottom, gardener to H. R. Williams, Esq., The Priory, Hornsey.

Chrysanthemum Mrs. E. Beckett.—The florets in this case are recurved, more or less twisted, pure white and often lobed at the apex. The heads are also of large size and suitable for exhibition purposes.

Chrysanthemum Edwin Beckett.—Like the last this is a Japanese variety, with deep golden-yellow flower heads similar to those of Sunflower, but of greater depth. The variety is also said to have the habit of Avalanche. The centre is quite full and the florets are sometimes a little interlaced. Both this and the last named were seedlings raised by Mr. Norman Davis, and exhibited by Mr. Beckett, Elstree, Herts, who had them on trial.

Chrysanthemum Mons. R. Bahuant.—For some time past this new incurved sort has been looked upon as a variety of some promise, and now that it has been flowered in good form, it seems to justify all expectations. The heads are of large size with very broad florets of a deep carmine on the upper surface, and cerise on the reverse; of course only the latter surface is seen when in proper form. A little more dressing would have improved it greatly from a florist's point of view. Some blooms were exhibited by Mr. H. Shoesmith, Shirley, Croydon.

CHRYSANTHEMUM NOTES.

In the early part of this season the Chrysanthemums at Devonhurst, Chiswick, bade fair to be dwarfer than usual, but with the accession of longer nights and mild damp weather the stems ran up to their accustomed height. The flower heads are even larger than on several previous occasions, but what they may ultimately be remains to be seen, for as might be expected only the earlier flowering of the Japanese kinds are yet in bloom. Etoile de Lyon maintains its reputation for size, and already the heads measure 10 ins. across; some are light, and others dark, even on the same plant. Similar to this, but paler and scarcely so fine, is Condor. Amongst the newer kinds W. H. Lincoln, a bright yellow Japanese sort, bids fair to be a healthy and vigorous grower, although dwarf. The stature of a new kind named C. B. Green, and said to be an incurved form of Cullingfordi, is notably low, and less than that of the parent. Mrs. Alpheus Hardy gives promise of returning vigour after the severe propagation to which it had been subjected when first introduced. The bronzy-yellow of Mrs. F. Jamieson is bright and attractive but always totally distinct from Mr. Garnar, which is of a bright golden yellow at first, changing to a bronzy-buff as it gets old.

The heads of Volunteer are only about half expanded, but give promise of being fine presently. The quilled florets are pale pinkish-purple shaded with white. Mons. Bernard is a purplish-red as in Stanstead Surprise, but neither of them are so attractive in our opinion as Stanstead White, also doing well here. Avalanche maintains its superiority, while other white varieties are represented by Lady Lawrence, the charming Florence Piercy, and the old favourite Mademoiselle Lacroix. A soft bronzy-yellow flower is Criterion, to which the newer Madame Rosaine may be compared as to shape. The latter has very deep and full heads of a clear soft yellow, and darker in the centre. Grand Turk is a beautiful rose-coloured variety, with a silvery reverse. A large and free flowering sort is Paul du Tour, with soft, pink flower heads. Something in the way of William Holmes is William Stevens, which is of dwarf habit, with medium sized heads, and crimson florets tipped with gold. Maiden's Blush and Amy Furze are still popular amongst the reflexed Japanese varieties.

It is yet premature to say much of the incurved kinds, as the bulk of them were still in bud when we saw them, with exception of a few of the smaller flowered kinds, such as Wm. Bunn and H. Shoesmith, a dark bronze spot from Golden Beverley. John Doughty, a deep pink sport from Bronze Queen, is swelling into form, and promises to be fine. Lady Dorothy and Charles Gibson have also been added to the collection, notwithstanding the fact that they are closely allied sports from Hero of Stoke Newington.

BOUILLIE BORDELAISE AND THE POTATO DISEASE.

In former issues we have given the result of experiments carried on both in this country and on the continent, with the mixture of sulphate of copper and lime known as Bouillie Bordelaise, which for some time past has been receiving a considerable amount of attention as a remedy or preventive for the Potato disease (Phytophthora infestans). The experiments on the continent have furnished results so satisfactory that the French Government has advocated the general adoption of the fungicide by the growers of that country. Messrs. R. Veitch & Son, Exeter, have also found very beneficial results to their Potato trials by spraying with the mixture.

Quite a different result comes from Reading, where Messrs. Sutton & Sons have been carrying out a very extensive series of trials during the past summer, following the recommendations of the Board of Agriculture as published in May last, as to the number of sprayings which should be given and the interval between each. Considerable interest attaches to the experiments from the fact that 278 varieties of Potatos were subjected to treatment, while the plots or trials reached a total of 810. Each trial was divided into two equal portions, one of which was sprayed, while the other was allowed to take its natural course, in order to check the results obtained after dressing. The total weight of sound Potatos obtained from the 810 rows that were undressed was 5 tons, 8 cwts. 2 qrs. 5 lbs., while that obtained from the same number of dressed rows was only 4 tons, 17 cwts. 1 qr. 1 lb., giving an increase of 11 cwts. 1 qr. 4 lbs. in favour of the undressed plots, or a little over 10 per cent. The result is as disappointing as it was unexpected, not only to the growers themselves, but to the public generally, which is looking forward to a practicable means of combatting the disease successfully.

The trials cannot, however, be considered as conclusive, nor that they entirely disprove the results obtained by other experimenters. Science never adopts a creed, and in this case there are no doubt several coincidental causes at work which, in a measure, may combine to frustrate the result of the trials. For instance, the soil at Reading is generally of a poor and hungry nature, favourable to the clean growth of Potatos, and unfavourable to the rapid spread of the disease owing to an insufficiency of moisture. This is in a measure borne out by the fact that the early varieties had matured their crops before the disease made its appearance. On the other hand, however, we are brought face to face with the fact that the dressed plots of these varieties suffered a decrease of weight compared with those that received no dressing at all. The growth of the tubers where the foliage had been dressed must have been checked. It would have been very interesting, and perhaps have afforded a clue to the results, if a record had been made from time to time of the effects of the mixture upon the foliage. In the present instance the Bouillie Bordelaise cannot be looked upon in the light of a fertiliser.

Experiments on heavy, rich soil, where the disease is usually very virulent, especially in wet seasons like what the past has been, would be well worthy of trial by way of contrast to the above on a light and hungry soil. Equally significant, however, is the fact that Regents, Woodstock Kidney and Victoria, which are very liable to be destroyed by disease, gave more satisfactory results. A row of Woodstock Kidney that had been dressed gave a weight of 27 lbs., while an undressed one of similar length gave only 20 lbs. In like manner a dressed row of Victoria showed an increase of 6 lbs., and seven rows of Reading Giant gave an increase of 25 lbs., although one line showed a decrease. Three lines of Dalmahoy showed a total increase of 22 lbs.; two lines of Village Blacksmith gave an increase of 3 lbs.; two lines of Vicar of Laleham gave 14 lbs.; of fifteen lines of Best of All, six lines showed a loss of weight after dressing, while nine lines showed a total increase of 16 lbs.; thirteen lines of Satisfaction gave an increase of 21 lbs., but five of them showed a loss of weight. A number of other varieties showed a slight increase, including Fox's Seedling 3 lbs., Forty-fold 1 lb., Jersey Fluke, Reading Abbey, and White Rock 3 lbs. each, Queen of the Valley 8 lbs., Reading Giant 4 lbs., Peach Blow 1 lb., and Windsor Castle 15 lbs. The above constitutes practically all the cases of increase as far as the named varieties in cultivation are concerned.

Disease resisting varieties come prominently to the front as instances where spraying may not only be dispensed with, but profitably so; and herein lies the crucial point. According to the results Bouillie Bordelaise was injurious rather than otherwise, inasmuch as the sprayed plots showed a decrease of weight compared with those which had been left alone. The total loss would include the deficiency in the weight of tubers, time, labour, machinery and material for spraying with. Of forty-six lines of Abundance, thirty-five of them showed a decrease, 4 were of equal weight, and seven of them were above the standard; the decrease on the whole amounted to 1 cwt. and 18 lbs. Magnum Bonum showed even a greater deficiency, for thirty-one rows showed a decrease of 1 cwt. 2 qrs. 14 lbs., or 5·87 lbs. to the line. In various other cases the deficiency varied from ½ lb. to 7 lbs., and in exceptional cases 11 or 12 lbs. None of these figures appear very striking, but over a large area the deficiency would be great. The question for scientists to solve, is the cause of the decrease, for it must follow that if the Bouillie Bordelaise had no injurious effect, the sprayed lots would crop as heavily as those that had not been so treated.

Experiments were also carried on with a large number of seedlings not yet in commerce, and the bulk of them only under number. Curiously enough, the larger number of plots showed a result quite different from that obtained with the old varieties. The increase was not great, but it varied from 0·5 to 16 lbs. per row that had been sprayed. The decrease of weight in the unsprayed plots varied from 0·5 to 25 lbs. In both cases, however, the difference either way was not great as a rule, say from 2 to 4 lbs. Such differences might, in many instances, depend upon the fertility of the varieties themselves, as it is well known that many kinds have their own peculiarities.

Special field experiments were made with three varieties, namely Sutton's Ringleader, White Beauty of Hebron, and Chancellor. Of the first two, 5 poles were dressed and an equal area undressed. The first named showed a decrease in weight of 2 cwts. 1 qr. 23 lbs., where subjected to spraying; and the second was also lighter by 2 cwt. 11 lbs. Only 2¼ poles of Chancellor were subjected to the dressing, and they showed an increase of 1 lb., as compared with the unsprayed 2¼ poles. On the whole then the results have been unfavourable to the employment of Bouillie Bordelaise, except in the case of varieties that are peculiarly liable to the disease.

The results of the official experiments both in England and Ireland will be looked forward to with interest, so as to prove or disprove the efficacy of Bouillie Bordelaise; for as many of the varieties liable to be badly affected by the Phytophthora are amongst the best in point of quality, it would be a public boon to find some remedy or palliative for the disease.

DELPHINIUM VESTITUM.

The bulk of our garden varieties of Delphinium are forms or hybrids of D. elatum, D. formosum and a few others, all of which are usually very tall and vigorous plants, especially if planted in rich, well tilled and manured soil. There are several species of a showy nature from the Himalayas, both dwarf and tall. The dwarf ones might well be taken in hand by those concerned in the improvement of Delphiniums, and a new race thereby evolved, which could hardly fail to find favour with those whose gardens are limited for space. D. vestitum is flowering at present upon the rockery at Kew, and comes from the Himalayas. The stems are only 18 in. high, and furnished at the base with ample and deeply five-lobed leaves. The specific name would seem to apply to the flowers, which are clothed on the outer surface with downy hairs. The sepals are large and blue or purplish-blue, forming, as in other species, the most conspicuous feature of the flower; the petals, on the contrary, are small, black and covered with yellow hairs as in the case of D. formosum. The late flowering is, no doubt, due in part to the wet nature of the season, as often happens in the case of the improved garden forms of D. elatum and D. formosum.

Gleanings from the World of Science.

Apple Scab and its prevention.—*The Journal of Micology* (American) gives an account of some experiments which were carried on with the view of preventing the development and spread of Apple Scab on a fruit farm near Ithaca, Richland County, U.S.A. The weather during the early part of summer was excessively rainy, and this did much to frustrate the objects of the experiments, by washing away the fungicides which were applied to the trees by spraying apparatus. The fungicides consisted of (1) copper carbonate dissolved in ammonia, also suspended in water, (2) sulphur powder, (3) the compound of ammoniated copper sulphate and ammonium carbonate. The sprayings were given at different times from May 5th to September 2nd. When the fruit were gathered they were sorted into three qualities, as to freedom from the fungus quite independent of size, namely (1) those quite free from scab, (2) those showing scab spots but not sufficiently large to seriously damage the fruits, and (3) badly-affected fruits. The results of the various trials showed that it was very important that one spraying at least should be given before the expansion of the flower buds. Copper carbonate dissolved in ammonia was as effective as twice the amount of the same material suspended in water; but the importance of the latter experiment was demonstrated from the fact that Paris Green could be employed in the same spraying to prevent the ravages of the Codlin Grub.

The sulphur powder seemed to increase the virulence of the fungus, but that result might have been the result of its solubility, and liability to be washed away by the heavy rain. The mixture of ammonium carbonate and ammoniated copper sulphate gave the best results of all the applications, as a larger percentage of the fruit was free from scab.

Larva form Singapore.—Fortunately for us, our climate serves largely to protect us from an invasion of insect enemies which reach us from all parts of the world amongst importations of plants. Several of them succeed in establishing themselves in hothouses much to our discomforture, by their rapidity of increase and destructive habits, or the annoyance they cause us. Doubtless the greater number of such pests which reach our shores from foreign countries, and especially from warm climates, soon perish, judging from the number of various creatures which reach Kew annually. A larva of striking appearance was recently picked from the root of an Orchid which arrived in a case of plants from Singapore. It measured 1 5/16 in. in length, and 3/16 in. in thickness, and except that it tapered slightly toward the head, was perfectly cylindrical. It was of a bright shining brown with exception of the upper side of the first four segments, including the head and the last one which were darker, and the whole resembled a piece of polished mahogany. The dark portion of the segments just mentioned were densely covered with fine depressions or punctures resembling those of a thimble, but smaller. It had four rows of spiracles for breathing, those on each side of the middle line of the back being the most prominent. Its six short legs were accommodated in a depressed portion in the usual position close to the head, while the rest of the under-surface was glossy and smooth. The rings or segments, however, were well marked, and the body as a whole seemed well adapted for moving through hard soil. Comparing the creature with British insects, it closely resembled a giant wireworm.

How Fungus spores get Distributed.—In the case of fungi which grow exposed to the atmosphere, or when the spores become exposed, the wind serves to convey them in all directions, and they grow wherever they find a suitable host plant. Birds, squirrels, and other animals also serve as a means of conveyance. The spores of fungi which live on the roots of plants get distributed by beetles, rats, mice, rabbits, and other creatures which burrow under th soil; and when roots are gnawed or injured by those or other animals, they are thus exposed to attack by the spores of parasitic fungi, which find a suitable and easy means of entering the tender tissues thu exposed

THE KING OF DENDROBES.

Such was the name given to an importation of Dendrobium Phalænopsis Schroderianum, a thousand plants or pieces of which were sold at the auction rooms of Messrs. Protheroe & Morris, Cheapside, on the 16th inst. Hitherto only about seven plants of it have been under cultivation in Europe, and most of them are in the splendid collection of Baron Schroder, at The Dell, Egham. Now that the excitement of the great sale is over we shall wait eagerly for the flowering of the new importation made by Messrs. F. Sander & Co., St. Albans.

The story in connection with the importation is quite a sensational one. About eighteen months ago the collector arrived at a small port in New Guinea with 400 plants in his possession. The ship caught fire and everything was burnt, the crew and passengers escaping with their lives only by taking to the boats. Wiring home for instructions, the collector was told to return and collect more, notwithstanding that the rainy season was on. He obeyed much against his will, and later on wrote that he had arrived at his place of destination with his plants in the finest order, and assured Mr. Sander that he would get some striking novelties at last from the terrible country where he had gone to search for them. He forgot all his troubles when he discovered the first plants growing upon some isolated rocks on the sea shore, near the huts of the natives in which he was staying. Those isolated rocks could only be reached at low tide, and were actually the graveyards of the natives. The dead bodies were not buried, but simply placed in a kind of coffin and stood amongst the plants in those places. The Dendrobe was growing in great luxuriance on the bare limestone rocks amongst the bleaching skulls and other bones of the dead relatives of the islanders. As might have been expected the natives did not relish the idea of rooting up the Dendrobe plants, which were only weeds in their eyes, for fear of disturbing the repose of the departed.

The sight of looking glasses, beads, brass wire and showy handkerchiefs was more potent than English gold in removing their conscientious scruples, and waving all reverence for the remains of their ancestors, they rooted up every plant they could get at. For the collector to have set about the uprooting of the plants on his own account would probably have cost him his life, as the people there think no more of killing a man than the cook here of killing a fowl. He describes them as the finest race of savages he has seen, and in order to render his journey safer he went with a Dutch trading party.

The superstitious scruples of the savages were the more fully satisfied when the collector allowed one of their golden-eyed idols to accompany the Orchids and take care of them on their passage to England. The idol consisted of a roughly carved piece of wood representing a human head, painted black and furnished with eyes of polished pearl shell. It appeared in the auction rooms at Cheapside, and was sold for a guinea to Mr. H. Bailey, gardener to W. L. Barclay, Esq., The Briars, Reigate, who regarded it as a great curiosity. Notwithstanding the assurances of the collector not to send home any skulls or other bones, a skull did arrive with a plant growing out of it, and which was exhibited in another place close to the auction room so as to avoid a crush of excited sightseers. The bulk of the plants, however, were collected where no bones were to be found.

The situation in which the plants were found should afford the cultivators some hints as to culture, inasmuch as they chiefly consisted of honeycombed limestone rocks fully exposed to the sun, or shaded only at certain times of the day. Growth is made during the rainy season, after which the plants ripen and flower splendidly, judging from the long racemes, the huge size of the flowers and the pseudobulbs, which for Dendrobium Phalænopsis were simply extraordinary. The specimens which appeared at the auction rooms varied from 6 in. to 2½ ft., and the stems of one specimen at least measured 43 in. in length. There can be no question that an abundance of moisture will be required during the growing period. The flowers of the wild plants varied from 3½ in. to 4½ in. across. One dried raceme was 34 in. long, and showed seats for twenty-four blooms.

One piece described as the mother had stems 3 ft. long, furnished with numerous young growths at the apex. The father (so called) was a fine piece with stout stems 2½ ft. long, and sold for 28 guineas. Very few plants sold for a guinea, the usual price being from 2 to 6 or 8 guineas; 9, 10, 11 and 16 guineas were also obtained for large and promising samples, the latter being paid for a plant consisting of only four large stems. Amateurs were the principal buyers, and they evinced great eagerness to obtain all those pieces showing traces of life in the shape of a young shoot or two. The sale of the Dendrobe alone occupied about five hours, at the end of which it was declared that absolutely every one of the 1,000 plants was sold. The sale of the Dendrobe realised £1,500, and together with Cattleya labiata and some others it was run up to £2,000 that evening. At the finish of the Dendrobe it seemed as if the buyers were far from satisfied, and although it was the third sale of Cattleya labiata autumnalis the plants were bought at high prices. The latter were sold just as imported, and were generally in very good condition. Many of the Dendrobiums had been started and placed in small pans; their flowering will be eagerly looked forward to, for it is stated that some of them are pure white, others dark purple-red, and some variegated.

THE ROCKERY AT LAMPORT.

The term Alpine garden may embrace widely different ideas. It may comprehend a collection of Alpine plants without a vestige of stone, or it may include a beautiful structure of crags, caves, crevices, and underground excavations replete with vegetable incrustations, self-sown ferns, pigmy trees, etc. Of this latter kind there is a notable example at Lamport Hall, the seat of Sir Charles Isham, Bart. (situated midway between Northampton and Market Harborough), than which it is probable there is no similar example to be found elsewhere. When thoroughly maintained a rockery of this kind continues beautiful throughout all seasons of the year; and what is an additional advantage in this climate, damp and rainy seasons increase its rugged beauty, a beauty which it possesses independent of flowers. Even were all vegetation to disappear, its beauty, although impaired, would by no means disappear, as exquisite effects of light and shade would still remain.

The structural part of the generality of Alpine gardens in England—and there are said to be no others, foreign climates being unsuitable—might to all appearance have been put together in a few days or weeks. The rock garden at Lamport has been, although of limited dimensions, upwards of forty years under the most minute and careful culture and improvement. It keeps up an appearance of age in its lichened stones and pigmy Fir trees clad with ivy to match, and which have required seventy years to attain 3 ft. in altitude. A garden of this description must be regarded as much superior to the ordinary rockery, which is frequently placed in some remote corner, under the drip of trees, rank in growth and decaying leaves, and a sight altogether melancholy to behold.

Even the best collections of Alpines do not usually display any great amount af artistic merit in their surroundings, the plants being cultivated more as specimens than for picturesque effect. At Lamport common and rare things are treated as of equal value, should they be suitable for their respective purposes; and some which are seldom or never seen in gardens except in their ordinary coarse growth would not be recognised here where they are properly grown in the crevices of the rock. The primary object with Sir Charles Isham is not variety, but quality and careful growth, that being the only means of obtaining the best results. Some also are esteemed on account of their seldom or never flowering, since this defect usually causes them to remain in good habit throughout the year; and this latter quality is regarded as superior to all others.

Those who can appreciate minute beauty in nature cannot fail to appreciate the force of the above remarks, when they see the effects produced. There can be no doubt that a rock garden subject to such cultivation may become, however limited in extent, infinitely superior to any other kind of gardening, and might throw into shade the most fertile dream of the imagination.

A gentleman, quite recently visiting this rockery for the first time, exclaimed upon entering, "I can't understand this! What is it? It is like magic!" This was not in allusion to the beautiful models, 3 in. high, of gnomes or fairies which are seen at work (or on strike!) under some of the pigmy trees, but to the trees themselves, which to all appearance are thriving in the solid rock. It seems incredible that more than one of the crevices of the rockery, which is bounded on two sides by the house, conservatory, and other buildings, should have been found sufficiently seclusive for a fox to have used as a residence for two seasons. Yet such has been the case, and there Master Reynard would probably have remained and done less harm than a mouse until it was found necessary to expel him, in consequence of threatened invasions of the Pytchley hounds.

The miniature figures alluded to were first advocated by the late J. C. Loudon, fifty years ago, as an appropriate set-off to pigmy Fir trees, but this is probably the first instance of his ideas having been realised, and in a very superior manner to the style indicated in a wood-cut in one of his ponderous volumes on Horticulture.

Strangers to Lamport must not be taken aback, as they invariably are, on observing a lady seated on a rock as if she were the sole possessor of the situation. She is a life-like model in terra-cotta.

In sunshine, in shower, in mist, and in snow
The rock-work at Lamport 'tis well you should know;
O'er the crags up above, and the depths down below,
At each step you may take there are treasures to show.
Much "beauty in common things" also is found,
Some are prized above rare ones, they cover the ground.
In the caves you may see the Berg-geister or Gnome,
You may see him at work, he is always at home.
There is only one draw-back which many might own,
You are weary of wonders ere half have been shown.
Let those who would turn up their noses and doubt it
Come and judge for themselves, then they'll know more about it.
The twilight produces a charming effect,
More lovely than some could suppose or expect.
It is then as a Photo, all perfect in tone;
But to see it aright—
GO AND SEE IT ALONE.

We should add that the height of the rockery is 24 ft., length 90 ft., and breadth 47 ft.

ROSES ON THEIR OWN ROOTS.

By this term I mean Roses raised or struck from cuttings. Roses can be reared from cuttings in various ways, and at different seasons of the year. Plants reared from cuttings taken from forced plants in heat, and struck in heat, make very good plants, but one eminent Rose-grower informs us they do not prove so hardy as plants reared from cuttings which have a cool treatment. Striking cuttings in heat may be to some a convenient method of obtaining plants, and they should be potted off as soon as rooted, kept in warmth until established, and then hardened off by degrees, potted again in the autumn, kept in cold frames during the winter, and planted out in May in well prepared soil, and kept well watered until fully established.

Mr. Brown, of Great Doods, Reigate, one of our best amateur Rose-growers, states, that of the various modes of striking Roses, he much prefers the following. He selects a frame, places it on hard soil, and then fills it with a suitable compost, composed of one half loam and the other half in equal parts of leaf mould and sand, the compost being made very firm, and about six inches in depth, well watered, and left a few days to settle, at the end of which time it is ready for the cuttings to be inserted, they being dibbled in in rows, about 4 in. between each row, and the cuttings 2 or 3 in. apart in the rows. The last week in September is the time Mr. Brown selects as best for putting in cuttings, but the period must be regulated by circumstances. The best wood to make cuttings is that from one-half to two-thirds well-ripened, as soft wood will turn black and die. Mr. Brown says that cuttings for a frame are best

formed from the wood produced after the first flowering, and he advises they be taken with a heel, as they strike better than cuttings made by cutting through just below a joint. But the American Rose growers are found asserting that cuttings strike better without a heel than with one; but possibly they refer to cuttings rooted in heat. A sharp knife should be used in making cuttings, so as to give a clean cut; they should be put into the soil as soon as they are made, and the soil pressed firmly about them, or they will not grow. That is a point all raisers of Roses by means of cuttings should bear in mind.

The cuttings are best about 4 in. in length, and about 1 in. left above the surface of the soil, that is, 1 in. above ground, and 3 in. below. So, in forming the cutting beds, care should be taken there is sufficient depth of prepared soil. All eyes should be left on the base of the cutting. When well managed, eighty or ninety per cent. of such cuttings will strike readily.

When the cutting bed is full the frame should be kept close for a time, a little air being admitted in mild weather to prevent the leaflets left on the upper part of the cutting damping off. When sharp frost happens, it is desirable to cover up the frame, not because any harm will come to the cuttings, but because the frost has a loosening effect, and then the process of rooting is retarded.

By the end of April or the beginning of May, the cuttings will have rooted and be ready to pot off; they are best taken up with a little soil adhering to the roots, potted, placed in a frame kept close for a time, hardened off by degrees, and then planted out in August, kept in cold frames during the winter, and planted out in April or May following. It is not a good plan to allow the young plants to become pot-bound if it can be avoided.

Objections are taken to this method of propagation on the ground that it is a slow one, it taking a long time before the plants are strong enough to grow show Roses, therefore it is best to bud them on some suitable stock. But if anyone who fancies Roses will take the trouble to grow his own stocks, and treat cuttings and stocks alike, he will find the cuttings give him the least trouble and the best Roses, as, in general, cuttings of stocks have to be made, planted, and left for one year, to be taken up and planted for budding the second year, and before Roses can be cut from budded plants the grower has to wait two and a half years or more, whereas a good quantity of Roses can be cut the second year from Roses on their own roots, and the third year they will be as strong as the majority of maidens budded on stocks of the same age, at which time the Roses struck from the cuttings of the same date will be well established in the majority of cases.

Mr. Brown tells us that in his experience Roses on their own roots are much safer in hard winters, and he states he has had plants cut down to the surface of the soil, start again vigorously in the following spring and make shoots during the summer from 5 to 7 ft. in height, when they are growing in sandy soil.

Plants here three years old are much stronger than maidens, many of them having from three to six shoots from 4 to 6 ft. in height. Whereas, in the majority of cases, the maiden has from one to three shoots of 1 to 3 ft., and then has to be transplanted, and by the end of another year, in most cases, they are less than when planted; whereas, those in the meantime on their own roots have been getting much stronger.

As a matter of course stocks are necessary for all new varieties, as, if propagated by cuttings, it would be a long time before a new variety could be sent out by thousands to the public. But the established varieties can be propagated by cuttings, as in a few years a new Rose becomes plentiful enough to give a grower sufficient plants for the purpose of cuttings.—*R. D.*

NOTES FROM OAKWOOD.

I SEND my usual autumnal note on the blooming of new Lilies in the past season. L. Hansoni, L. Leichtlinii, L. odorum japonicum, the Lily sold as the new red form of L. Leichtlinii, but which seems to me to be the old L. tigrinum jucundum, L. Pardalinum and its varieties, L. Browni, L. superbum, L. giganteum, L. cordifolium and L. tigrinum splendens were all fine. L. auratum rubrovittatum and some L. auratum macranthum, and especially one coloured like L. a. pictum, were especially good; L. candidum simplex only moderate; L. auratum suffered a good deal, first from the hail showers bruising the buds, afterwards from the cold heavy showers and high winds. Individual plants had fine flowers, but more had enough damaged buds or flowers to disfigure them.

This unkindly season gave a good lesson as to the difficulty of growing L. auratum in cold, damp climates. Speciosum and varieties varied much. Our finest flowers were on plants high up on the "mountain" at Oakwood, where the air about them was dry, and in a sunk tub with the bottom out at the entrance gate at Heatherbank, where they are sheltered by shrubs from the sun, but exposed to much wind; these are still in great beauty. In some damp, quiet, sheltered places at Oakwood, these Lilies bloomed well, but in damp exposed places many of the flowers were spoilt. This was our first year of growing L. odorum japonicum; it flowered well out of doors, and had a sweet scent. The best of the flowers had a dark shade, but not the rich dark colour of L. Browni. Those grown in our Lily house were pure white, and the scent delightful. If they stand out of doors as well as L. Browni, and we have planted them in different situations to ascertain this point, I think that they deserve to be more generally grown.

Many experienced gardeners have seen our plan of growing Lilies, where exposed to trees and shrub

THE ROCKERY AT LAMPORT HALL.—THE CRYSTAL CAVE.

roots, in sunk casks with the bottoms out, and approved of it. I had lately a pleasant criticism on Oakwood. A first class amateur lady gardener, owning a beautiful garden, after having carefully looked over our plants, said, "I hardly know what this place should be called, it isn't a garden." I agreed that it was not a garden. She then said, "It is a place where plants from all parts of the world grow wild." This is exactly what I am aiming at, and if any success has been scored, it is in great part due to friends in many countries having helped with seeds and plants.—*George F. Wilson, Heatherbank, Weybridge Heath, October 16th.*

THE HERBACEOUS BORDER.

Perennial Sunflowers.

There are fifty species of Sunflowers of all kinds, although some botanists restrict this number, and it is just possible that in the near future, when our knowledge concerning the wild forms increases, many of the so-called species will be reduced to varieties; for it is well known that cultivation and seed raising greatly alters the appearance of the seedlings and they can no longer be matched by wild specimens. This can be well exemplified by reference to three of the oldest garden Sunflowers, namely, Helianthus tuberosus, H. annuus, and H. multiflorus, whose history we cannot now unravel. With the exception of the first-named we have now various quite distinct forms in gardens obtained as the result of sporting and seed variation. The tide of popularity is now leaning towards the cultivation of a greater number of the perennial species for border decoration in the autumn. The tendency in some public parks and recreation grounds is to plant only one species or one kind in excess, to the neglect of other and equally fine kinds. A greater continuance of bloom and a more varied effect is, however, produced by the use of different species, and in some cases of varieties or forms of species that commence flowering at different times in the course of the summer or autumn. Good cultivation can also do much to popularise many of the kinds, whether in the herbaceous border, shrubberies, or wild garden. The ground should receive good and moderately deep tilth, using farmyard manure while digging or trenching and for mulching the surface. Dividing and replanting the stools every second year gives a great impetus to vigorous growth.

Helianthus mutiflorus.—As already stated this is one of the oldest garden Sunflowers, and one of the most popular for decorative purposes. It varies in height according to culture, but in ordinarily dry summers it does not as a rule exceed 2½ ft. to 3 ft., a fact which makes it highly suitable for gardens of small extent. The leaves are broad, firm and numerous, closely furnishing the stems and serving to show off the large flower heads to the best effect. The latter are double, the older form having flat florets, and a more recently acquired form, named Soleil d'Or, having quilled ones.

H. rigidus.—This species has hitherto been most frequently grown under the name of Harpalium rigidum. The specific name applies to the rigid nature of the leaves, which are also covered with coarse, bristly, but short elevations. The rays are long, and of a bright golden yellow, while the small disc is dark chocolate, or dull purple. There are some half a dozen forms in gardens, and the typical one flowers in August. An earlier form, namely H. r. æstivus, has been introduced into gardens recently under the name of H. japonicus, which precedes the type by about three weeks, and in dry summers is very dwarf. H. r. latifolius is somewhat taller, with considerably broader leaves, and flowers in September and October. H. r. semiplenus has more numerous rays and therefore semidouble.

H. decapetalus.—Next to the above this is perhaps more frequently grown in gardens than any other, and proves highly deserving of the distinction, more especially under good culture. The stems attain a height of 5 ft. or 6 ft., and become greatly ramified or branched, with the final branchlets terminating in a single head of a soft lemon-yellow hue. The quantity of cut flowers to be obtained from a single plant of moderate size is very considerable.

H. orgyalis.—The stems of this species vary from 6 ft. to 10 ft. in height, under different conditions as to culture, but produces the finest effect when grown well, on account of its stately appearance. The long narrow leaves give it a distinctness of character such as we see in no other. The flower heads are small, numerous and best developed in warm summers.

H. mollis.—July to October is the flowering period of this plant, and the stems vary from 3 ft. to 4 ft. in height according to circumstances. The ovate leaves are closely serrated, rough and scabrid above, and hoary with down on the under-surface. The heads are of good average size.

H. doronicoides.—The broad and numerous leaves closely clothing the stems of this plant give it a bold and vigorous appearance; but as the stems seldom branch the plant has a somewhat formal appearance. The yellow flower heads are, however, large and showy, and the plant might well find a place in shrubbery borders. Some interest is attached to the species from the fact that some authorities consider it the type of the cultivated H. tuberosus, or Jerusalem Artichoke.

THE UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.

The anniversary dinner of this admirable Society took place at the Cannon Street Hotel on the 15th inst., when some 120 members and friends sat down under the presidency of Mr. Harry J. Veitch, who was supported by many prominent horticulturists, including Mr. Sherwood, Mr. W. Y. Baker, Mr. John Laing, Mr. Lynch White, Mr. Furze, Mr. Cannell, Mr. Manning, Mr. A. Veitch, Mr. G. J. Ingram, Mr. Osman, &c., &c. The usual loyal toasts having been duly honoured, the Chairman, in proposing "Continued prosperity to the United Horticultural Provident and Benefit Society," expressed his deep regret (which was shared by all present) that Mr. George A. Dickson was unable to be present owing to the very serious illness of his brother. Mr. Veitch also alluded in feeling terms to the passing away of their last year's chairman, Mr. Edward R. Cutler, and of their friend, Mr. George Cavendish, who had undertaken to preside on this occasion. When it was found impossible that Mr. Dickson could not be present, Mr. W. J. Nutting kindly consented to preside over them, but owing to a subsequent death in his family that arrangement also had to be cancelled, and he, Mr. Veitch, had agreed to stop the gap, being always pleased to find himself among gardeners. He did not propose to go into the history of the society, which was well known to them all, but remarked that while two of the founders of the Society had passed away they had still one left, Mr. George Baker, of Membland, who, if not present in the flesh, he was sure was with them in the spirit. The society had made but slow progress for some years, but latterly, rapid strides had been made in increasing the roll of members, and much of this success was, no doubt, due to the holding of the annual dinners. The membership now numbered 410 benefit members and 55 honorary subscribers, and he had great pleasure in announcing that sixty-nine new members had joined during the past year, the greatest number that had been enrolled during any one year. The advantages which the benefit members enjoyed were very great; the Society's affairs were conducted in the most admirable and economical manner; the latest actuarial valuation showed that the Society was in a thoroughly sound financial position, and he had no hesitation in recommending all young gardeners to join it, and so provide for the current ills of life, as well as make provision for the necessities of old age. He hoped the society would in no way suffer from his presiding over them instead of Mr. Dickson, and heartily wished them that success in the future which the society so richly deserved. Mr. N. Cole responded.

Mr. James Hudson, the Treasurer, in proposing "The Honorary and Life Members," congratulated the members on the presence of so many of their supporters, which showed that they were thoroughly in touch and sympathised with their efforts. They were now proud of their list of honorary members, and he hoped the list would be added to that evening. Their society offered advantages to gardeners which were given by no other benefit or provident society. They gave 3 per cent. compound interest for money left in their hands on deposit; they did not even deduct the income tax, and they invited comparison with any other similar society in the country. Their committee meetings were held in open court, and any member could attend them and see for himself how the business was conducted. He acknowledged with gratitude the valued strength which had accrued to the society of late years through the steadily growing increase in the membership, thanked the Chairman for so kindly coming to their aid that evening, and concluded by proposing the toast of "The Honorary Members, Life Members, and Visitors," to which Mr. W. Furze, of Teddington, and Mr. J. Cheal, of Crawley, responded.

Mr. Sherwood next, in felicitous terms, proposed "The Health of the Chairman," which Mr. Veitch suitably acknowledged. The other toasts were "The Officers of the Society," acknowledged by Mr. J. Wheeler and Mr. W. Collins; "Kindred Societies," responded to by Mr. G. J. Ingram, Secretary to the Gardeners' Royal Benevolent Institution; and "The Press," for which Mr. George Gordon returned thanks.

During the evening the following subscriptions, etc., were announced:—Mr. George A. Dickson, £10 10s.; Dicksons Limited, £1 1s. (annual); Mr. H. J. Veitch, £25 to the Convalescent Fund; Mr. Sherwood's three children, 1 guinea each (annual) to the Convalescent Fund; Mr. Furze, 1 guinea (annual); and five other honorary members, 1 guinea each (annual).

ABBEY PARK, LEICESTER

To the ordinary visitor the Abbey Park is a large, well kept, and beautiful garden, but to the studious it is far more, it is a veritable "encyclopedia." It would occupy too much space and time to give a description of all the leading features, while a few remarks on some may be interesting. There is ample scope for anyone who cares to study the various parts of the garden to learn, and Mr. J. Burn, the superintendent, by the various arrangements, proves a very useful seconder of the School Board in the education of the people of Leicester. One or more specimens of every kind of plant or shrub is correctly named, and that in such a form that anyone can read.

At the foot of the Mount there is a small model of Charnwood Forest. Here all the various kinds of granite and slate are portrayed in exactly the form they are found in the forest, the vegetation is represented by small saxifrages and mosses. The sites of the villages are marked, making it very interesting. The general bedding arrangements are very good, particularly the Mosaic or carpet bedding, which some are so fond of crying down. I am inclined to think it is a case of "sour Grapes" with them. Carpet bedding may be unnatural (or even ugly, when planted by inexperienced hands), but when planted by men like the superintendent of the Abbey Park it can only be pronounced "magnificent." To those who have tried and failed, a couple of hours in the Abbey Park, Leicester, would be time well spent, and if they have any artistic taste they may learn sufficient to convince their employers that carpet bedding is a thing not to be "cried down."

The pattern of the beds is changed each year. Some will no doubt remember, in 1887, the Royal Arms and the word "Jubilee" being worked in the bed near the Royal Oak (which was planted by H.R.H. the Princess of Wales, when the park was opened). This year the pattern for both beds is taken from the Roman Pavement in Jewry Wall Street, and is a very true representation both in colour and design of the same. (The real pavement can be seen in the cellar of a small shop in Jewry Wall Street, at the modest cost of twopence.) The beds, which are circular in form, are 22 ft. in diameter, and contain upwards of 20,000 plants each. The arrangement of such a number is no easy task, and to keep true to pattern in outline and colour requires a fair amount of skill. Several sorts of Alternanthera, Spergula aurea, Herniaria glabra, Saxifraga cristata, Antenaria tomentosa, and Echeveria Peacockii, are used, Echeveria secunda glauca forming the tracery.

I do not remember carpet bedding when it first appeared, rather more than twenty years ago, but it is doubtful if Battersea or Victoria Parks (which were among the first to try it) could boast of two such beds as the people of Leicester have in their midst this season. It is doubtful if a more pleasing sight (of its kind) can be seen in England than the one from the Pavilion looking across the flower garden.

THE FLOWER GARDEN.

Here are two acres of beds which are individually distinct, and yet forming a very harmonious whole. Two large beds, 60 ft. by 20 ft., consist of White Marguerites for the centre, a bold line J. Gibbon Pelargonium, a row of Festica glauca, and finished off with a band of Golden Feather (Pyrethrum) which is kept well pinched in. Two other beds, 40 ft. by 20 ft., are made up of a good assortment of Gladioli with a ground-work of Violas, and have presented a gorgeous appearance during the past few months.

Two of the most novel and interesting beds are circular in form, about 18 ft. in diameter; are filled with Montbretias, Lilium Kratzeri, Tigridias, Bulbocodium and Lobelia cardinalis, with a ground-work of Ageratum and the pretty little dark scarlet Verbena "Milandres." Two other beds of the same dimensions as the preceding are composed of Zinnia elegans and have come in for a large share of notice. In a border, 150 ft. long by 15 ft. wide, are displayed a fine lot of Gladioli Ne plus ultra and Violas of every shade of colour, which for the last three months has formed a great attraction; very few people seeing it without passing complimentary remarks on it. Four large circular beds, 20 ft. in diameter, are worthy of special notice. The principal ingredients being Pelargonium Mrs. Vidler and Verbena Venosa, with a margin of "Yellow Boy" Violas, then a ring of Coleus "Taylor's Pet," and finishing with a raised edging of Antennaria tomentosa.

Four other oval-shaped beds which have been very striking were planted with the good old Henri Jacoby Pelargonium, with a broad edging of Tagetes pumilla. The other Pelargoniums are Pink, Olive Car, White-leaved May Queen, Foster's Seedling var., Crystal Palace Gem, and West Brighton Gem. Perhaps the most pleasing and striking object in the hole plot is the chain border which runs round the avilion. It is 300 ft. long by 7 ft. in width. The esign is traced in Thrift (Armeria maritima), which is kept closely cut similar to Box; within the tracing, which is 7 in. wide, are planted Lobelia Blue Gem, Leucophyton Brownii. The smaller beds, being filled in with Pelargoniums Crystal Palace Gem (Golden), and West Brighton Gem (Scarlet), have been very gay and beautiful all the summer.

Surrounding the flower garden is a border, 300 yds. long, of Dactylis elegantissima, with a band of Tory Violas in front, giving a grand finish to the whole. Leaving the flower garden we proceed through an avenue of Aloes, some of which are of good size, to the

SUB-TROPICAL GARDEN.

The centre bed, which is 24 ft. in diameter, is composed of a very magnificent and representative collection of succulents, and contains over 300 distinct varieties, the Aloe tribe being well represented by some fine specimens of Agave filifera, A. Taylorii, A. hystrix, A. horrida, A. ferox, A. densiflora, A. Verschafellti, A. Kellockii, and others. There are also beautiful plants of Rochea falcata, Pachyphytum bracteosum, Cotyledon pulveruletum, C. Peacockii, Sempervivum arboreum, S. a. variegatum, S. artropurpurem, S. Donckellaarii, S. tabulæformis, S. calcareum, S. repens, S. Bullii, etc.; Mesembyranthemum tigrinum, Haworthia cymbefolia, Kleinia repens, Echeveria metalica, E. m. glauca, E. agavoides, etc. Of Opuntias and Cacti, the former has fruited plentifully and some of the latter have flowered. They have been very attractive. What a pity they—the flowers—last so short a time in beauty.

Around this are some half-dozen others, filled with a collection of plants which when looked upon tempt one to forget "Old England," and to dream of other climes.

A large bed 24 ft. by 15 ft. is composed of Cannas, varying in height from 2 ft. to 10 ft., with a margin of tuberous Begonias, which have yielded a grand display of bloom since June.

Four other beds, 40 ft. by 10 ft., contain some excellent specimens of both flowering and foliage plants. Of the former the Montbretias, American Tuberoses, Hedychium Gardnerianum, which flowered profusely during August and September, Lantanas, Abutilon Boule de Neige, Tigridias, &c., are very noticeable, and of the foliage plants, Phormium tenax, P. Colensoi, P. purpurea, Phalangium variegatum, Abutilon niveum maculatum, Araucaria excelsa, Eucalyptus globulus, Arundinaria Metake, A. Fortunei, Aralia Sieboldii, Dracæna Australis (some of 10 ft. in height), D. Draco, Acacia lophantha, Cyperus laxus, Yucca aloifolia variegata, Ficus elastica, Eulalia zebrina, Francoa appendiculata, Carex Morovii, Sonchus elegantissima and Wigandias form a conspicuous part.

Two circular beds contain fine examples of Chamærops humilis, with a ground-work of Festuca glauca, and are very telling in effect.

I cannot finish these notes without calling attention to a very interesting bed at the opposite end of the flower garden, namely the Alpine bed, which is filled with a beautiful lot of Alpine and small herbaceous plants, and is one of the best pieces of work in the whole Park, and is all the year round very interesting.

The Chrysanthemum house, which is now beginning to look gay, will be opened the early part of next week.

So far as I can see and hear there will be some pleasant surprises for the Leicester people in the spring, as there is a considerable bulb order given.—*Wm. Bell, Leicester, Oct. 10th.*, 1891.

GARDENING MISCELLANY.

THE SCARLET TRUMPET HONEYSUCKLE.

THIS is the North American Honeysuckle—Lonicera sempervivens—a handsome climbing species with evergreen foliage and scarlet flowers, yellow on the inside. Unfortunately it is not scented as in the case of our common Honeysuckle. This species is propagated by means of cuttings, which are made from the wood of the previous year, placed in pots, and plunged in a bottom heat. They root readily, and they are grown on until they form nice bushy plants in pots for growing for cut blooms. When well established in pots and somewhat pot-bound, they become somewhat stunted and then bloom freely. The term Honeysuckle has been applied to several plants, and though now the name given to the Woodbine, it is very doubtful to what plant it really belongs. The reason for its transference to the Woodbine appears to be on account of the honey-dew so plentifully deposited on its leaves.

THE MILDEW OF CUCUMBERS.

THE mildew which develops itself in the form of powdery, white patches upon the leaves of Cucurbitaceous plants is known to fungologists as Odium erysiphoides cucurbitarum. Being a surface feeder it may be combated with success in various ways, especially if taken in its early stages. Of the several fungicides that have been employed, ammoniacal carbonate of copper has been employed with better results than sulphide of potassium. To a quart of ammonia add 3 oz. of carbonate of copper, and after diluting the solution with twenty-five gallons of water, syringe the plants with it. A better method, if care is used, is to evaporate some sulphur in a basin over a paraffin stove for the space of thirty minutes. The house must be tightly closed, and precautions taken that the sulphur does not get ignited, otherwise the plants will be greatly injured. The lamp should be kept low to avoid accident.

EOMECON CHIONANTHA.

THE name of this plant means Snow-white Poppy, in reference to the pure white petals which are four in number, and arranged in two pairs similar to those of a Begonia. The resemblance to a white Begonia is further augmented by the dense tuft of bright yellow stamens in the centre, and were the petals a little more spreading instead of cupshaped, the resemblance would be striking. These flowers are borne on naked scapes, about 18 in. high, surmounting the radical leaves, which are nearly orbicular, somewhat lobed, glaucous above and more particularly so underneath. In all respects they closely resemble those of the Bloodroot (Sanguinaria canadensis), a native of Canada. The plant under notice comes from China, and flowers through September and October, while the Bloodroot flowers in April and May, or even earlier.

EUCOMIS PALLIDIFLORA.

THE flowers of this plant are individually not very attractive, but the enormous number produced on a scape when grown in the open air attracts attention at this season of the year, when flowers with exception of Composites are getting very scarce. The segments are of a pale green, and the ovaries in the centre are paler, but the filaments of the stamens are of a deeper green. The scapes are 3 ft. high, terminated as usual by a tuft of leaves, as implied by the generic name. The leaves are very long when grown in the open ground, lanceolate, finely crisped and toothed at the edge with a deeply channelled midrib, and pale green. The stateliness of most species of Eucomis commend them to many cultivators for decorative purposes in pots; but the comparative hardiness of several of the species enables them to be grown in the open border in sheltered or warm positions. Good drainage is an important matter, and if the soil is moderately sandy and porous so as to permit of the escape of superfluous moisture, so much the better, as the bulbs are more likely to pass the winter unhurt. A clump of bulbs planted at the base of the rockery at Kew has been flowering finely for some time past.

PHYSOSTEGIA VIRGINIANA SPECIOSA.

IN wet seasons the stems of this plant get 3 ft. or 4 ft. in height, but ordinarily are dwarfer. The flowers are pale purple or partly white on the lower segments, and arranged in dense four ranked spikes which are considerably branched at the base. The leaves are oblong or oblanceolate, deeply serrate, and of a bright green. The plant finds favour with many collectors of herbaceous plants, and notwithstanding its height is always neat and easily kept in good order, which is more than can be said of many Labiates even of dwarfer stature. Like many other subjects of the same type, it repays the trouble of good cultivation by the production of a greater amount of flowers and a longer succession. Being a North American plant it is quite hardy, and is not particular as to soil. It is also easily propagated by division.

CYCAS REVOLUTA FOR DECORATIVE PURPOSES.

MORE often than otherwise we see a few huge specimens of this Cycas in conservatories, but those who are acquainted with the plant in this form only, can have no idea of the grace and elegance of small plants in good condition. The whole of the central stage of a house in the nursery of Messrs. E. D. Shuttleworth & Co., Ltd., at 256, Peckham Rye, is occupied with a recent importation of plants which are now established and have made crowns with eight to twelve, and in some cases twenty heads. The stems vary from 6 in. to 2½ ft. in length, and were absolutely leafless when imported; the leaves now vary from 15 in. to 3 ft. long, and show a certain amount of variation, inasmuch as they are either flat or the pinnæ are elevated at an angle of 45° or more with the midrib. This peculiarity has the effect of giving the plant an altogether different appearance which some would admire, while others would prefer the flat-leaved forms. The rich dark green colour of the leaves would tell very effectively amongst other decorative subjects in the conservatory.

A COLLECTION OF CROTONS.

A WONDERFUL amount of variety may be seen in a collection of over fifty sorts of Crotons in the Albert Nursery of Messrs. E. D. Shuttleworth & Co., Peckham Rye. The best of the broad-leaved sorts, which are favourites with gardeners for large specimen plants, are grown in conjunction with the narrow-leaved varieties so useful for table decoration. Aigburth Gem is like a more highly-coloured form of Sinitzianus, and the crimson hues are well marked. Chelsoni has narrow, twisted, deep bronzy-green leaves variegated with crimson. Flamingo has long, narrow, green and crimson leaves gracefully arched and highly attractive. Flambeau is also beautiful in its rich markings, but the leaves are broader, though still only of medium size compared with those of Baron James Rothschild, which is a favourite with those who like the bold character of its crimson foliage. The stems of Laingi are red throughout their length, independently of the rich dark colour of the narrow leaves. A distinct sort also is Chomer, with long and broad leaves beautifully reticulated with golden-yellow. At one end of the house was a large batch of small plants of Dracæna Lindeni, notable for the fine variegation of the leaves, which have a broad yellow margin on either side of the broad central band.

ORCHID NOTES AND GLEANINGS.

Orchid Growers' Calendar.

THERE is now a good display of Orchids in flower, and every precaution should be taken to keep damp from the blooms, as in a moist atmosphere they soon become spotted and do not last long. The plants while in flower will not suffer if kept rather dry, and this will help to prolong the period of freshness. Disa grandiflora, the most showy and popular of the genus, may be potted now, as the young growths are starting. This plant requires very cool treatment to grow it satisfactorily. The best results I have had with it was when grown along with Heaths, where the house was seldom shut, except in frosty weather. The plants were grown in peat and sphagnum, with the addition of some horse-droppings, as prepared for a mushroom bed. It may also be successfully grown in cold frames, admitting plenty of air at all times except in severe weather. It is a plant well worth taking care of, as when in flower it makes a grand display.

Where only a few Orchids are grown, and they have to be accommodated along with other plants, there is no better way of securing good results than by growing the plants in baskets suspended from the roof of the house. Most of the epiphytal Orchids can be grown very successfully in this manner, and they also help to break up the ofttimes bare rafter, and give a more cheerful appearance to the house. Amongst the most suitable for this work will be the Dendrobiums, and if the plants are grown in a plant stove they can be removed to a cool, airy house and rest after completing their growth, and be introduced into heat according as they are wanted in flower. An exception to this treatment will be found in the nigro-hirsute section, which would include D. formosum giganteum, D. Jamesianum, D. infundibulum, &c., which throw up their blooms on completing their growths, and require plenty of heat and moisture until the flowers are opened. The Oncidiums, Odontoglossums, Epidendrums such as E. atropurpureum, E. vitellinum majus, E. bicornutum, &c., Lælias, including L. anceps, L. autumnalis and its varieties would all do well; indeed, it is doubtful if there be a better method of growing those plants, and a plant stove suits them admirably.

There are many other Orchids which can be very well grown in this way, and I would strongly recommend those growers who may have only a few, and where a house is not entirely devoted to their culture, to grow their plants in baskets. I often meet with cases where a few Orchids are placed in a corner of the house by themselves, away from the light. The consequences are that the plants fail to do well, and are then said to be difficult to grow; but if the plants were kept well up to the light, much of the difficulty would vanish, and the culture of Orchids would become more general.

With Orchids that require plenty of heat, we find as a rule the plants more successfully managed, and where only a few of the cool house section are grown, as a rule the plants are in a bad condition. The cool-house section, consisting largely of Odontoglossums, are generally grown in pots, but Odontoglossum Alexandræ, O. Pescatorei, O. cirrhosum, O. Hallii, etc., can be equally well grown in baskets suspended from the roof in the greenhouse. The plants will require plenty of moisture at the roots, as well as to be freely syringed over head once or twice a day during the time they are making their growths. Many of the Odontoglossums, I am afraid, are allowed to die for want of sufficient moisture. To those who may not have succeeded with their culture in pots, in a cool house, let me advise them to try them in baskets suspended from the roof.

The temperature of the different houses may still be kept as recommended in last calendar, but should sharp cold weather set in, they may be allowed to fall a few degrees lower.—*A. W.*

Vanda Hookeriana.

AMONGST many novelties and good things in flower at Parkfield, near Worcester, the seat of C. W. Lea, Esq., is the plant above named. A number of plants are grouped together, and some two dozen blooms being expanded I need not say how delighted I was to see this beauty in such perfection. Mr. Lea informed me that the same plants flowered last May; so that it is evident Mr. Catt, his enthusiastic gardener, has hit upon the right mode of treatment. I was also struck with some very fine examples of Lælia pumila, præstans and Dayana varieties, which were well flowered. The Pleiones are also grand, and shortly the rarely seen in flower but very beautiful Odontoglossum coronarium will be in perfection. Two well-grown plants, one with three and the other with two grand spikes, will be worth going a long journey to see. Those who have grown this plant so long with unsatisfactory results will, I doubt not, envy Mr. Catt his success.—*A. A.*

Cattleya Warocqueana and its varieties.

No one can for a moment dispute the value of any good Orchid flowering at this season of the year, and in the one above mentioned we have a gem. Amongst plants obtained from the earliest importations some extraordinary fine forms have appeared, and there is now in flower in the fine collection of the Right Hon. J. Chamberlain, at Highbury, near Birmingham, a variety which is identical in every way with the hitherto rare and beautiful autumn-flowering C. labiata. It has three fine flowers on one spike, and standing out conspicuously as it does here amongst so many fine things, one can only say that it is one of the finest Cattleyas in cultivation.—*Rusticus.*

Dendrobium Phalænopsis and Statterianum.

THESE are likewise valuable additions to a grand family, and flowering as they do just now with such varied shades of colour, as seen at Highbury, they are indeed a welcome addition. Many of Mr. Chamberlain's plants are wonderfully attractive, and make a splendid feature in the show house.—*Rusticus.*

Vanda unicolor.

THE flowers of this Vanda are nearly the size as those of V. insignis, and of similar form and texture, but of course altogether different in colour. The petals and the upper sepal have a rounded, wavy lamina, while the lateral ones are oblong. All are suffused with pale brown, and reticulated with darker veins on a yellow ground, but the yellow is, of course, almost obscured. The three-lobed lip is different, the middle lobe being fiddle shaped, convex above and pale greenish, while the lateral lobes are nearly white externally and creamy-yellow internally, minutely dotted with purple and striated with lines of dots of the same colour at the base. The short stout column is whiter than any other portion of the flower, and being central, stands out conspicuously against the uniform hue of the sepals and petals. It has recently flowered with Messrs. B. S. Williams & Son, Upper Holloway.

Gomeza planifolia.

THE flowers of this Orchid are neither very large nor conspicuous individually, bnt collectively may be termed pretty. The sepals and petals are so disposed with the rest of the flower as to resemble a soldier in full dress. The lip is curved and does duty for the chest, while the column represents the head and head gear. The flowers are pale yellow, and produced in numerous arching or drooping racemes, and give out a strong but agreeable odour which is most powerful during the afternoon. The duration of the flowers is remarkable, for some plants have been flowering for weeks past at Devonhurst, Chiswick, and after being in bloom for some time some of them were taken to the dwelling house, and after serving their turn there were little the worse when brought back. The plants are grown in small baskets, and hung up near the glass in a house containing Odontoglossums, Lycastes, and Cypripediums requiring only a low temperature.

SOCIETIES.

Manchester Royal Botanical and Horticultural.—The exhibition of hardy fruits organised by this Society, and opened in the Town Hall, Manchester, on Tuesday, brought together a grand collection of produce, and as the weather was on its best behaviour, the attendance of visitors was extremely satisfactory. In Class 1, open to all, for the best eighty dishes of Apples, six fruit of each, dissimilar, fruit grown under glass excluded, the Society's large Gold Medal was well won by Messrs. Geo. Bunyard & Co., of Maidstone, with large and fine examples of the Red Hawthornden, Golden Spire, Cox's Pomona, Peasgood's Nonsuch, Loddington, Queen Caroline, Sandringham, Lane's Prince Albert, Ribston, King of the Pippins, etc. The second prize, the Society's medium Gold Medal, went to Mr. John Watkins, Withington, Hereford, for a very good collection; including fine samples of Pott's Seedling, Gloria Mundi, Peasgood's Nonsuch, Dumelow's Seedling, Herefordshire Beefing, very large Blenheim Orange, and others. The Silver Medal, for the third prize, went to Messrs. J. Cheal & Sons, Crawley, for a collection very little inferior to the second, only a few points separating them. Their best dishes were of Ecklinville, Peasgood's Nonsuch, Emperor Alexander, Blenheim Orange, Round Winter Nonsuch, The Queen, Beauty of Hants, etc.

For fifty dishes of Pears, dissimilar, fruit grown under glass excluded, the judges, after a very close scrutiny, gave the large Gold Medal to Mr. John Watkins; the medium Gold Medal to the Earl of Harrington (Mr. J. Goodacre, gardener), and the Silver Medal to Messrs. George Bunyard & Co., all of whom showed very fine examples of the leading varieties. Messrs. J. Cheal & Sons were the only exhibitors in the class for eighty dishes of Apples and Pears, grown under glass, and the collection being especially fine, well deserved the large Gold Medal awarded.

In the Amateurs' class for thirty-six dishes of Apples (fruits grown under glass excluded), a very strong competition took place, and the large Gold Medal, as first prize, went to Messrs. de Rothschild, Gunnersbury (Mr. G. Reynolds, gardener). His collection included fine dishes of Stirling Castle, Golden Noble, Peasgood's Nonsuch, Mere de Menage, Cox's Orange Pippin, &c. The medium Gold Medal went to the Earl of Harrington, Elvaston; and the Silver Meda to C. Lee Campbell, Esq., Glewston Court, Ross (Mr. J. Wright, gardener). For thirty-six dishes of Apples and Pears, grown under glass, the large Gold Medal went to the Earl of Durham, Lambton Castle (Mr. J. Hunter, gardener), for large and fine fruit, beautifully coloured—a superb lot. He was closely followed by Sir J. W. Pease, Bart., Hutton Hall (Mr. J. McIndoe, gardener), who took the medium Gold Medal; while the Silver Medal was awarded to Saml. Barlow, Esq., Llandudno, in whose collection was the finest dish of Apples in the exhibition, six superb Peasgood's Nonsuch.

For ten bunches of Grapes, not less than three varieties, the large Gold Medal went to Mr. J. Goodacre, for a superb lot, his Muscats being fine examples of good cultivation, large both in bunch and berry, and beautifully coloured. He had also fine Muscat Hamburghs, Alnwick Seedling, Gros Colmar, and Black Alicante. The second prize was taken by Messrs. de Rothschild, Gunnersbury, with two bunches each of Muscats, Black Hamburghs, Trebbiano, Gros Maroc; and one each of Alicante and Chasselas Napoleon. The third prize went to Sir J. W. Pease, for a collection of all Black Grapes. For three bunches of Grapes, the prizes went to C. Lee Campbell, Esq., the Earl of Carnarvon, and Sir Joseph Whitwell Pease. In the classes for fruit grown within twenty miles of Manchester, the principal prizes went to A. Smith Barry, Esq., R. P. Gill, Esq., Ashton-on-Mersey, and Mrs. Grundy, Lymn.

Her Majesty the Queen (Mr. O. Thomas, gardener) sent from Frogmore Gardens 250 dishes of Apples and Pears, and to this fine exhibit the Society's Gold Medal was awarded.

The non-competing exhibitors made a very fine display, the largest collection, 200 dishes, being sent by Messrs. James Veitch & Sons, of Chelsea. These were admirably arranged, and formed quite one of the features of the Show. Messrs. Dicksons Limited, Chester, put up 130 dishes of Apples and Pears—a fine lot. Messrs. Richard Smith & Co., of Worcester, sent 70 dishes of Apples and Pears, and Messrs. Clibran & Son, of Altrincham, 50 dishes. Mr. J. Watkins exhibited 60 dishes of cyder fruit, remarkable for their high colour—a very interesting collection. Mr. Crump (gardener to Earl Beauchamp, Madresfield Court) staged 24 dishes of Apples and Pears, the latter being some of the finest in the whole exhibition. J. Grant Morris, Esq., Allerton Priory, Liverpool (Mr. J. Craven, gardener), put up a nice collection of Pears. Mr. J. Clarke, Farnham, was awarded Special Prize for a collection of Grapes grown without fire heat. A First-class Certificate was awarded to Mr. A. J. Harwoode, Colchester, for a Black Bullace Plum, the cut branches being loaded with fruit. This should prove invaluable for preserving purposes.

Royal Aquarium Autumn Fruit Show, *October 14th.*—This show, the first of its kind which has been inaugurated by the Royal Aquarium Society, turned out to be a great success, especially as far as Apples

and Pears were concerned. There were also some good general collections of fruit, including fine samples of Grapes, and vegetables were also well shown. For a collection of twelve dishes of fruit, including Grapes, Mr. P. Blair, gardener to the Duke of Sutherland, Trentham, Stoke-upon-Trent, carried off the first honours with Madersfield Court, Muscat of Alexandria, Alicant, Gros Colmar, and Black Hamburgh, as well as with Pine-apples, Apples, Pears and others in fine condition. Mr. G. Reynolds, gardener to the Messrs. de Rothschild, Gunnersbury Park, Acton, took the second place with huge bunches of Trebbiano, and fine samples of Gros Maroc, Mrs. Pince, Muscat of Alexandria, and other fruits. Mr. C. Davies, The Mote Gardens, Maidstone, was third with a very varied lot. The prizes offered for a collection of Apples, dessert or culinary, brought some grand exhibits, including fine dishes of Peasgood's Nonsuch, Bismarck, Stirling Castle, Cellini, New Hawthornden, Warner's King, Gloria Mundi, etc. The first award was taken by Messrs. Geo. Bunyard & Co., Maidstone; Mr. John Watkins, Pomona Farm Nursery, Withington, Hereford, was second; and Mr. A. Waterman, gardener to H. L. C. Brassey, Esq., Preston Hall Gardens, Aylesford, Kent, was third with a fine lot. Mr. C. Davies had the best collection of Pears; and was followed by Messrs. J. Cheal & Sons, Crawley, with fine samples of Pitmaston Duchess, General Todtleben, and others; Messrs. G. Bunyard & Co. were third. Mr. C. Blick, gardener to Martin R. Smith, Esq., The Warren, Hayes Common, had the best twelve dishes of Pears; Mr. C. Davies was second; and Mr. W. A. Cook, The Gardens, Compton Basset, Wilts, was third. Mr. F. Bridger, gardener to Lord de l'Isle and Dudley, Penshurst Place, Kent, had the best six dishes of Pears. The competition for eighteen dishes of Apples was keen, and the first award was taken by Mr. C. Davies; Mr. F. Bridger was second; and Mr. G. Reynolds was third. The exhibit of Mr. H. Markham, gardener to Viscountess Falmouth, Mereworth Castle, Maidstone, received no award, but it was certainly fine, and might have taken a higher place. Mr. A. Wyatt, Hatton, Middlesex, had the best six dishes of dessert Apples; and Mr. G. H. Sage, gardener to the Earl of Dysart, Ham House, Richmond, was second. Mr. F. Bridger and Mr. G. H. Sage took the two first awards for culinary Apples in the order named. Mr. Ryder, Orpington, Kent, had the best twelve dishes of Tomatos; and was followed by Mr. Norman Davis, Lilford Nurseries, Camberwell, with fruits grown in the open air. Mr. G. Reynolds carried off the first award for twelve bunches of Grapes with fine samples; Mr. Wilson, gardener to R. C. Christie, Esq., The Elms, Roehampton, was second. Mr. C. Griffin, gardener to Miss Christy, Coombe Bank, Kingston, had the best three bunches of black and also white Grapes. Vegetables were shown in grand condition, and the first award for twelve varieties went to Mr. T. Wilkins, gardener to Lady Theodora Guest, Inwood House, Blandford; Mr. R. Lye, gardener to W. A. Kingsmill, Esq., Sidmonton Court, Newbury, was second; and Mr. C. J. Waite, Glenhurst, Esher, was third. Mr. C. Griffin had the best six Tomatos; Mr. T. Horsman, gardener to C. H. Golding Bird, Esq., Meopham, had the best Parsnips; Mr. T. Wilkins was first for Onions and Carrots; Mr. R. Lye had the best Leeks and Beet; Mr. J. C. Waite was first for Cauliflowers; and Mr. C. Osman, South Metropolitan District Schools, had the best Celery.

There was a large number of miscellaneous exhibits, including a fine group of tuberous Begonias from Messrs. J. Laing & Sons, Forest Hill. For this group they were awarded a Silver Medal, and another for a large collection of Apples. A similar award was made to Messrs. J. Cheal & Sons, Crawley, for a collection of Dahlias, Apples and Pears; to Messrs. John Peed & Sons, Mitcham Road, Streatham, for a large collection of Apples and Pears; to Messrs. Richard Smith & Co., Worcester, also for Apples and Pears; to Messrs. Chas. Lee & Son, Ealing, for a collection of Apples and Pears in fine condition; and to Messrs. W. Paul & Sons, Waltham Cross, for Roses, shrubs, Apples and Pears. Mr. H. J. Jones, Ryecroft Nursery, Lewisham, showed a nice group of early-flowering Japanese Chrysanthemums, some of which were commended. Messrs. H. Cannell & Sons, Swanley, showed Begonia and Chrysanthemum flowers. Dwarf-trained Chrysanthemums were shown by Mr. H. Neary, gardener to the Rev. R. W. Powell, Hornsey. Mr. M. Pritchard, Christchurch, Hants, had a group of herbaceous plants and shrubby Veronicas. Marigolds were shown by Mr. W. Salmon, West Norwood. At a meeting of the National Chrysanthemum Society collections of cut flowers of Chrysanthemums were shown by Mr. R. Owen, Maidenhead, and Mr. Norman Davis, Lilford Road, Camberwell. A stand of Japanese and another of Anemone varieties were shown by Mr. E. Rowbottom, gardener to H. R. Williams, Esq., The Priory, Hornsey. Several varieties sent by different exhibitors were certificated, for which see under "New and Rare Plants."

WHAT TO DO IN THE GARDEN.

Tydæas.—Late batches of these plants will now prove serviceable in the stove as other flowering subjects get scarcer. Showy and useful kinds for late work are Madame Heine, Aurantiaca, and Robert le Diable. These should be arranged in groups in association with other groups of flowering plants such as Ixora, Gardenia, Gesneras and others. Foliage plants of various kinds, both with broad and massive leaves, and others with graceful and finely divided leaves, may be utilised in such a way as to produce a fine effect for some time to come.

Gloxinias and Achimenes.—As the flowers of late varieties fail, and the foliage shows signs of going to rest, the plants should be transferred to some dry and warm place, or on shelves near the glass in a vinery from which the fruit has been cut. The plants must not be suddenly dried off or it will be at the expense of the corms, which would shrivel and otherwise keep badly during the winter months.

Bromeliads.—Be very sparing with the syringe on plants of this class, especially those whose leaves have a large sheathing base in which the moisture collects to their injury in cold, damp weather. To prevent this the plants should occasionally be inverted and the water run out.

Hard Wooded Plants.—It must be remembered that newly housed plants of this kind must receive all the light and air possible to prevent undue excitement of growth, otherwise they will become unhealthy and a prey to mildew and insect pests. Every attention should be paid to the cleanliness of the glass, and to the arrangement of the plants so as to stand clear of one another and admit a free play of light and air. So long as the night temperature stands somewhere about 40° or 45° no fire heat will be necessary and a little only need be given in the morning to expel damp in protracted periods of damp weather.

Trees and Shrubs.—Evergreen subjects including Conifers do well as a rule when transplanted at this season of the year. Very large Conifers and Hollies had best be left till spring, and the moving effected if possible during showery weather. Large and valuable specimens of Conifers may be prepared for removal by digging a trench round the tree, at a suitable distance relatively to the size of the specimen, and filling this with rich, light material containing a good proportion of leaf soil. This will encourage the development of a mass of fibrous roots, and the trees so prepared may be moved with safety next autumn provided they are lifted with a good ball. Trench the ground 2 ft. deep equally all over where plantations are made.

QUESTIONS AND ANSWERS.

Books.—*J. O., Berwick:* Henfrey's *Elementary Botany.* Price about 15s.

Names of Plants.—*W. S.:* 1 and 6, Garden varieties of Pelargoniums, which we cannot undertake to name; 2, 3, and 4, Garden Fuchsias, which can only be named by those who grow a large collection; 5, Begonia imperialis; 7, Davallia Nooæ-zelandiæ; 8, Billbergia thyrsoidea splendens. *Aster:* 1, Aster Novi Belgii densus; 2, A. Novæ-Angliæ roseus; 3, A. trinervis; 4, A. Novi-Belgii var.; 5, A. dumosus; 6, A. sagittifolius. *A.C.:* Cryptomeria japonica; 2, next week possibly for the fresh sample you sent; 2, Juniperus communis succica; 3, Cupressus Lawsoniana; 4, Juglans regia, the common Walnut; 5, Alnus glutinosa laciniata.

Levelling.—*J. C.:* We do not know of any cheap book specially devoted to the subject of levelling, the making of embankments, etc. You might try Messrs. Spon & Co., 125, Strand, W.C. Most of the standard works on gardening give samples of levelling, but do not, as a rule, go very extensively into the subject. With regard to your second question, we are unable to say anything about the house you mention.

Names of Fruits.—*W. Davis:* 1, Beurré Clairgeau; 2, Beurré d'Amanlis; 6, Bonne d'Ezée; 4, Beurré Bosc; 5, Autumn Colmar.—*A. L.:* 1, Keswick Codlin; 2, Hawthornden, 5, Northern Greening; 6, Dutch Mignonne; 11, Kentish Codlin; 13, Golden Spire; 14, Cox's Pomona; 15, Winter Hawthornden; 17, Hawthornden; 19, Cat's Head.—*T. F.:* 1. Dutch Mignonne; 2, Cox's Orange Pippin; 3, Kerry Pippin; 4, Stirling Castle; 5, Hawthornden; 6, Nonsuch; 7, Lord Suffield.—*J. L. Bray:* 1 and 13, Duchesse d'Angouleme; 2, Beurré Hardy; 2, Beurré Bachelier; 4 and 8, Glou Morceau; 6, Sturmer Pippin; 9, Beurré Rance; 10, Passe Colmar; 11, King of the Pippins; 12 and 19, Marie Louise; 14, Beurré Stirkman's; 15, Winter Nelis; 17, Deux Sœurs; 18, Yorkshire Greening; 20, Cox's Pomona; 21, Dumelow's Seedling; 22, Yorkshire Beauty; 23, Jefferson's. We beg our correspondents to be moderate in their demands on our time. Six specimens at a time is our limit.

Corm or Bulb?—*Colchicum:* The rootstock of Colchicum is a true corm, but it is somewhat different from that of Crocus. Just now, flowers are being produced from the side and near the base of the shortened stem or corm. The short flower scapes are surrounded by sheaths and rudimentary leaves. In the axils of the two lowest leaves, small buds may be found. During the winter the intermode between the bud swells up, forming a new corm; and towards spring the leaves become well developed and are seen to arise from the top of the new corm, while the old one is gradually becoming shrivelled up. The upper one of the two buds above mentioned forms a bud or small corm corresponding to an offset, while the lower bud gives rise to the flowers which will be produced next autumn. The difference between a corm then and a true bulb, is that the former is a short, thickened and fleshy stem with very slightly developed intermodes, while the latter consists chiefly of fleshy, sheathing tunics or of narrow, fleshy scales all attached to the upper surface of a very much shortened and flattened body corresponding to the stem.

Transplanting Rhododendrons.—*A. J. R.:* Spring, as you say, is the best time for lifting and transplanting subjects of this class, but, provided you lift them with a good ball, you may do this at almost any time, provided watering is attended to when the operation is performed in dry weather. If the soil in which the plants are growing is of a peaty nature, or fairly retentive, the close mass of fibrous roots will hold a sufficient amount of soil together to enable the plants to be moved with safety at once. Peat and leaf soil should be freely used in the preparation of the ground for the fresh plantation, more particularly if the natural soil is of a light and gravelly nature or heavy retentive clay.

Cape Gooseberry.—*L. H.:* The temperature of a greenhouse is all that is necessary to enable you to grow and fruit the plant successfully, provided the other cultural matters are properly attended to. Being nearly hardy, it is often fruited on a wall in the open air in fine summers. You cannot, however, expect it to fruit during the first year from seed; but if you can get cuttings and strike them in heat, between this and early spring, the chances are that some fruit will be produced the first year. Give plenty of water when making growth, and an abundance of air at all times during the summer months. The ripening of the fruit would be encouraged by partially withholding water during the period of maturity.

Clematis Flammula.—*M. M.:* Your plant must have been very weak, otherwise it would have been strongly established by this time. We strongly suspect that slugs have eaten off the young shoots in spring when they were yet in a tender state. If the roots are still fresh they may send up shoots in spring. In the mean time carefully examine the ground all round the plant to see if no slugs are harbouring there; then cover the crown with dry leaves for the winter, laying some soil upon them to prevent their blowing about. As the weather gets warmer in spring remove the leaves, and surround the crown with a layer of sifted coal ashes to keep the slugs away.

Communications Received.—R. D.—M. C.—W. S. & Co.—J. R. P.—J. D.—C. P.—W. R.—W. S.—W. B.—T. H.—A. H. (next week)—D. Hill (next week)—R. D.—Rose.

TRADE CATALOGUES RECEIVED.

James Cocker & Sons, Aberdeen.—Roses, Fruit Trees, Perennials, and Tuberous-rooted Plants, etc.

LONDON SEED TRADE.

October 19th, 1891.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, E.C., report that owing to rainy weather the trade in winter Tares and Rye is slow and values unchanged. Red Clover is hardening, the prospect of harvesting any seed in England being doubtful. Rye Grasses steady, with a fair export demand.

COVENT GARDEN MARKET.

October 21st.

FRUIT.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.		s. d.	s. d.
Apples... per ½-sieve	1 0	5 0	Pine apples.		
Cobbs... per 100 lbs.	32 6	35 0	—St. Michael's, each	2 6	8 0
Grapes .....per lb.	0 6	2 0	Peaches .....per doz.	1 0	6 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Beans, French, per lb.	0 4		Lettuces ...per dozen	1 0	1 6
Beet..... per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages ... per doz.	1 6	2 6	Onions.....per bunch	0 4	0 6
Carrots ... per bunch	0 6		Parsley ... per bunch	0 6	
Cauliflowers, English, per doz.	3 0	6 0	Radishes... per dozen	1 6	
			Small salading, punnet	0 4	
Celery.....per bundle	2 6		Spinach, per strike ...	1 6	
Cucumbers .....each	0 6	0 9	Tomatos..... per lb.	0 6	1 0
Endive, French, doz.	2 6	3 0	Turnips .....per bun.	0 6	
Herbs .....per bunch	0 2	0 6			

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Aralia Sieboldi ...doz.	6 0	12 0	Ferns, invar..per doz.	4 0	18 0
Bouvardias...per doz.	8 0	12 0	Foliage Plants, doz.	12 0	60 0
Chrysanthemums, doz	6 0	12 0	Heliotrope, per doz.	4 0	6 0
— large .....per doz.	12 0	24 0	Liliums, various, doz.	12 0	30 0
Coleus.....per doz.	3 0	6 0	Marguerites, per doz.	6 0	12 0
Cyperus .....per doz.	4 0	12 0	Mignonette, per doz.	4 0	6 0
Dracæna term., doz.	24 0	36 0	Palms in variety, each	2 6	21 0
Dracænaviridis, doz.	9 0	18 0	Pelargoniums ... doz.	6 0	9 0
Evergreens, invar. doz	6 0	24 0	—scarlet .....per doz.	2 0	4 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blms.	3 0	6 0	Maidenhair Fern, 12 bs.	4 0	9 0
Asters, doz. bunches	4 0	6 0	Marguerites, 12 bun.	1 6	4 0
Bouvardias, per bun.	0 6	1 0	Mignonette... 12 bun.	1 6	3 0
Carnations, 12 blooms	1 0	2 0	Myosotis..doz. bchs.	2 0	4 0
— per dozen bunches	4 0	6 0	Parme Violets, French, per bun.	2 6	3 6
Chrysanthemums, doz. blooms	0 9	3 0	Dark „ „ „	1 0	2 0
			Pelargoniums, 12 sps.	0 6	0 1
Chrysanthemums. doz. bunches	4 0	12 0	—scarlet ... 12 sprays	4 0	6 0
Dahlia, doz. bunches	2 0	4 0	Primula, double, bun.	0 6	1 0
Eucharis ...per doz.	2 0	4 0	Pyrethrum, doz. bchs.	2 0	4 0
Gardenias 12 blooms	1 6	4 0	Roses, yellow, dozen	2 0	4 0
Gaillardia, doz. bun.	2 0	4 0	— mixed... doz. bchs.	1 6	4 0
Heliotropes, 12 sprays	0 3	0 6	— Red..... doz. bchs.	2 0	6 0
Lapageria, 12 blooms	1 0	3 0	— Saffrano...per doz.	1 0	1 6
Lilac, French, per bunch	5 0	7 0	— Tea ..... per dozen	1 0	3 0
			Stephanotis, dz. spys.	2 0	4 0
Lilium Harrisii, doz. blooms	3 0	6 0	Tuberoses, per doz.	0 3	0 6
			Violets, English per bunch	1 6	2 0
Lilium var., doz. blms.	1 6	3 0			

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LONDON ROAD CAR COMPANY, Ltd.

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Tenders are invited for Removing the Manure from the various Stables of this Company from 1st Jan. to 31st Dec., 1892.

List of Stables and Number of Horses in each:—

	Horses.
Page Street, Westminster	342
Regency Street, Westminster	56
Brewery Road, Caledonian Road	257
Catherine Wheel Yard, Bishopsgate Street	40
Lamb Street, Spitalfields	60
16, Fulham Road, S.W.	125
Farm Lane, Walham Green	655
Cedars Mews, West Kensington	165
Milman's Street, Chelsea, S.W.	175
Gillray Square, Chelsea, S.W.	72
Star Road, West Kensington	199
Mulgrave Road, West Kensington	40
42, Walmer Road, Notting Hill	83
143, Walmer Road, Notting Hill	115
82, Hammersmith Road, W. (near Broadway)	377

Tenders marked "Tender for Removing Manure," to be addressed to the Secretary, from whom full particulars may be obtained and lodged not later than Saturday, 24th inst.

Tenders can be made either for a section or for the whole of the Stables.

9, GROSVENOR ROAD, WESTMINSTER,
13th October, 1891.

150,000.

SPECIAL OFFER OF KENTIAS.

W. ICETON, Putney,

Has a large quantity of the above to offer very reasonable at from ... ... £7 10s. per 1000.
Thumbs, well-established... £10 „
In 60's, fine stuff ... ... £30 „

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12	Perennial Cornflowers, lovely blue	2 3
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12	Seedling Carnations, from double flowers	2 3
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6	Lobelia cardinalis, intense red flowers, perennial	2 0
3	Ampelopsis variegata (variegated Virginian Creeper)	1 6
6	Herbaceous Calceolarias, best strain	1 9
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1	Tacsonia, 1 Hoya, 1 Solanum jasminoides	2 0
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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Nov. 2.—Bulb Sales at Protheroe & Morris' and Stevens' Rooms. National Chrysanthemum Society: Meeting of General Committee at 7 p.m.

TUESDAY, Nov. 3.—Fruit Show and Conference at Carshalton (2 days). Chrysanthemum Shows at Brighton (2 days), Blackheath (2 days), Southampton, Pembroke, Watford (2 days), Wells (2 days), and Finchley (2 days). Bulb Sale at Protheroe & Morris' Rooms.

WEDNESDAY, Nov. 4.—Chrysanthemum Shows at Ascot, Ealing, Cornwall (3 days), Dalston (2 days), Sittingbourne (2 days), Portsmouth (2 days). Bulb Sales, &c., at Protheroe & Morris' and Stevens' Rooms.

THURSDAY, Nov. 5.—Chrysanthemum Shows at Highgate (2 days), Camberwell (2 days), Grimsby (2 days), Stroud (2 days), and Tottenham (2 days). Bulb Sale at Protheroe & Morris' Rooms.

FRIDAY, Nov. 6.—Chrysanthemum Shows at the Crystal Palace (2 days), and Bradford (2 days). Sale of Cattleya labiata at Protheroe & Morris' Rooms.

SATURDAY, Nov. 7.—Crewe Chrysanthemum Show. Bulb Sales at Protheroe & Morris' and Stevens' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, OCTOBER 31st, 1891.

THE CHRYSANTHEMUM SHOWS.—We are just now on the eve of the Great Annual Chrysanthemum Festival, for it is difficult to describe what is, in relation to this wondrously popular flower, a species of worship, under any other title. For the next few weeks Chrysanthemums will be literally everywhere. They will be in all our mouths, they will fill up the columns of our papers, and be the object of adoration amounting almost to fetishness. Still we complain not, because we have not in horticulture any other such flower as the Chrysanthemum. It is a poor man's flower, a rich man's flower, a town flower, a country flower, a show flower, and "a common or garden" flower.

There seems to be no end to its merits or its remarkable variety and beauty. Everybody, almost, can grow Chrysanthemums, and become conversant with them. We have no more democratic flower, simply because it is everybody's. No wonder then that its chief blooming season is always an exciting one. Its flowering period, during which the best of the blooms are found, hardly endures for three weeks, perhaps a month at most, and those few weeks have to be made the most of. Shows in honour of "The Golden Flower" are held everywhere; almost every town in the Kingdom, and not a few of our villages, have their shows of the popular winter-blooming flower, and in all directions the various competitions are watched with the keenest interest.

Happily, indeed, the demon of gambling has not got into the horticultural world, or we might, under the fever of excitement which this intensity of feeling in relation to the Chrysanthemum creates, find money laid on the various competitions. That misfortune we hope and believe will never come upon our flower shows. Just now

growers are watching the progress of their blooms to perfection with the deepest interest. The excessive rainfall has made for them an anxious time, but it might have been worse. So far the promise is good; may that promise be abundantly realised.

MUNICIPAL CHRYSANTHEMUMS.—We notice, with great pleasure, that the London County Council not only continues in the path of its predecessor, the Metropolitan Board of Works, in promoting good displays of Chrysanthemums in the London Parks under its control, but also encourages their expansion, so that this year the shows are really remarkably fine, and surprise those who, not having previously seen them, find very fine and effective displays. The great feature of these Town Park Shows, to our mind, is that in spite of the surroundings, and being placed in each case amidst the poorer and most populous neighbourhoods, yet the plants are wonderfully robust and healthy, and the flowers fine and well coloured.

Naturally, the Japanese forms are in the greatest profusion. At Victoria Park there are in the show house, which is a long, broad structure, some two hundred plants, and there are probably from one thousand five hundred to one thousand eight hundred in each of the other parks of Battersea, Finsbury and Southwark. Of course, all these excel by a long way those shown in the Temple Gardens, good as they are, and have the merit of being provided by the municipality for the people whose shows they really are. But the growers of these hosts of plants have experienced much difficulty in keeping out damp during the recent disastrously wet weather. Damp has been the *bete noir* of the Chrysanthemum grower universally, and many a too early noble bloom has had to be sacrificed because of the too prevalent wetness, which no measures could check.

If any demonstration were needed as to the great fitness of the Chrysanthemum for town cultivation, these large municipal collections furnish it. That fact, however, we knew long since. However, we most cordially give to the respective Park Superintendents all possible praise for their Chrysanthemum Shows this year, praise to which the respective growers are also entitled to share in, whilst the London County Council merit our best thanks also.

THE FLOODS.—Even where not literally under water, as is the case of so much land, there can be no question but that the ground is so saturated that it is almost in a flooded condition, and is suffering greatly from the immense access of water which has marked what must be considered a very abnormal season. That work of all kinds on the ground has been greatly hindered, is of course all too true. Late Potatos it is almost impossible to lift, because the soil resembles clay; planting cannot be proceeded with for the same reason. Farmers are at their wits' end how to prepare the soil for the autumn sowings, and already the state of the ground discounts the prospects for the next year's corn crops. Thus an abnormal season casts a dark cloud a long way ahead.

But still we have all to admit that what we are experiencing was due, and must have come upon us sooner or later. We had, from August of last year until the spring a wonderfully dry time, and although we had a good deal of rain through the summer months, yet the general effect on the soil was not considerable, because the warmer temperature of the season soon dried it up again. Now that the sun exercises little influence on the condition of the soil every drop of rain tells. The ground is now literally full up of moisture, although for the good of the trees whose roots run deep we have not had a drop too much.

It is rather because we have had the moisture crowded into the autumn so abundantly that the floods have come. Given a few dry days and these will, however, soon subside. Unfortunately there seems to be little hope that we shall have any appreciable extent of dry weather yet, and it is just possible that what of dry atmosphere we get this winter, may result only from frosts. It is even yet possible that we may get little of frost, as so far these visitations have not been felt. It is indeed an unusual thing for us to pass through October without some sharp frosts.

AUTUMN TINTS.—It is rather an unusual experience that we should have a veritable autumn tint without real autumn natural elements. Somehow, wonderful as it may seem to observe all vegetation more or less exhibiting itself in various stages of decay, yet is there in such decay—nay even in such death—much that is beautiful. Just as the swan is said to sing its own death dirge, so, in a metaphonical sense, do the trees seem to go to their annual death in exceeding beauty. But still the rich coloration which ordinarily constitue the death trappings of the deciduous trees is only usually apparent when the autumn time is warm and dry. Then very often is our rude copy of the Indian summer a gloriously beautiful season, all too short, all too fugitive, but still very lovely.

This year alas! we have the death of the leaves upon us, but much of the beauty is absent, the rich display at the Drill Hall on Tuesday notwithstanding. Either under the constant rainfalls the trees retain their foliage in exceeding greenness, or else they have their decaying foliage torn to shreds or stripped from the branches, and cast to the earth in the wildest way, and most ignoble fashion. When the sun warms the autumn air, and lights up with its soft but ruddy glow the foliage of the Oaks, Elms, planes, Birches and Beeches, the Acers and the Liquidambars, the Chesnuts and the Poplars, there is in nature a beauty from which we reluctantly part.

This season we shall hail the completion of the fall of the leaf with satisfaction. So far the trees have suffered heavily under the fierce and terrible forces of the storms. They have strewn lawns and gardens with leafage and wreck. The sooner, now, all is over, nature's rest has come and the last leaf is gathered to its fellows, the better will it be for all who garden.

A long Pelargonium Border.—Perhaps the largest Pelargonium border ever planted was one seen this season in the Washington Park, Chicago. It was of serpentine form, 1,853 ft. long, 5 ft. 6 in. wide, and contained 11,655 plants in seventeen varieties.

Royal Western Horticultural Society.—The good town of Plymouth has, it seems, never enjoyed the luxury of a spring flower show, but at a recent meeting of the Royal Western Horticultural Society it was decided that this should no longer be the case, and arrangements were made for holding a show in the Guildhall in May next.

The effects of last Winter.—*L'Illustration Horticole* relates that some large and well developed trees of the Weymouth Pine (Pinus Strobus) succumbed to the effects of the severe weather last winter in the Citadel Park at Ghent. After dying they quite dried up, notwithstanding the humidity of the season; and their destruction cannot be attributed to anything else except excessive cold.

Cattleya labiata autumnalis vera.—On Friday, before this number will have reached all our readers, Orchid lovers will enjoy a unique spectacle in the sale room of Messrs. Protheroe & Morris. The old autumn-flowering Cattleya labiata has for many years been a scarce and highly valued plant, and such a sight as some 200 specimens of it in bloom, which the Messrs. Linden, of Brussels, will offer for sale on that day, has certainly never been seen before in this country. Their exhibition and sale will certainly be one of the Orchidic events of the year.

Japanese Melon.—Under the name of Melon Japonais, M. E. A. Carriere has been recommending a Melon which is the smallest and probably also the earliest of edible Melons. The fruit is about 4 in. long, and a little under 3 in. in diameter, deep green, changing to yellow when mature, at the same time giving off a strange but agreeable odour. The flesh is green, sugary, melting, juicy, and possessed of a flavour resembling that of Orange flowers. Besides being early, it is furthermore remarkable for its fertility and prolonged production.

Carnation Mrs. Muir.—Mr. M. Campbell, of Blantyre, N. B., sends us a fine bunch of flowers, singularly pure in colour, and deliciously sweet for the season, of this excellent white variety. Mr. Campbell informs us that the blooms were cut from plants out in the open ground all last winter, and adds, "we cut the first flowers from these plants in the first week in August. Our heaviest cutting was 150 dozens in the second week in September. This morning, Oct. 19th, I have cut ten dozen, and should the weather keep open they will give us flowers for a fortnight yet."

A white Wistaria.—Under the name of Wistaria multijuga alba, what appears to be a very fine thing has been introduced from Japan by the Messrs. Transon, of Orleans. *Le Moniteur d'Horticulture* says that it is very floriferous, and produces straight racemes or bunches of flowers 20 in. to 30 in. long. The plant is vigorous, and grows very strongly for the first few years, and attains a full flowering state in the course of four or five years. It is propagated in the same way as the well known Wistaria sinensis.

Greenwich Park.—The Greenwich Vestry, after a consultation with H. M.'s Office of Works, on the subject of improving Greenwich Park, have passed and forwarded to the Commissioners of Works a resolution asking that the seven acres now apportioned off as a park for the deer may be thrown open, on the ground that the animals have decreased so in numbers, and are so seldom seen, that they have ceased to be an attraction, and their entire removal will give the public the enjoyment of seven more acres of the park.

The Devon and Exeter Gardeners' Association, formed less than a month ago, commenced its first session on the 21st inst. Under the chairmanship of Mr. Alderman Roberts, the first meeting was numerously attended, and Mr. D. C. Powell, of Powderham Castle Gardens, read an excellent paper on "Apples." He had intended treating of Pears as well, but there was not time for this. The paper evoked a spirited discussion, in which Mr. Peter Veitch, Mr. George (late of Bicton), Mr. Carlisle (late of Martin's-lane), and others took part, the remarks all being of the most practical nature. The next paper is to be delivered on November 4th, by the Rev. Dr. Dangar, on "Bees and Bee-keeping."

Polygonum affine.—The quantity of flowers produced by this species and their duration has made the plant a favourite with many growers. Owing to its dwarf habit, it is perhaps best suited for the rock garden; but so hardy and vigorous is it that broad patches may be planted on banks amongst grass by the side of drives, or in the wild garden. Small pieces are of no value, while a broad patch is as effective at a distance as a flower bed at midsummer. The spikes of pink flowers are three or our inches long, and are well backed up by a carpet of bright green foliage.

Sulphate of Copper and the health.—Many authorities believe that the employment of sulphate of copper—to which recourse has been had for some years past for the destruction of animal and vegetable parasites which attack cultivated plants—will be destructive to health. Numerous experiments have proved sufficiently that this is wholly an error. *L'Illustration Horticole* states that it has been proved that sulphated Grapes only contain a maximum of

three milligrammes ($\frac{3}{1000}$ of a gramme) per 2 lbs. Now, those who eat 2 lbs. of Grapes every day without throwing anything away, absorb only in a month as much salt of copper as is considered absolutely inoffensive, even if it were taken all at one time. Mr. Bernard Dyer (p. 132) has proved also that the application of sulphate of copper has absolutely no deleterious effects.

An Educational Collection of Vines for South Australia.—The *Australasian* states that at a meeting of the Central Agricultural Bureau of South Australia, held some time since, Mr. M. Holtze, the curator at the Botanic gardens, signified his intention of starting an educational vineyard in connection with the Botanic park. His idea was to collect all the best species of vines obtainable, and plant them on about an acre of land, which would be be specially prepared. This suggestion was heartily received by the other members of the bureau, and it was considered an admirable one, as young vine-growers would be enabled to visit the gardens and note the growth of the vines.

The air of Forests.—The salubrity of the neighbourhood of forests is generally attributed to the atmosphere there being richer in oxygen. This view is contradicted by *Biederman's Centralblatt*, a German review, which affirms that the atmosphere in the neighbourhood of forests does not contain any excess of oxygen. The salubrity of the air ought to be attributed to the great purity of the atmosphere. Wooded districts are not troubled with smoke, injurious vapours, nor the germs and bacteria that are found in towns. The innumerable leaves and branches of a forest in a manner filter the air, and retain the micro-organisms, which float in the lower grounds. Besides, woods cut the cold and dry winds, so dangerous to the organs of respiration, and render the temperature more uniform. Woody districts offer more ozone, which in itself is very salubrious.

Birmingham Gardeners' Association.—Mr. Harry J. Veitch, of the Royal Exotic Nurseries, Chelsea, opened the winter session, on October 18th, with a lecture describing his visit to Corfu and Greece, giving a large number of admirable illustrations by means of the lime-light and a powerful lantern. It was a most interesting narrative of the principal places he had visited, giving much valued information about ancient and modern Greece, of the principal celebrated buildings and statuary, and throughout ensuring the close attention of his audience. Touching upon the horticulture of Greece, which is of a very limited character, Mr. Veitch drew attention to the cultivation of the Olive trees there in enormous numbers, some three millions of trees being cultivated for the produce of the Olive oil, some of the trees being 500 years old. It was a most interesting and instructive lecture, and Sir Thomas Martineau, the president of the Association, who presided, in proposing a vote of thanks to Mr. Veitch, spoke warmly of the value of the lecture, and Mr. W. B. Latham, in seconding, thoroughly expressed the feelings of the large gathering of members.

PROPOSED BRITISH SCHOOL OF GARDENING AND SMALL HUSBANDRY.

A JOINT committee of the Gardeners' Company and the Royal Horticultural Society have for some time past been considering the subject of the establishment of a British school and college of technical horticulture and small husbandry. They have now drawn up a scheme for adoption by their respective bodies. This provides that the general objects of the school shonld be to impart a higher class of education in the principles and practice of the cultivation of fruits, flowers, vegetables, &c , than is at present obtainable in Great Britain to 1, persons wishing to qualify themselves for employment in gardening and garden farming in this country; 2, the sons of landed proprietors, farmers, and others who are interested in gardening; and 3, persons who may be desirous of emigrating or may be already resident in the colonies. Preference will be given to students of British birth. No student will be admitted who does not already possess some elementary practical knowledge and experience of gardening or garden-farming. All students will, in ordinary circumstances, be expected to continue their studies for at least two years. The object being to impart a thoroughly practical education in gardening, all students must be prepared to devote themselves to the manual as well as to the scientific branches of the work, and to yield implicit obedience to the directors. Efficient directors will superintend the instruction in the various branches of cultivation, and lectures on the scientific aspects of gardening and farming will be delivered by qualified persons and illustrated by practical demonstrations. To attain these objects, it is proposed that the Gardeners' Company and the Royal Horticultural Society should secure suitable land where experimental and practical gardening may be carried on, pending which arrangements are being made to utilise the gardens of the Royal Horticultural Society at Chiswick for the instruction of students in connection with the scheme.

INFRINGEMENT OF COPYRIGHT ILLUSTRATIONS.

A DECISION has just been given in the Court of Session, Scotland, which is of sufficient importance to warrant our bringing it to the notice of our trade readers. Those who are engaged in the preparation and publication of illustrations in English horticultural papers, catalogues, etc., have long been aware of the unprincipled piracy of their work

DESMODIUM PENDULI FLORUM.
See page 133.

carried on by one A. Blanc, of Philadelphia, for the illustration of American trade catalogues. These pirated blocks have also been offered for sale in this country, but notwithstanding the fact that it does not appear to be generally known that a British illustration pirated in the United States and published in this country is as much an infringement of copyright as though the copy were made and issued in the United Kingdom, English traders have not availed themselves of the American copies to any appreciable extent, and hitherto no action has been taken in this country to put a stop to Blanc's piracy.

It now appears, however, that amongst others who have suffered at the hands of the Philadelphia engraver are the Messrs. Sutton & Sons, of Reading, who finding pirated copies of their registered illustrations being made use of by Messrs. John Baxter & Sons, Printers, of Edinburgh, brought an action against them in the Court of Session, and have just obtained a perpetual injunction, with costs, restraining them from infringing the copyright of illustrated catalogues issued by the Reading firm. The Messrs. Baxter admitted having purchased the electros of illustrations from Blanc, but the injunction obtained by the Messrs. Sutton will teach them in future not to make use of pirated blocks, and should prove a useful warning also to those who have the preparation of trade catalogues in this country to be cautious as to what other illustrations they make use of than are not absolutely their own.

Remembering some correspondence which was published in *The Garden* some few years ago, we cannot offer the Messrs. Baxter any sympathy, but as journalists we do thank the Messrs. Sutton for, by their action in this case, obtaining a satisfactory legal judgment upon the point.

THE CLIMATE AND FLORA OF PERU.

THE following notes on the climate and flora of Peru from the pen of Mr. A. Sinclair, an Aberdeenshire man, and well-known Planter, who, along with Mr. Ross (a Kincardineshire man), was chosen some months ago by the Peruvian Corporation of London to undertake a prospective tour through Peru, will doubtless be read with interest.

Writing from Lima, Mr. Sinclair says:—So far as I can judge from one week's experience I have found a perfect climate at last! No use talking of Tasmania after this! The thermometer has varied from 62° to 68° since our arrival here; rain never known of course, and sun very rarely, so much so that umbrellas or parasols are unknown. There has not been more than one hour's sunshine during the past week, but there is quite sufficient light for men or trees, and even the Peradeniya Gardens (Ceylon) do not show finer trees than grow near Lima. Coffee, too, equal to the best Ceylon could show in its palmy days. We have been very kindly received by the President downwards, and altogether we are delighted with Lima, a really beautiful city of some 150,000 inhabitants.

Writing from Tarma, Mr. Sinclair says:—I have crossed the Andes! and still live to tell the tale. Leaving Lima a week ago, we stopped at a village called Matucana, about sixty miles inland, and 7,788 feet above sea level. Here we stayed two days, but were not idle. Procuring mules, we proceeded to ascend the mountains. Matucana may be described as a village of 250 inhabitants, situated at the bottom of a basin only a few hundred yards wide, but widening out to fifty miles at the upper rim, which is covered with snow. The hills rise at an angle of from 45° to 75°, and the so-called roads are really a terror to think of. In the distance the mountains of Peru or the Andes look as bleak and barren as Arabia, and most globe-trotters, who take a passing glimpse, say so; but such is not the case. I have not yet seen an acre upon which the botanist might not revel, and but for the fact that I had to watch with constan dread the feet of my mule, I have never spent a more intensely interesting afternoon than I did during this memorable ride. Up, up, we went, zig-zagging on paths often not more than 18 in. wide, and sloping over chasms that made one blind to look down. Speak of "loupin o'er a linn," here is a chance for any love-sick Duncan.

But oh the flowers! the sweet flowers, who could pass these unheeded. So many old friends too, in all the glory of their native home, welcoming us and indicating the altitude more correctly than any aneroid. First comes the Heliotrope, scenting the air with its massive blue clusters. So different from the straggling exotic in Britain or the leafy lanky plant in Ceylon. This grows in the greatest perfection and profusion about 8,000 ft.; then come miles of bright yellow Calceolarias, intermixed so prettily with a brilliant red Salvia, every vacancy apparently filled up with lovely little Lobelias, curious Cupheas, and creeping Solanums, while our (Ceylon) old enemy, the Ageratum, everywhere intruded his white thieving head. Suddenly all was changed, and hundreds of acres of the most beautiful blue Lupin cover the ground; this grows up to 14,000 ft., and then gives way for the Dandelion, which disputes with the snow at the limit of 16,000 ft.

We were contented, however, on this occasion to reach about 13,000 ft., and very tired as we were, eagerly accepted the invitation of an Indian to enter his hut; and here let me say the ignorant prejudices against the red Indian changed at once as I looked upon this evidently happy and most hospitable family. The best they had was placed before us; and one sweet lassie, seeing we were fond of flowers, disappeared like lightning into a tidy little garden, and brought us such bouquets as I had rarely seen. Imagine real red Roses, Stocks, Fuchsias, Sweet Peas, Gladioli, &c., mixed up with sprigs of Fennel! I could not help contrasting this delightful reception with what I had seen further west, where

"The Australian boor
Against the houseless stranger shuts the door."

CHRYSANTHEMUMS.

VICTORIA PARK.

The finest display we have seen in the parks is that located here. The Chrysanthemums are arranged in a sloping bank on either side of a central pathway along the middle of which runs a grating over the hot-water pipes. The house is a low, but wide span-roofed structure, new and well lighted. The display when we saw it a few days ago consisted chiefly of the Japanese kinds, amongst which Edwin Molyneux, Etoile de Lyon, Joseph Mahood, Stanstead Surprise, Sunflower, Elaine, James Salter, Bouquet Fait, Wm. Holmes, and Mr. J. Laing were very prominent. Notable also for their large flower heads and dwarfness were Mons. Tarin, Madame de Sevin, Criterion, Hamlet, a bronzy-red sort, and others. The plumose kinds were represented by Mrs. Alpheus Hardy, Louis Bœhmer, and Chang. The first-named does not seem to improve much in constitution. Chang is a bronze-coloured sort, and, if less plumy, is otherwise like Louis Bœhmer in form and robust habit. Gloire du Rocher closely resembles Val d'Orre, except in being of a more decided and bright crimson. Conspicuous amongst the incurved kinds were Prince Alfred, Prince of Wales, St. Patrick, bronzy-buff, Mr. Bunn, Golden and White Beverley, Alfred Lyne, and Queen of England. Mademoiselle Melaine Fabre is a reflexed variety with soft mauve purple blooms. The Japanese Anemone Jeanne Marty and the Pompon Mademoiselle Elise Dordan was also good Both banks ware edged with bushy Pompons, and unless damping should set in badly the display will be fine for some weeks to come.

FINSBURY PARK.

The Chrysanthemum house in this case is a smaller span-roofed structure with the plants arranged along the centre and the pathway on either side. The flower heads of many of the varieties give evidence of good cultivation, but the narrowness of the house prevents their being seen to the best advantage, as each half of the bank of plants has to be seen separately. Japanese varieties were well represented by Etoile de Lyon, Phœbus, Mons. Tarin, Madame B. Rendatler, Avalanche, Stanstead White, M. H. Elliot, Madame B. Pigny, dwarf with compact and pretty white blooms, Madame de Sevin, Madame J. Laing, Elaine, Triomphe du Nord, Mons. Deleaux, and Margot. Volunteer promises to be a fine thing, but Macaulay is notoriously weak. For early work Wm. Holmes is undoubtedly a useful and showy variety, and Louis Bœhmer may probably be so for late work. There is a fine lot of Comte de Germiny here, but the blooms are suffering from damp. Now that we have been able to see it in good form Mr. R. Bahaunt will evidently take a prominent position on the exhibition boards. The florets are broad, well incurved, and of a beautiful cerise on the back. Besides this there were several other incurved and older kinds in good condition, including Empress of India, Emily Dale, Golden Empress, Lord Alcester, White Globe, White Beverley, Princess Beatrice, Mr. Bunn, Duchess of Manchester, rosy-pink with a white centre, and others. A good Anemone is M. Charles Lebocqz, with golden centre and pale yellow rays.

BATTERSEA PARK.

The show house is situated near the Albert Bridge spanning the Thames, and is altogether hidden from view within a thick belt of trees. It is a span-roofed one, divided into two compartments, with the pathway near one side, along which runs a narrow bench filled with an assortment of various plants. The whole of the rest of the structure is given up to the Chrysanthemums, which form a bank, sloping towards the spectator. By the time this meets the eye of our readers the plants will be in perfection, and continue so for some time. Here, as elsewhere, the Japanese sorts predominate. There were, however, good blooms of Jeanne d'Arc, White Beverley, Mr. Bunn, Prince of Wales, and some others. Amongst the former were some good blooms of Mrs. Alpheus Hardy, about 5 in. across, and Louis Bœhmer promised to be even better. The flower head taken from the early bud of Japonais was curiously pale, but good. Mr. Matthews is a good terra-cotta colour, Bouquet des Dames upholds its own as a good white, Samuel Morley is a crimson reflexed Japanese sort, W. W. Coles a crimson-bronze, Mrs. N. G. Carnegie a crimson maroon, and J. R. Pearson a pink sport from Mademoiselle Lacroix. Good older kinds are E. Molyneux, Hamlet, Elaine, Wm. Holmes, Stanstead Surprise, Eynsford White, Mons. Bernard, Joseph Mahood, Etoile de Lyon, Mons. Freeman, Mons. Tarin, Triomphe du Nord, and L'Automne. Other notable sorts are Mademoiselle Elise Dordan, Jeanne Marty, and M. Charles Lebocqz.

MRS. ALPHEUS HARDY.

UNTIL now I have been disappointed in this plant. Last year I saw some, only fair blooms at exhibitions, very much below the average of stage blooms, rather small, and not of very good shape, in fact anything but what exhibition blooms should be. Whether this was through not understanding the plants, or that the variety was not all that was claimed for it, we did not then know, but now I am convinced it is the management that is at fault —that in fact many people have been paying *special* attention to it and have spoiled it. I had the pleasure of looking over the Chrysanthemums at Glenwood, Leicester, and among other beautiful blooms I discovered one of Mrs. Alpheus Hardy, which will long remain vivid in my memory, large, full, of good shape and colour (if white can claim such a name), and altogether a most superb flower, one that would do credit to any exhibition board. Mr. Barry informed me that this plant had taken pot-luck with the others, and has had *no* special attention whatever, save a sprinkling of horn shavings in the potting material.—*W. Bell, Leicester, Oct. 20th*, 1891.

CHRYSANTHEMUMS AT MANCHESTER.

EARLY flowering Chrysanthemums are great favourites with Mr. Samuel Barlow, at Stakehill. In his cold house there is a considerable number of plants in full bloom, some of which found a place in his flower garden during the summer, and were a short time ago potted up so that their flowers might be preserved as long as possible. The collection includes Blushing Bride; Clara, a charming white variety; Dodo, a pale yellow form of Mignon; Early Blush; Gentilesse, creamy-sulphur, tipped with soft, rosy peach; Frederick Pile, deep crimson red, tipped with light gold; Golden Fleece, clear yellow; Golden Shah, deep golden yellow, extra fine; L'Avenir, red, very good; La petite Marie, white, very good; Frederick Marronet, orange, dwarf stiff habits; Martinrude, pink, paling to blush, very pretty; Miss Phyllis Broughton, white, dwarf bushy habit; Madame Jolivart, white, tinted with pink, which it sometimes loses under glass; Madame Piccol, light rosy purple, very good; Mignon, bright golden yellow, dwarf, and very free, a delightful variety for planting in forecourt gardens; Nanum, blush white; Piercy's Seedling, bronze passing to yellow; and Toreador, bronzy-red.

I do not wonder at Mr. Barlow making a speciality of these early varieties, living as he does in one of the coldest, latest, and most exposed parts of Lancashire. It seems very difficult to get the later flowering varieties in bloom in anything like time unless they are housed early, and then the plants become drawn. Still, there is a good batch of late varieties under glass at Stakehill, and the promise of bloom is very good considering what a season it has been.—*R. D.*

SCOTTISH NOTES.

ROYAL HORTICULTURAL SOCIETY OF ABERDEEN.—The annual meeting of this society was held on Saturday, 17th inst., Baillie Crombie, chairman of the directors, in the chair. The following was the report:—It is with deep regret that the directors have to refer to the lamented death of their late chairman, Mr. James Murray Garden, whose warm interest in the society was so well known. The society held a spring exhibition in the Music Hall Buildings on 10th and 11th April. The exhibition was an admirable one; but, from a succession of unforeseen circumstances, the financial result was not a favourable one. The annual floral fete, held in the Duthie Public Park in August, proved most successful, both from an exhibitors, and from a financial point of view. The financial surplus on the year amounts to £63 13s. 4d., which added to the balance brought from last year, makes £251 9s. 10d. at the credit of the society. The chairman moved the adoption of the report, which was seconded by Baillie Lyon and adopted. Baillie Crombie was unanimously reappointed chairman, as was also the secretary, Mr. A. M. Byres, C.A. In the appointment of professional gardeners, market gardeners, nurserymen and florists, and amateur gardeners for the directorate a number of names were proposed and seconded, but after a ballot it was found that the list remained the same as last year.

A SCOTTISH GARDENERS' BENEFIT SOCIETY.—At the conclusion of the above meeting Baillie Crombie directed the attention of the meeting to a matter affecting the society which had been brought before him. There had been placed in his hands the rules of a benefit society in Edinburgh, such as had been some time ago spoken of in Aberdeenshire for gardeners, florists, seedsmen and nursery employés. It was connected with one of the free gardeners' big bodies, and it was confined entirely to such as the society was composed of. Baillie Crombie then gave a number of statistical facts as to the payments, benefits, and rules of the society. Such a society as this, he continued, would be exceedingly beneficial to the members, and than this society there was none he knew of in the profession in which they could get such advantages. The matter had been brought under his notice by Mr. Robson. He might say also that in Edinburgh the society had been very successful. They could not do anything that day, of course, but if they approved of the thing being looked into, some steps might be taken by the directors. He was led to believe that the North of Scotland Horticultural Society would be very glad to join in any effort likely to be made in the direction indicated. It was agreed that the matter be remitted to the directors for consideration.

NORTH OF SCOTLAND HORTICULTURAL ASSOCIATION.—The first meeting of the winter session was held on the 21st inst. There was a good attendance, and Mr. D. M. Smith presided. On the motion of Mr. C. S. France, it was unanimously agreed that all apprentice gardeners, foresters, &c., be admitted to the association, their annual subscription to be 1s. Mr. C. S. France, the newly-elected president, then proceeded to deliver his opening presidential address, in the course of which he said, that he was inclined to think they had been neglecting the scientific side of their profession, and going in too much for the practical. He thought they ought to make their programme a little more varied and comprehensive, and particularly advised that papers should occasionally be given on such subjects as botany, vegetable physiology, geology, mineralogy, the nature and quality of soils, chemistry, entomology, and meteorology. He also directed their attention to the importance of landscape gardening, and suggested an alteration in the name of the association, by tacking on arboriculture. They had many foresters in the association, and he saw no reason why subjects relating to that department should not be discussed. Mr. France concluded by throwing out the following additional suggestions:—That there should be four grades of membership—first, proprietors; second, factors and nurserymen; third, gardeners and foresters; and fourth, assistant gardeners and assistant foresters; that a proportion of the funds be voted as prizes for essays or objects such as herbaria, collections of cones, woods, or meritorious exhibits in either horticulture or arboriculture; that in addition to the monthly meetings, a meeting should be held annually in September or October, of the nature of a conference, at which the prizes might be awarded, and papers read on any given subject of general interest; that excursions should be organised to gardens and other places of horticultural and arboricultural interest in the neighbourhood; and that the meetings of the association should be made so attractive as to induce all members to come forward and share its work. At the close of his address Mr. France received the hearty thanks of the meeting. A paper was then read by Mr. R. Farquhar, late of Fyvie Castle, Aberdeenshire, on "Some Impressions of America," for which the thanks of the association were also accorded.

GREAT SALE OF NURSERY STOCK AT ABERDEEN.—The largest sale of nursery stock by auction that has ever taken place in the north of Scotland was held on five days last week at Messrs. Ben Reid & Co.'s Nurseries, Burnieboozle, near Aberdeen. The sale took place in consequence of the expiry of the lease of the Burnieboozle part of their forest tree nurseries. Mr. James Farquhar, Aberdeen, and Mr. David Mitchell, Edinburgh, conducted the sale. There were large attendances each day, and the stock being of a choice and varied description the bidding was very brisk. The auctioneers had no difficulty in disposing of thousands of lots at unprecedented prices.

THE MANCHESTER FRUIT CONFERENCE.

The Conference on Fruit Culture organised by the Royal Botanical and Horticultural Society of Manchester was opened in the Town Hall in that city on the 21st inst., and continued over the following day. The principal addresses were delivered by the Earl of Derby, who presided on the first day, and Alderman Sir James Whitehead, Master of the Fruiterers' Company, who took the chair at the second meeting. In the course of his opening speech

The Earl of Derby

said:—I am not a vegetarian either in theory or in practice, but I imagine that many persons who do not hold the vegetarian doctrine will think as I do, that in this country we are apt—at least those who can afford it—to look too exclusively to meat as a source of nourishment, and that both health and economy would be promoted, in the case of many of us, by a more mixed diet. Certainly on the Continent fruit is more used than here, where we are apt to treat it rather as a mere luxury than as an addition to our food resources. The advantages of fruit-growing are obvious and on the surface. It creates a large demand for labour, because in that industry the human hand cannot be superseded by machinery; it may under favourable circumstances give an immense return per acre. The work connected with it is healthy, and inasmuch as fruit is not easily or usually transportable to long distances, or capable of being kept for a long time, it is less exposed to foreign competition than corn or grain of any sort. As to the return, no certain average can be taken where soil and climate vary so widely. The figures which I have obtained relate to Kent, and come from good authority. Strawberries are taken as giving a gross return of £27 per acre and a net return, after all expenses are paid, of between £6 and £7; Raspberries £21 gross return and £7 net profit; Currants £30 gross, net £11; Apples, Plums, and Cherries £25 gross return, net profit about £5. But these last, especially Apples, give no return for five years at least. The average of several seasons has been taken, so as to allow for losses as well as for exceptional gains. On the other hand, there are drawbacks which must not be overlooked. All cultivation is accompanied with a considerable amount of uncertainty, and some people indeed tell you that farming is a lottery, only with all the prizes left out; and in the case of fruit this is particularly so, for one frosty night or two or three days of stormy weather in the late spring or early summer will often destroy the whole promise of the year.

Then there is the immense fluctuation in price, so great that a very abundant crop may be almost unsaleable. In Kent this year, of my own knowledge, Plums were being sold far below the price it must have cost to raise them. There is the risk of plunder by tramps, vagrants, and mischievous boys, entailing the expense and trouble of constant watching, there is the difficulty of cheap transport where small quantities are concerned, the difficulty of storing up for future use what is essentially perishable, and also, what is more important, the difficulty of learning how to practise an art which looks simple enough, but which really requires considerable skill and experience. Two other considerations are also to be borne in mind—one, that where fruit trees are concerned there must be a considerable interval of time between the planting and the remunerative return; the other, that to some extent the price of fruit is liable to be kept down by the quantity which is grown for pleasure rather than for profit, and the surplus of which is thrown on the market. I have read and heard expressions of opinion from which it would seem that the writers or speakers imagine that fruit can be grown by anybody anywhere—that you have only to get your five or ten acres, no matter in what soil, stick in trees or plants, and make your fortune by watching them grow. Now, I need not tell you that anybody who starts with these expectations will find himself greatly deceived. In the first place the soil must be carefully chosen. In the next place the grower must know something about his business. Then, again, if he wants to sell beyond the limits of his own parish, he must have easy and inexpensive transport. And with all these advantages there remain the risks of which I have spoken.

In the southern counties, in Kent especially, fruit-growing has been studied as an art, I may say for centuries. The orchards and gardens of Kent are spoken of by travellers with admiration as early as the 17th century, and though the growers as a class are fairly prosperous, I do not imagine that their average profits are especially high; the large gains of one year are balanced by the losses of another. As to land being obtained for the purpose, there need be no trouble. There is plenty of land vacant, as we all know, and landlords will be glad for their own sakes to encourage an industry which will increase the demand for it. The question what size of farms will pay best for this kind of cultivation is one which, I think, only experiment can decide. Very large farms are, of course, out of the question where minute industry is required. But as between moderate sized holdings and very small ones, the larger holder will have the advantage of skilled supervision, of cheaper conveyance, and of a better market, and if his capital is, as it ought to be, in due proportion to his acres, he will be better able to bear the losses to which he will, from time to time, be exposed. How far these advantages may be counteracted by the superior energy which a man is supposed to put forth when he is working directly for himself is a comparison which anybody can make, and no two persons will come to the same conclusion. But one thing I am sure of—that no man can wisely go into this business who is not prepared to incur some expense in the first instance and to run some risk later on. The warning may seem superfluous, but the English mind is more speculative than cautious.

I do not forget that there is a class, whether large or small I cannot judge, of persons who will take to fruit growing as an amusement and an occupation rather than with any notion of making it pay. Of them one can only say that, as they expect nothing in the way of profit, they will not be disappointed, and that they have found an excellent mode of utilising their spare time and superfluous energy—quite as wholesome as kicking a ball about a field, and, I should think, much more entertaining. If a man cultivates his own land and has paid for it, he is of course in the most satisfactory position. I say if he has paid for it, for otherwise mortgages are apt to be a heavier burden than rent. And if he has not capital and prefers to hold on a lease, I would say let him be very careful and let the landowner be so likewise, as to making clear and definite terms. I am quite sure that when disputes occur between landlord and tenant they arise in nine cases out of ten, not out of a wish on either side to overreach the other, but from the easy rural fashion of letting things go on without distinct and definite agreement as to the rights of both parties, but on the basis of some vague understanding which is apt to end in misunderstanding. That caution applies to other matters besides fruit, but it is obviously more necessary where the expense incurred in planting is large, as it must be in the case of fruit trees. The best plan would be, if the landlord can afford it, that he should put in the trees himself, charging in the rent for interest in his outlay. If he cannot, or will not, go to this expense, there should be a well-defined agreement as to what the tenant shall receive in case of going out.

Sir James Whitehead

Said he did not regard Lord Derby's speech as very encouraging, but it must be admitted that he took a very judicial view of the situation, and leaned rather to the condition of things as they now existed. He was happy to believe that in the more sanguine view he would take he would at least have on his side the experts of the country, who would agree with him that there was a great opportunity for the increased cultivation of fruit in this country, and that it could be grown at a profit. It was a very remarkable fact that in the counties of Kent, Middlesex, and Surrey during the last forty years there had been a very large increase in the value of agricultural land—an increase to the extent of 25 per cent.—so that they might come to the conclusion that the cultivation of fruit and of garden produce for the London market had led to great advantage to the owners as well as to the tillers of the soil. He had been greatly pleased with the exhibition of fruit in the adjoining rooms. It proved to him that we had the capacity to grow fruit of a very high character in this country. A quarter of a century ago there were many excellent orchards in England, but they had been allowed to go into decay. He would make no comment as to what had led cultivators to allow those orchards to go into decay. Possibly Lord Derby, who was a great landlord, could give a better answer than he could.

The consumption of fruit in England had largely increased in the last twenty years, namely, from about 10*d*. per head of the population to 3*s*. per head. There had also been a large, but not a corresponding, increase in the quantity of fruit grown. Within the last three years 12,600 more acres had been put under fruit cultivation in this country, and there had also been an enormous increase in the cultivation of fruit under glass. Notwithstanding all this the imports of fruit went up by leaps and bounds. During the season probably not less than 20,000 or 30,000 barrels of apples alone were unshipped at Liverpool. These came almost entirely from Canada, and large quantities of fruit were also landed at London and Southampton from our colonies—principally Tasmania. There could be no objection to the importation of fruit from Tasmania and Australia, because it arrived here when our own fruit was out of season, and every effort ought to be made to increase the use of fruit as an article of food. It was a very remarkable and satisfactory fact that those who ate fruit to a considerable extent very rarely drank to excess. On that account they would all hail the increased cultivation of fruit as something that was calculated to be of benefit to the people at large, and would agree that farmers and cottagers ought to be encouraged to grow fruit.

He believed that fruit growing would pay, whether carried on as a separate industry or as an adjunct to general farming. There might be some difficulty in growing fruit in allotments because of the uncertainty of tenure and the uusatisfactory condition of the law of compensation for unexhausted improvements; but he believed when we had compulsory powers for the acquirement of allotments and when the law gave fair compensation, we might look forward to a great extension of fruit growing on the part of those who cultivated allotments and gardens. Dean Hole had informed him that Archdeacon Lee, of Worcestershire, had turned a great part of his glebe land into fruit gardens, and that this had led to a very large increase in his income from the land. He had heard of a case in which a man had four acres, of which, under ordinary farm culture, he could make nothing. He divided the land into allotments of about a rood each, and it now brought him in a rental of £32, while the produce from the land exceeded £400 per annum. In one year, off a rood of land, after supplying his own family, one of the tenants sold £20 worth of produce, equal to £80 an acre. It was desirable to grow a mixed variety of fruits, and then, if one kind failed, there would still be a profit for the cultivator. He believed English-grown fruit was of a better quality than that grown abroad, and that the climate of this country was suitable for the growth of hardy fruit. Of course much depended upon the selection of soil and situation. It seemed to him that education was much required in the matter of fruit culture amongst cottagers and farmers, who were for the most part absolutely ignorant of the proper method of cultivation. He thought it would be well to have shows from time to time in great centres throughout the country, and that in connection with them there should be papers read and lectures and object lessons given.

In the matter of furthering education, the Manchester Botanical and Horticultural Society were not in any way lagging behind, and their present show was one of the finest he had ever seen. He feared we were very much behind foreign countries in regard to agricultural and horticultural education, but was glad to be able to say that through the efforts of the British Fruit Growers' Association and the Fruiterers' Company, the Government were rising to the importance of this subject. A scheme was now before the Board of Education, prepared by the British Fruit Growers' Association, which when put into operation, might lead to the giving of practical horticultural instruction in every board school in the rural districts. To his mind that was the most important step that had been taken by this or any Government in regard to the promotion of fruit culture and the improvement of the condition of the agricultural classes of this couutry. Unfortunately the system of land tenure in this country and the uncertain security of tenants' capital has retarded the progress of fruit culture, and would continue to do so in the future unless there was some alteration in the law. Tenants would not plant if they could not reap the harvest, and the future of fruit culture depended very largely upon whether or not tenants would be able to secure adequate compensation for unexhausted improvements or security of tenure. This was a subject that would have to be dealt with at no distant date. Landlords were in a position either to make or to mar the future of this country in regard to fruit culture, and he hoped we might look to them with confidence. This question of fruit culture affected the national welfare, and he believed the more it was studied the more likely were we to keep the rural classes in the rural districts, and benefit the whole community.

TRADE CULTURE OF PALMS.

A Hint to European Growers.

In an interview with a representative of *The American Florist*, Mr. Robert Craig, of Philadelphia, is reported to have said:—"We have adopted a new method of Palm growing. We find that planted out on the benches from thumb pots they grow as fast again as when kept constantly in pots. We got the idea from Belgium, where some of the largest growers are doing it entirely this way. We all know the difference in growth of Roses or Chrysanthemums when planted out as compared with those grown in pots, and I find that with Kentias and other Palms the difference is fully as great. When the plants are large enough we put them in 5-in. pots, and they do not suffer in the least from the lifting. Our Philadelphia Palm growers are coming to the conclusion that we cannot in the future profitably import Palms from Europe. The plants they send over here are badly drawn up. They should be given more room from their earliest stages until sold. Dealers over there seem to think that anything is good enough for us, but their stuff is not well enough grown for the American trade. We have all had enough of it, and we have about done importing.

"The same story applies to Araucarias. We have a lot of Araucaria excelsa that were recently imported. They are all seedlings, and consequently imperfect and irregular at the bottom. Over there they could not sell such plants, but they expect us to be satisfied with them. We shall soon grow our own. This will open up a new field, and American florists will soon find that home-grown plants will do better every time than imported ones. If some enterprising seedsmen will undertake to supply us with first-class fresh Palm and Araucaria seed we will support them heartily, and they will find a good demand. Foreign houses which are now loading up with Palms for the American trade will certainly be disappointed. It should be generally known that Araucaria seed to be good should be imported only in cones. They come from Australia and the adjacent islands, and if shelled out they dry up too much and will not germinate."

AN AYRSHIRE GARDEN.

Seafield, the residence of Sir William Arrol, of Forth Bridge fame, is situated in close proximity to the town of "Auld Ayr." Although it is only a few years since Sir William became proprietor of this fine old place, great improvements have already been effected. A new and elegant mansion has been built, together with a spacious conservatory adjoining it. The lawn is of considerable extent, and is maintained in the best of order. The planting of trees and shrubs has also been proceeded with, and in this work free use of Picea Nordmanniana has been made, but the cultivation of most trees and shrubs in this locality is often attended with but indifferent success, owing to the light sandy nature of the soil, and also to the injurious effects of the sea-spray which is frequently driven in upon them.

My attention was specially directed, on a recent visit, to a couple of fine specimens of Auracaria imbricata in a sheltered position, one of which is said to have been the first specimen in Scotland to produce cones, and on which several were seen at the time of my visit on the 29th September.

Turning to the glass department the conservatory, as before stated, is a spacious structure, octagon in form. It is devoid of stages, the plants being plunged in their pots in the borders and beds constructed on the floor. The two large beds forming the centre of the house are occupied principally with foliage plants, such as Tree Ferns, Palms and Dracænas, a very noticeable plant among the latter being one of D. Veitchii. The narrow border round the side was still gay with Pelargoniums and Begonias, and other mixed subjects, all of which indicated high culture. A beautiful fountain occupied a position in the centre, and the structure is lighted with the electric light when required.

Proceeding to the frame ground busy hands were seen to be engaged in plunging a portion of a large consignment of Dutch Bulbs which had just been potted. A number of frames were well occupied with healthy batches of Primulas, Cyclamens and Cinerarias, while in an enclosed yard an extensive stock of Chrysanthemums, vigorous and well-clothed with green foliage, and a number of them bristling with flower buds, were shortly to be drafted to the conservatory.

On entering the kitchen garden I was much gratified to see such a fine display of Dahlias, including the large flowering Pompon and Cactus sections. In the herbaceous borders a number of clumps of Michaelmas Daisies were an interesting feature—some of them, and in particular Aster Ammellus Bessarabica, presented a large and compact surface of infloresence. Grape culture at present is on a limited scale, but I was informed that the erection of a new range for the above purpose is in contemplation. In the present houses the early Grapes were all cut, but a nice crop of Lady Downes' Seedling was hanging in the late vinery. In another house which we entered Tomatos were trained over the roof, and were carrying a good crop of fruits, while on a stage I noticed a very fine lot of Azaleas, which, together with a line of grand plants of Rhododendron Nobleanum, planted out of doors, will do much to enrich the conservatory display later on.

On leaving the garden I observed a Clematis Jackmannii, covering a considerable portion of the north aspect of the wall, and which was literally covered with flowers. Much credit is due to the spirited proprietor of this beautiful domain, and also to his energetic gardener, Mr. McArtney, for the perfect order observable in every department.—*D. M.*

THE POTATO DISEASE.

The results of the experiments with the Bordeaux mixture made by Messrs. Robert Veitch & Son, of Exeter, as recently recorded in our columns—so different as they were to those made by the Messrs. Sutton—being decidedly in favour of the French remedy, the question arose as to whether any traces of the salts of copper were left in the tubers, in sufficient quantity to affect them for table use.

To set this matter at rest the Messrs. Veitch had some of the tubers cooked, and they proved excellent in every way, being all that could be desired as regards flavour. They also submitted samples for analysis to Mr. Bernard Dyer, the Analyst to the Devon County Agricultural Society, whose report is so satisfactory that we have much pleasure in giving it wide publicity.

Laboratory,
17, Great Tower Street, E.C.,
17th October, 1891.

Messrs. Robert Veitch & Son, Exeter.

Dear Sirs,—I have carefully tested the Potatos you sent me, for copper. Practically speaking, they are free from copper, that is to say, there is less than one-hundredth of a grain of copper in 1 lb. of Potatos. Since I find practically the same quantity in both sets of Potatos, viz., both in the dressed and in the undressed ones, it appears clear that the small trace that is to be detected must be regarded as normal to Potatos grown in this field, and not as due to the dressing. But, even if it were, the quantity is to be regarded as infinitessimal.

Yours faithfully,
Bernard Dyer.

DULWICH PARK.

About three years ago, or even more recently, this park was simply a piece of waste ground, and although it might have been looked upon as an open space with a few large trees in it, yet from a public point of view it was simply a waste, calling for redress. Last year it was opened to the public, after being tastefully laid out. The park consists of an oblong piece of ground, almost a parallelogram, occupying a vale or hollow, on either side of which the ground gently rises. There are large iron gates at either end, connected by a broad walk or roadway along the centre, and around one side by which light vehicles conveying sightseers may drive through the whole length of the park. At one end is a pond or lake with a waterfall, close by which is a rustic and somewhat picturesque bridge, having the appearance of being several years old.

On the rising ground on either side of the walks are broad banks of shrubbery including Rhododendrons, which, of course, are only beginning to get established. The herbaceous plants in front of them add considerably to the appearance of the whole; and at present the most conspicuous of them are the perennial Asters or Michaelmas Daisies. The finer forms of A. Novi-Belgii are very numerous, and their varied tints of light blue are attractive by reason of the size and great number of the flower heads. A. Novæ-Angliæ and its forms are also useful and conspicuous subjects for the margins of shrubberies in public parks, more especially if by reason of their height the flowering branches just overtop the shrubs around and behind them.

The ground widens somewhat at one end of the park, and the broad pathway leads round a large central mass of Rhododendrons edged with dwarf Chinese Roses of various colours. They well merit the name of Monthly Roses applied to them by various cultivators, both here and on the Continent, for they flower not only monthly but almost continuously till cut down by frost or rendered leafless. At present they are so floriferous as to be noticeable from a considerable distance.

LATE GRAPES.

The following method may be practised in growing and keeping late Grapes with a certainty of success. After the vines have been pruned let the house be properly cleaned out—the walls whitewashed with hot lime, the woodwork and glass washed with soap and water, and the vines, after taking off any loose bark, washed with a mixture of soft soap, sulphur, and tobacco-water. The borders should be carefully forked up, and then spread on the surface some old lime rubbish and burnt vegetable ashes or charcoal, a sprinkling of crushed bones, and a coat of well-decayed cow manure two inches thick, covered in with one inch of good fibrous loam.

The outside border should also be covered with six inches of manure with the litter on the top, for the complete exclusion of frost. About the first week in March the vinery may be regularly heated, starting at a temperature of 48° to 50° for the first week, and not exceeding 55° until every bud in the house has begun to swell. From the time the house is first shut up, the syringe should be freely used twice a day, say by eight o'clock in the morning and again when the house is closed in the afternoon. The stems and larger branches should be well moistened, by which means the bark will be softened and the rise of the sap facilitated. After the buds have begun to push freely, the temperature should be raised a few degrees at a time until it reaches 65° by night. It is most necessary to have a change of air daily, and it should be admitted freely, according to the state of the weather; this will strengthen the young buds as they are developed, and keep the house at an equable temperature.

As soon as the vines come into bloom the temperature should be increased, and the syringing of the leaves abandoned, but continue to damp the house thoroughly, keeping it in a moist rather than a dry state. The inside borders should be supplied with plenty of water, with liquid manure occasionally, or a sprinkling of guano on the border before watering. If dry weather should prevail in summer the outside border will require one or two good waterings. The bunches require to be well thinned, and care should be taken to cut the stalks quite close, for if left in the bunch they become hard like wire, and when the berries are quite ripe they will penetrate the skin and cause decay. Manure water may be used occasionally to damp the house in the afternoons during the time the berries are swelling.

After the Grapes begin to colour as much air as possible should be admitted into the house, keeping a little on all night. The inside border should have a good watering, as it should be withheld after this time. As soon as the Grapes are quite ripe the night temperature should be lowered to 50° by night till the leaves ripen, then it should be kept regular, as near 45° as possible. The inside borders should be covered with mats, and keep the house closed during damp weather. Mats should be fastened to the rafters outside the glass over part of the house; if a span-roof running north to south, the west side and end facing south should be fastened up. Towards the end of February the Grapes should be cut, cutting part of the branch with the bunch on, and taken to the Grape room, and the end of the branches stuck in bottles, or what is better troughs filled with water two or three inches deep by four wide, with a piece of thick wire from end to end along the centre. A few pieces of charcoal should be put in the water. The branches can be stuck under the wire into the water, the bunches to hang over the side of the trough. I have seen Grapes hanging in this way at the end of April quite firm, and looking as fresh as they did in October.—*A. W., Chetton.*

TREES AND SHRUBS.

Variegated Oleasters.

The species of Elæagnus are variously reckoned from twelve to twenty-seven in number. These are scattered over various parts of the world, some of them being natives of South Europe. Most of those under cultivation in British gardens, and likewise the most ornamental kinds are natives of Japan, and with few exceptions very hardy in this country. Last winter was rather hard upon the Evergreen kinds, but they nevertheless lost very few of their leaves, and the new growth made during the past winter completely obliterated all traces of damage. The variegated forms under notice belong to two species, notable for the leathery character of their dark green leaves and distinct appearance, whether planted as isolated specimens on the lawn, or as a covering to walls to which they impart a warm appearance when vegetation is inactive and the bulk of wall climbers are naked. They are easily increased by layers and cuttings, while other species which fruit freely may be propagated in quantity from seeds. On the grass they require little or no attention, beyond cutting away the stray shoots; on walls, however, when the latter are once covered, the breast wood must be pruned away occasionally to preserve a neat and tidy appearance.

Elæagnus pungens.—The leaves of this Japanese species are oblong, wavy at the margins, leathery, deep green above and more or less covered with scurfy scales above or almost naked, while the under-surface is silvery from a dense layer of small scales, dotted over with larger rusty ones. The variety E. p. variegata has a narrow yellow margin to its leaves and is highly ornamental in winter. Sometimes a few of the leaves on the small shoots are wholly yellow. On the other hand E. p. aurea marginata has a broad, irregular yellow band along the margin. Altogether different is E. p. maculata, which has a broad, irregular band of pale yellow along the centre, fading to creamy yellow or silvery white after the leaves have reached maturity and during the winter. A narrow green margin bounds the large, central blotch, and sometimes the upper leaves on small branches are wholly yellow. Our illustration of a spray taken from a plant exhibited by Messrs. J. Veitch & Sons, Chelsea, at the Drill Hall a few weeks ago, gives a good idea of the appearance and variability of the variegation. The shrub is of dwarfer habit than the above-mentioned kinds, and being bushy, and very freely branched it might be put to a variety of purposes with good effect, especially in winter when rich colouring out of doors is comparatively scanty.

E. glabra.—The leaves of this species are ovate-oblong, smooth above, and evergreen; the under-surface is quite silvery with a close felting of circular scales, studded all over with larger rusty ones. The shrub varies from 3 ft. to 6 ft., is a native of Japan, and may be used for the same purposes as E. pungens. It has also given rise to a number of variegated forms in gardens, somewhat similar to the varieties of the last named species, as far as the range of colour is concerned. E. g. maculata has a broad, medium, yellow band, and a good bush of it is very effective. The leaves of E. g. variegata are margined with yellow.

Desmodium penduliflorum.

There are some 125 species of Desmodium scattered over various parts of the world, and consisting of perennial herbs, shrubs and subshrubs. That under notice is decidedly of shrubby habit, and grows from 4 ft. to 6 ft. in height, making rampant and vigorous shoots producing an abundance of flowers in racemes terminating the short side branches all along the stems, as if they were greatly elongated panicles. Our illustration (p. 129) was taken from a plant exhibited at the Drill Hall in September, by Messrs. J. Veitch & Sons, Chelsea. It had by that time become a showy plant, and judging from the number of unflowered buds would have continued in flower for several weeks. The Pea-shaped flowers were of a deep rosy-purple, and sufficiently large to make the plant both conspicuous and ornamental. Its lively appearance would serve greatly to lighten the shrubbery borders which often present a dull appearance towards the end of the summer and autumn. The leaves consist of three oblong leaflets not unlike those of a magnified Clover and are therefore very distinct from those of the bulk of shrubs seen in gardens. The species is a native of Northern China and Japan and is therefore hardy in this country.

Elæagnus pungens maculata.

Sophora japonica.

There are several forms of this tree in gardens, including the Weeping Sophora, but whether the trees are grown for differences in form or habit, the foliage is always of a rich dark green, and very marked in a landscape. As the leaves are amongst the very last to burst into verdure in spring, so are they amongst the most enduring and dogged in the autumn, defying wind and rain until frost settles them. Notwithstanding a certain similarity between this tree and the common or False Acacia the habit is altogether different, the growth slower and the foliage a darker green. The last named tree flowers about midsummer, while the Japan Sophora is amongst the latest to come into bloom. There is even some weeks of difference between the flowering of some individuals and others, the later trees being hardly yet in bloom, although the flowers in most cases are on the point of expanding. Where a broad-headed and bushy tree of a rich dark green is required for a landscape, planters would do well to give this a trial as it is very hardy, and requires little or no attention to keep it in form.

HARDY FRUIT CULTURE.

Many of your readers were doubtless much interested in Mr. Nutting's excellent though short paper on the above subject at p. 104. His remarks about Covent Garden are, from what I have heard, very much to the purpose, but being only an amateur with but a somewhat small fruit garden the question of disposal does not concern me personally, though it is of paramount importance to the trade grower.

The point in Mr. Nutting's paper I wish to "drive home," is the question of selection of varieties. My favourite hobby being the growing of Apples (more particularly culinary sorts), about five years ago I planted about fifteen varieties, one tree of each; they were nice little bushes on the Paradise or Nonsuch stock. My soil is a deep loam, somewhat retentive, and the subsoil chalk, and I find it is necessary to root prune certain sorts frequently, to prevent too gross growth. The trees were planted in the natural soil, which was an old meadow, a hole being dug about 2 ft. 6 in. deep; the turf was chopped up and mixed with the other soil, and no manure whatever was or has been used.

Soon certain varieties came to the front with regard to cropping, viz., Lane's Prince Albert; this I consider the best culinary Apple we have, it is large, extremely handsome, a certain cropper, and has such a beautiful flavour and texture when cooked, requiring very little sugar. Stirling Castle is, perhaps, the heaviest cropper we have the fruits are handsome, shapely and good all ways. Saltmarsh's Queen is a remarkably handsome free cropping Apple. Warner's King, "very fine and large;" Lord Suffield, excellent for early work; Cox's Pomona, very handsome and good, also for dessert when fresh from the tree; Manx Codlin, a heavy cropper, though somewhat small but good, being early; Dumelow's Seedling, an excellent late keeping Apple, and one we cannot well do without, is with me rather a shy bearer, unless root-pruned every two years; Blenheim Orange is rather a shy bearer, and almost without exception a biennial cropper. It may be said my list is extremely small; this I admit, but I have Apples the greater part of the year, or at least for nine months.

Mr. Nutting's remarks as to getting advice from your neighbours as to the best sorts to plant is good, and I know from the freemasonry which exists amongst gardeners that they are only too pleased to impart knowledge, still I hold that a little distance even makes a great difference in soil and situation, and if intending planters can wait, say three years, it is much better to plant what I will call a few pilots,

and make your own selection, having regard to 1, Quality; 2, Abundance and certainty of cropping; 3, Size and appearance, and then plant those varieties that prove most suitable for the district. If this were always done I feel certain Apple growing would pay, but the planting of sorts haphazard, and many of questionable quality, is one of the reasons why our importations are so large. I feel sure we can even in seasons like the present grow finer flavoured and better Apples than we can import, and to bear out this statement I would ask who would eat (if he could get anything different) the vile old crabs one often meets with in very many farm orchards.—*D. Hill, "Huga," Watford.*

AUTUMN FLOWERS.

CHRYSANTHEMUM CARINATUM (TRICOLOR).

I NOTE this at this season being quite to the fore as a late flowering annual. I saw in Messrs. Hurst & Son's trial ground at Chelmsford, on October 23rd, a large patch of it in good bloom, and from which an admirable bunch of flowers could have been gathered. There are several single forms of this species, and all are charming hardy annuals. The seeds can be sown in the open early in March, or later according to the weather. The plants soon get into blooming size, and flower with the greatest freedom. Some years ago a double variety was raised under the name of Dunnettii fl. pl.; this has been greatly improved upon in course of time, and Messrs. Hurst last season exhibited some very fine varieties indeed. Both the single and double types are well worth growing, and they give a great variety, the group being much given to sportiveness.

DIANTHUS CHINENSES.

The varieties of the Indian Pink were also very gay at Chelmsford, and I could have cut some of the fine single blooms of Heddewigii as good as could be produced in summer. The double forms were also quite gay, and could there be more sunshine would be gayer still. The wonder was that after the drenching rains and storms of the previous week, so much that is bright in the way of flowers yet remained. Among the hardy annuals to which one can pay a tribute of the highest praise, I place D. chinenses, and particularly the fine varieties of Heddewigii and its variety laciniatus; and they do well sown in any soil, but always well repay culture in a good one.

HELICHRYSUMS.

The varieties of maximum were very gay indeed, the enduring character of the flowers and the metallic stoutness of the petals causes them to be less injured by rain than other flowers of a more fragile character. While the two foregoing annuals can be sown in the open ground, it is best, unless the soil is light and sandy and there is a warm sunny time, to sow in a frame or in pans, and transplant the Helichrysums; they want good soil to come finely. I think a very pretty feature could be made at Chrysanthemum shows if prizes were offered for these in bunches. At the September exhibition of the Royal Oxfordshire Horticultural Society, prizes were offered for a stand of twenty-four blooms, distinct varieties; but they never get so many quite distinct in character, and they make a poor display as single flowers, like Carnations. If they were shown in stands of six bunches, with a dozen blooms of each forming a bunch, that number of varieties could be obtained without trouble. I have seen shown at Oxford blooms of the previous year—quite dry of course and well preserved. But I do not think that was contemplated by the framers of the schedule.

MARIGOLDS.

The French varieties were still very gay on the above date, as no frost had come to mar their beauty. The French Marigolds are very tender and soon show its effects. I think it is very unusual to have them blooming so freely so late in October. The hardy garden varieties are so persistent and enduring, that if the winter be at all mild, they will bloom all the way through. They seem to take on a rich colour in winter. I think a great deal could be done in the way of improving the single varieties by means of careful selection, if some one would take them in hand.

PHLOX DRUMMONDII.

But of all the subjects I have named, nothing else was so gay and so full of bloom as Drummond's Phlox. I was astonished to see how full of bloom the large patch was, and the straw very fine, I could have cut a collection of bunches much better in quality than I saw at flower shows during August. So long as the weather keeps open these annual Phloxes will continue to be very gay.

STOCKS, EAST LOTHIAN.

These were blooming freely, despite the drenching rains, and it was noticeable how few comparatively of single varieties appeared to be among them. I always think it would pay well to lift the plants of these, pot them and bloom them in a greenhouse from which the frost can be excluded, and a little fire heat put on when the weather is very damp and wet. These fragrant Stocks are very useful to cut from in the late autumn and winter months, and the spikes of bloom will last a long time. They are sold in four colours, viz., crimson, scarlet, purple, and white.—*R. D.*

HORTICULTURE AT THE WORLD'S FAIR.

MR. JOHN THORPE, chief of the horticultural section of the great World's Fair, to be held at Chicago in 1893, thus discusses the possibilities of his department, as it should be. "The loftiest ideas and the very highest aims only are compatible with the advancement of the profession. Small exhibits cannot be expected to be effective. Groups of plants of all kinds will not be shown simply in hundreds, but in thousands and tens of thousands.

"The general massing of the plants will be on such a scale as to astonish even those who are acquainted with what has been accomplished. As a matter of fact, and one that is conceded by those best able to judge, the parks of Chicago have at this moment the finest displays of floricultural adornments of all the cities in the world. The brilliant and effective colouring to be seen in the designs at Washington Park, and the superb Water lily displays at Lincoln Park, together with the fine displays at the other parks, have gladdened the hearts, and called forth the admiration of hundreds of thousands. Remembering what Chicago has done and is now doing for floriculture in her parks, the Floricultural Department of the World's Fair must outstrip all previous attempts in all and every one of its branches, even to surpassing the magnificent work here mentioned. This can only be obtained by a determination to eclipse all previous efforts; not one moment must be given to looking backward. There is no time to look backward.

"In that magnificent building, Horticultural Hall, will be found space enough to make displays of nearly all exhibits requiring protection. The building is 1000 ft. long, with an extreme width of 286 ft. The plan is a central pavilion, with two end pavilions, each connected to the outer pavilion by front and rear curtains, forming two interior courts, each 88 ft. by 270 ft. These courts are to be beautifully decorated in colour, and planted with ornamental shrubs and flowers. The centre pavilion is roofed by a crystal dome, 187 ft. in diameter, and 113 ft. high, under which will be exhibited the tallest palms, bamboos and tree ferns that can be procured. There is a gallery in each of the pavilions. The galleries of the end pavilions are designed for cafes, the situation and the surroundings being particularly well adapted to recreation and refreshment. The cafes are surrounded by an arcade on three sides, from which charming views of the grounds can be obtained.

"Of various tropical plants there will be large groups of Orchids, Palms, Ferns, and in fact nearly every known decorative species and variety. Outdoor floriculture will be on such a scale of magnificence as to eclipse all previous efforts, beginning with the showy Tulips and Hyacinths, ending with Chrysanthemums and Cosmos. Floriculture must be representative in every sense of the word."

SEDUM SIEBOLDI.—The season during which this Stonecrop flowers varies greatly according to the conditions under which it is placed. A popular method of growing it is in pots hung up on the balconies of villas and other houses. Under such conditions the foliage often assumes a bright red hue by reason of being subjected to drought, and the flowers are produced in September. When grown in open positions on a rockery, the flowers are beautiful in October, when most things around show signs of going to rest. The petals are pink and the ovaries of a bright rose, while the roundly wedge-shaped leaves are of a deep sea-green or glaucous hue.

THE HERBACEOUS BORDER.

Autumn Flowering Crocuses.

ACCORDING to the recent revision of the genus Crocus by Mr. G. Maw, there are close upon seventy species, independent of varieties whether found in a wild state, or of garden origin. Comparatively few of these are in general cultivation, and the display in spring is chiefly produced by the blue, white, and purple varieties of C. vernus, the yellow forms of C. aureus, the golden and brown C. susianus and the striped forms of C. biflorus spoken of as the Scotch Crocus, and largely grown in some old-fashioned Scotch gardens. The cultivation of most of them is of the easiest; but as some or other of them keep up a succession of bloom from August through the autumn, and winter till April, the late autumn, winter and early spring kinds are liable to have their flowers destroyed by heavy rains, frost or snow according to the vicissitudes of our uncertain climate. To see those in their best form it is necessary to shelter them in pits or frames. All the other kinds may be successfully grown in any moderately good garden soil provided it is well drained. If the soil is at all heavy a considerable quantity of sand might be mixed with it before planting. In private gardens they might be planted to good purpose upon rockeries, but failing those places, they could be grown in the spaces between the ordinary occupants of the herbaceous border, and preferably in the first or second line, where they would be shown off to best advantage.

CROCUS SCHAROJANI.—The Crocus season is practically commenced by this Caucasian species, which has bright orange flowers that make their appearance about the end of July and continue to the middle of August. The old leaves sometimes persist till the flowers of the new corm make their appearance. It is a showy species and full of interest to those who are acquainted with Crocuses that flower in spring only.

C. VALLICOLA.—The pale straw yellow flowers of this species appear towards the end of August, forming a succession to those of C. Scharojani and continue till the middle of September or thereby. They precede their leaves for some time, but in that respect are similar to the Colchicums. Although lacking in bright colours, the species may be described as pretty and interesting; it is quite hardy, grows vigorously and comes from the Caucasus and high mountains in Asia Minor.

C. NUDIFLORUS.—As the name would indicate the flowers of this species are also produced in advance of the leaves, but they are bluish-purple, large and showy. What might be considered a fault of this species, is its habit of producing creeping underground rhizomes by which the plant soon covers a considerable area in suitable soil. This might well be taken advantage of by planting the corms on grass by the side of drives, in shrubberies and other places where it might ramble at will, and keep up a display during September and October. The species has actually become naturalised in several of the midland counties of England. It is a native of the Pyrenees and the north of Spain.

C. SPECIOSUS.—This is one of the largest and showiest of all the autumn flowering species, and one cannot help feeling surprised at its comparative rarity in gardens generally. The broad perianth segments are bluish-purple, beautifully feathered with darker veins which add greatly to the charm of the whole. The flowers make their appearance without leaves, and continue to be produced in succession during September and the early part of October. It enjoys a wide distribution in its native habitats and is easily cultivated.

C. PULCHELLUS.—The large flowers and their pleasing soft lavender colour, recommend this species to the lover of hardy plants, almost as forcibly as in the last mentioned species. They commence to appear about the middle of September, and continue to be developed in succession up to December. On fine days they spread open, exhibiting a bright yellow throat. The decorative value of this species is such that every garden should possess it.

C. MEDIUS.—There is some resemblance between this species and C. speciosus, inasmuch as the rich purple flowers are of large size and feathered with darker veins at the base, but the botanical characters of the corm separate the two widely. The much branched stigmas are bright scarlet. The flowers are produced in October.

C. IRIDIFLORUS.—The specific name takes its origin from the great difference in size between the three outer and the three inner segments of the perianth. The former are much the largest and of a rich dark purple; the latter are small and of a soft lilac or lavender colour. The species flowers in September and October.

FRUIT NOTES.

KEEPSAKE GOOSEBERRY.

IN the course of an extremely interesting address Mr. J. R. Petch gave on the second day of the Fruit Conference at Manchester—an address full of interesting scraps of information that will, I believe, be fully reported in the published proceedings of the Conference it is the intention of the council to issue—he alluded to and strongly recommended Keepsake Gooseberry. It is a white variety, and Mr. Petch says it is better than Wenham's Industry; the latter is good for jams and preserves, but Keepsake for market work; and he said the latter will keep for a fortnight after being gathered. Gooseberries are a very lucrative crop for market, producing a greater return than any other fruit, while as the berries can be sold both green and ripe, there are two chances of a market. Of white varieties for market, Whitesmith or Yellow, Yellow Rough or as it is sometimes termed Early Sulphur; and of red varieties Crown Bob, Lancashire Lad, Rifleman and Warrington are also recommended. I think if Mr. Petch could be induced to put into a paper his remarks on Gooseberries he would be giving some very useful information to the readers of THE GARDENING WORLD.—*R. D.*

APPLES FOR MANCHESTER AND DISTRICT.

ON the occasion of the recent show at Manchester, prizes were offered for Apples grown in the neighbourhood of that city, though the radius seemed a rather wide one, namely, twenty miles from the city. As a matter of course this took in certain places in Cheshire, where one would think fruit can be grown under somewhat favourable conditions. The best collection of twenty-four dishes came from Mr. A. W. Jones, gardener to A. H. Smith Barry, Esq., M.P., Marbury Hall, Northwich. The kitchen varieties were of good size, but they were somewhat green, and lacked the colour and finish of the fruit from Worcester, Hereford, North Wales, etc. Mr. Jones' best kitchen Apples were Warner's King; Malster, a greenish-yellow mid-season variety, and of an apparently hardy character; Lord Suffield; Duke of Devonshire, a good, hardy culinary variety of great excellence, and a good bearer, the fruit will keep until May; Peasgood's Nonsuch, Alfriston, New Hawthornden, Pott's Seedling, Stirling Castle, Ecklinville Seedling, and Lord Grosvenor. These sorts were repeated in all the collections shown in this class. In the class for twelve dishes, the first prize was taken by Mr. H. W. Brown, gardener to W. W. Sherwin, Esq., Ashley Hall, Altrincham, and he had similar fruit to Mr. Jones, his leading varieties being Warner's King, Lord Suffield, Grenadier, Blenheim Orange, Lord Derby, Ecklinville Seedling, Alfriston, and Stirling Castle. The best dessert Apples, and they were very sparingly shown, were Ribston Pippin, King of Pippins, Cox's Orange Pippin, and Worcester Pearmain; but they were generally small. I think Mr. Petch gave the Lancashire and Cheshire gardeners good advice when he advised them to grow Lord Grosvenor Apple in the place of Lord Suffield. Mr. Jones had the best twelve dishes of Pears grown within the same radius, and like the Apples they were green and lacking colour. The best varieties were Beurré Clairgeau, Duchess de Angoulême, Pitmaston Duchess, Flemish Beauty, Doyenné Boussock, Beurré Diel, Beurré de Capiamount, Louise Bonne of Jersey, Beurré d'Aremberg, Beurré d'Amanlis, Marie Louise, and Fondante d'Automne. In the second prize collection shown by Mrs. Grundy, Westleigh, were, differing from the foregoing, Souvenir de Congrès and Beurré Rance. All the Pears, no doubt, were gathered from walls.

I think there was one defect in the Fruit Conference. What seemed to be lacking was a paper on Fruit culture within twenty miles of Manchester. This would have been of great service to many, and we should have been made acquainted with the difficulties under which fruit is produced amid the gloom and vitiated atmosphere of the manufacturing districts.—*R. D.*

THE SEED HARVEST.

IT is very probable that many seeds, especially of flowering plants, will be scarce next year, and perhaps of indifferent quality. It is stated that some seeds usually found in large lists are this season not to be had either at home or on the continent. Those who have old stocks will perhaps be able to satisfy orders so far, but then so many seeds will not continue fertile after a year or so, hence to sow them will be but to reap disappointment. It is well that gardeners should be warned beforehand of the indifferent quality of some seeds, because then they may take more than ordinary precautions in sowing, whether out doors or under glass.

I strongly advise that, as far as possible, all tender plant seed be raised next spring under glass, that every help may be given to imperfect germinating powers. Still farther, it will be well to give seed orders early, so that some of the scarce sorts may be obtained, whilst of those of indifferent quality ample opportunity will be offered for the testing growth under glass before sowing outside. Then it will be wise to reserve sowings outdoors next spring to a rather later date than usual, so much difference is there between the warmth of soil and air in March and in April.

Seed growers have found the past season one of peculiar difficulty. In many cases there has been no seed resulting; in others it has been found almost impossible to ripen the seed which has formed; and in other cases—especially in relation to Beans and Peas—seeds that have matured have suffered in the constant rainfalls before they could be housed. This weather trouble has not been limited to Great Britain, it has been just as evident on the Continent; and it is from France and Germany whence we derive our great seed supplies. Those who so readily cavil at the prices charged for good seeds know nothing about the labours and losses which seed growing involves; if they did they would better realise that relatively good seeds never are dear.—*A. D.*

DEVONSHIRE FERNS.

MR. DRUERY's criticism in the *Gardeners' Chronicle* is highly interesting, and I am glad that that my few notes on Devonshire Ferns contributed to your columns have drawn out from so great an enthusiast such a valuable discourse. My paper, however, was not written in a comprehensive spirit, neither does it require that "discriminating eye" spoken of to perceive this, as it is quite easy to do so in the ordinary way.

I have now dipped a little deeper into the subject, and note that there were yet other kinds or species of wild Ferns in Devon, apparently unknown to Mr. Druery, since he has omitted to mention them, and I have also discovered that the Lomaria spicant was popularly known as the "rough Spleenwort" even before the days of that quaint old writer Gerarde. So far so good—and now we come to the question of manipulation in reference to varieties. My contention is, that when a wild Fern having some variation from the species to which it belongs, is removed from its natural habitat to a garden where after a lapse of time it is proved that the said variation has developed, or even remained constant, then it may be regarded as a variety of that species—and this is precisely where the manipulation I spoke of comes in.

When I was a traveller I was of course in touch with many rich collections of British Ferns in different parts of the country, and long ago was convinced that there were distinctions with little differences in many of the so-called varieties; therefore we can well afford to sweep off a great number of them and their tedious ugly names to boot; in fact, to put the whole thing into a nutshell, there are said to be nineteen families or genera of British Ferns, sub-divided into forty-five species, which according to Mr. Druery comprise some 1,800 forms or varieties. Now my candid opinion is that if all these could be brought together at a thoroughly rigorous Fern Congress, quite four-fifths would be cast aside as being insufficiently distinct. Then if the varieties that remain were re-christened with very short English names after the manner of florists' flowers, examples:—Nephrodium filix-mas Adam, Asplenium filix-fœmina Eve, Aspidium aculeatum Eclipse, Scolopendrium vulgare Unique, there would be more hope of finding a named collection of hardy Ferns in every well-appointed garden throughout the land.—*W. Napper, Chelsea.*

GARDENING MISCELLANY.

TWO COMPETITIVE PALMS.

IN a young state and even after they have attained some considerable size, Cocos Wedelliana and Geonoma gracilis bear a considerable resemblance to one another on casual observation; but they are perfectly distinguishable at all stages. Both have gracefully arching, pinnate, dark green leaves, and in the young state are much in request for table and other kinds of decoration. The pinnæ of G. gracilis are rather broader than those of C. Wedelliana, and they are green on both surfaces, while those of the last-named are densely covered with a white coating of scurfy scales on the under surface, and which under certain conditions even assume a rusty appearance. The extreme narrowness and the closeness of the arrangement of the pinnæ will always tell strongly in favour of C. Wedelliana, as young plants about 12 in. or 18 in. high, and well furnished with leaves, have an exceedingly gracefully appearance. Another point which tells greatly in favour of this plant is the amount of bad usage it will stand in the decoration of rooms, under the influence of gaslight, and the dryness of the atmosphere. The scurfy coating of the under surface of the leaves, no doubt, serves largely to prevent an undue loss of moisture, hence the preservation of the foliage under trying circumstances. G. gracilis has no such protective covering, and does not stand well under unfavourable conditions. Both species are largely grown for decorative purposes, but C. Wedelliana will in future be the more extensively used.

VARIEGATED CORNISH MONEYWORT.

MANY cultivators have failed with this plants through growing it in too dry and airy an atmosphere. The typical green form is a British plant which grows on moist rocks in somewhat shaded places, where it is kept continually moist by water oozing out of the rocks; and the atmosphere is kept damp by the same means. Now to grow it successfully something of this sort must be attempted in hothouses. Messrs. E. D. Shuttleworth & Co., Peckham Rye, grow it in Palm houses, the atmosphere of which is always moist. It is grown in small pots close to the glass, and therefore gets plenty of light, and appears happy.

POLYGONUM POLYSTACHYUM.

SEVERAL of the Polygonums, notably P. cuspidatum and P. sacchalinense, are favourites in parks, private and even villa gardens on account of their rampant and sub-tropical appearance. The foliage in itself is fine, but is doubly so with the addition of the flowers, which, although small, are produced in myriads on well-grown plants. The branching of the stems and the arrangement of the leaves upon the plant under notice, produce perhaps a less graceful effect than the other species mentioned, but the fact that the plant is still in full bloom and beauty should tell greatly in its favour. It forms bushes 6 ft. to 8 ft. high, and as far through, terminating in panicles of pure white flowers. The lanceolate leaves are 4 in. to 18 in. long, with red petioles. The upper part of large rockeries, the shrubbery, or wild garden are suitable places for it.

DRACÆNA FRAGRANS AND ITS VARIETIES.

THE typical green form of this Dracæna is an old garden plant, but until the variegated forms appeared was practically of very little horticultural interest, more especially after the bronzy-red and variegated species or garden varieties became common. Some years ago a plant appeared in this country under the name of D. Lindeni, and in a short time became quite popular. After flowering it was determined to be D. fragrans, and some cultivators at the present day speak of it under the name of D. f. Lindeni, but by far the greater proportion simply call it D. Lindeni. Some gardeners are of the belief that there are good and bad forms of it in cultivation, and that one of them always assumes the rich creamy-yellow variegation which renders the plant so ornamental. The centre of the leaf is green, with a broad creamy-yellow band on either side extending to the margin. In the other, the variegation is very poor, indistinct, and the greater part of the leaf green. Some cultivators state that the difference is due to treatment. Certain it is that there is another variegated form

under the name of D. Massangeana, in which the variegation is chiefly confined to the centre of the leaf, but is never very good at any time. A good stock of both varieties may be seen in the nurseries of Messrs. E. D. Shuttleworth & Co., Peckham Rye, and Mr. Iceton, at Putney.

LILIUM WALLICHIANUM SUPERBUM.

This very beautiful Lily is truly an acquisition, and will be generally sought after when it is more known. It was introduced from Upper Burmah by Messrs. Hugh Low & Co. some three or four years since, and I have plants now in flower which are greatly admired by all horticulturists who have seen them. My plants are about 3 ft. high and in full bloom, the growth resembling L.tigrinum with small bubils at the axils of the leaves as in L. tigrinum, so that with care it is readily propagated. The flowers resemble L. Harrisii in form, but more drooping and of a pale cream colour with a deeper cream throat, the outer side of the petals being flushed with a pale purple tint and is fragrant. This and other Liliums, especially the speciosum varieties, and L. tigrinum splendens show up well now amongst Chrysanthemums and other plants in the conservatory.—*Lilium.*

NICANDRA PHYSALOIDES.

It would seem as if plants as well as people often went on a pilgrimage, for they may often be found thriving vigorously in countries far from their native home. The plant under notice is a native of Peru, from whence it was introduced to this country in 1759. It has not, however, become very popular, being seldom found outside of botanic gardens. Under favourable conditions it attains great vigour with a sub-tropical appearance, as is the case with some plants in the garden of a correspondent, where the seedlings now stand about 4 ft. or 5 ft. high. The seeds were brought home by a traveller in the Holy Land, where he detected plants growing amongt others in the garden of Gethsemane. The leaves are ovate, ample, and coarsely toothed, and the plant commences flowering towards the end of summer, earlier or later according to the amount of rain and the consequent vigour of the stems. The large, drooping, bell-shaped blue flowers are chiefly produced on the upper part of the stem, and are surrounded by a a curious, inflated, five-parted calyx not unlike that of a Physalis.

LOASA VOLCANICA.

Few of the species of Loasa are much grown in gardens, although some of their near allies are popular garden annuals, to wit, Mentzelia bartonioides, and a few others. Several of them, as well as the Blumenbachias and Scyphanthus, are more or less showy, with singular looking flowers. Unfortunately they have the reputation of being stinging plants, but, although this is true, their stings are of a mild nature, even when compared with those of the common Nettle, and give pain for a short time only. Loasa volcanica is one of the most easy to grow, as well as one of the showiest. The leaves are tripartite, with coarsely serrate segments of a rich dark green. The flowers are still produced in great abundance from the axils of the upper leaves, and hang face downwards, partly concealing one of their greatest peculiarities; the petals themselves are boat-shaped, and white, concealing the numerous stamens in five bunches or bundles, but at the base and between them are five curiously shaped scarlet nectaries, tipped with golden-yellow, and giving a rayed or star-like appearance to the centre of the flower. The plant is also known under the name of L. Wallisii in gardens.

POLYGONUM SPHÆROSTACHYUM.

Choice and dwarf habited herbaceous plants that will flower into October while the garden and pathways everywhere are being strewn with leaves and the wreck of vegetation, as a result of the equinoctial gales, are to be prized by the lovers of gardens. The plant under notice is a native of the Himalayas, from whence comes also the allied but very distinct looking P. affine. The flowering stems are 10 in. to 12 in. high, and terminated by a shortly oblong dense spike of dark rosy-purple flowers with black anthers. As the rootstock is not creeping, and increases very slowly, the species may be planted in a small pocket without fear of its overrunning its neighbours, as in the case of P. affine, otherwise known as P. Brunonis, and which requires a considerable amount of space to develop laterally, and show its true habit. Although a small pocket will suffice, the soil must be of good depth in order to allow the roots to go in quest of moisture. A flowering plant may be seen on the rockery at Kew, where it has been an object of beauty for weeks past.

HIBISCUS SYRIACUS.

In old fashioned gardens this shrub is best known under the old name of Althæa frutex, or shrubby Hollyhock. Its late flowering character, floriferousness and variety should make it more popular than it really is in British gardens at the present day. The flowering period is September and October, but in fine summers it may even commence in August, as it does in France where the climate is warmer, and where the Hibiscus in question is very extensively employed in the parks and public places. The shrub grows 6 ft. to 8 ft. high, but may be freely pruned in winter, thereby reducing its size to almost any requirement, as limited by the size of the garden and position. A very common custom on the Continent is to prune it to a single stem and grow it as a half standard. It may be grown equally well or even better as a symmetrical bush 4 ft. or 5 ft. high. White and dark flowered varieties are dotted about in the shrubberies at Devonhurst, Chiswick.

GEONOMA SEEMANNI.

There are numerous species of Geonoma in gardens, but very few of them are grown outside of botanical establishments, G. gracilis being a striking exception. The plant under notice has pinnate leaves, but with much broader pinnæ than the last named. Many of the Palms in a young state do not differ widely from one another in general appearance, and it is only after they get to some size that their characteristics can be determined except by those who are constantly amongst them and watch them closely. In a young state, however, this plant is very pretty, and would apparently stand much bad usage owing to the leathery character of the leaves. There are samples bearing from three to six leaves grown in long thumb pots in the Albert Nursery at 256, Peckham Rye.

PERMANENT WINDOW PLANTS FOR MANCHESTER AND DISTRICT.

Will Mr. James Percival or any other of your Lancashire correspondents give me the names of a few plants best adopted for growing in pots in windows in the smoky districts of Lancashire which lie around Manchester. By permanent plants I mean those which can be grown all the year round, and of an Evergreen character.—*Enquirer.*

BUSH FRUIT TREES RUINED.

An admirable opportunity has recently been furnished for gardeners who have both Apple and Pear, bush or pyramid, trees on paradise and Quince stocks, to note how far sorts of these stocks sustain the trees under great wind pressure. When at Maiden Erleigh, near Reading, last week, I saw numerous trees, Apple and Pear, almost blown out of the ground, the root hold not being sufficiently deep to enable the trees to withstand the force of the gale. Of course the position was an exposed one, but all the same an interesting question is opened which merits attention.

We are now so strongly urged to plant only dwarf bush or pyramid trees, that it is well to have a complete apprehension of all the merits as well as of all the defects incidental to such trees. Windy districts it may be suggested are best avoided when fruit trees are planted. That is of course excellent advice, but cannot be always followed, as gardening must be done in all places and under all sorts of conditions. I think that the best young tree for such exposed places is the fan or espalier. I have frequently noted the great mobility of trees of this description in rough weather and how few fruits have fallen.

I noticed at Maiden Erleigh that in a garden where the wind had torn the head of a big tree all to pieces, the well laden espaliers of Apples had not dropped a fruit. Perhaps the trees being thus trained are rather more costly at the first than are bushes or pyramid trees, but then they may be purchased young and be trained after being permanently planted. Then there is extra cost for stakes or other means of support. Against these items may be set the almost regular cropping, the fine samples of fruit produced, their immunity from harm in stormy weather, facility for netting the trees to keep off birds, ease of mulching so that the fruits if they fall may not be injured, and great facility for gathering the fruit. Still farther, pruning is very easily performed. It is very evident that the espalier ought to be more generally employed in Apple and Pear culture.—*X.*

ORCHID NOTES AND GLEANINGS.

The Stand Hall Collection.

Mr. Statter's collection at Whitefield, near Manchester, is noted for the many fine things which it contains, and of which numerous specimens have been exhibited in London, gaining the highest awards either for excellence of variety or high culture. The rarest Lælias and Cattleyas known are to be found at Whitefield and in the best of health; indeed, never have I had the pleasure of seeing a finer or more flourishing lot. The same may also be said of the Dendrobes, Odontoglots, and Cypripedes, and the grand lot of sheaths and spikes now being thrown up give promise of a long and lasting display. On Oct. 24th, I noted eleven choice species and varieties of Cypripedium in bloom, Cœlogyne Cunninghami, five species of Cattleya, including C. Warocqueana, or the true old autumn labiata; Dendrobium Statterianum, grand, and three other species; Lycaste Skinneri alba, the Stand Hall variety, a gigantic flower of the purest white; Lælia Dayana, L. Dormaniana, with eighteen flowers; L. Philbrickiana (× Acklandiæ and elegans), a most beautiful hybrid; several Oncidiums, Vanda cœrulea, many finely flowered plants, averaging fourteen flowers on a spike, and very beautiful; and Vanda Kimballiana, very beautiful, and a most welcome addition to the winter flowering section. Vanda Sanderiana is also well done at Stand Hall, several plants showing grand spikes; and of V. Amesiana the same may be said as of V. Kimballiana.

The plants bought from the Messrs. Linden's earliest importation of Cattleya Warocqueana have flowered, and include some very fine things. One of them just now in bloom is identical with the true old autumn labiata, and bears three spikes of three flowers each, and similar in every respect to the one noted last week as being in bloom at Highbury. One cannot help but admire the admirable way in which Orchid culture is conducted at Stand Hall, neither can one help sympathising with Mr. Statter in his illness, for he has been confined to his bed for a long time. His pets, however, are carried up to his room for his enjoyment. May such an enthusiast soon be able to take his pleasure under more favourable circumstances. A word of praise is also due to Mr. Johnson, who is not only a first-rate cultivator but delights in giving information as to his modes of culture.—*Rusticus.*

Renanthera Rohaniana.

This remarkable Orchid is closely allied to R. Lowii, variously named Vanda Lowii and Arachnanthe Lowii. Both are extremely interesting and very remarkable for their dimorphic flowers. In the case of R. Lowii only two of the lowest flowers on the raceme are different from the rest, but in R. Rohaniana under notice four of the lower flowers are in this condition. The sepals and petals are spreading, flattened, revolute at the tips and of a bright orange-yellow, closely spotted with purplish black. The three-lobed lip is small and finely spotted with red on a white ground. The sepals and petals of all the other flowers, which are very numerous, are much undulated or wavy, with large irregularly-shaped blood-red blotches on a white ground. Both kinds are beautifully illustrated in the *Orchid Album, Pl.* 435.

Thrixspermum Berkeleyi.

Most of the species of this genus which appear in cultivation have relatively small flowers, so that those of T. Berkeleyi, seeing that they measure 1 in. to 1½ in. across, must be regarded as exceptionally large. They are creamy white, with the base of the lip stained with mauve. The lip has a long, narrow pouch or sac, giving the structural aspect of the flowers a curious appearance. The leaves are leathery and of a dark green hue not unlike those of some species of Phalænopsis but narrower. The flowers are numerously produced on a long drooping

raceme, and the plant is altogether well adapted for culture in small baskets in the East India House. There is a figure in the *Orchid Album, Pl.* 436.

Odontoglossum Rossii albens.

The varieties of O. Rossii in cultivation are now very numerous. That under notice is characterised by the white ground colour of all parts of the flower, giving it a peculiarly chaste appearance. The sepals are transversely banded with soft green, while the petals are pure white with the exception of a few pale greenish blotches at the base. The crest only of the tip is yellow, the rest being pure white. The green blotches being suffused with yellow they present a pleasing pale tawny hue, as may be seen by reference to the *Orchid Album, Pl.* 434.

Trichocentrum albo-purpureum.

The flowers of this Orchid possess a distinctness quite their own, owing to the widely contrasted and curious assemblage of colours. The sepals and petals are of a light shining brown with yellow tips. The lip adheres for a little way to the base of the column, but otherwise stands out boldly from the rest of the flower and is obversely heart-shaped, tapering at the base into a short and broad claw. The claw and basal portion are purple with some shallow radiating ridges after the manner of a Miltonia; the upper portion around the sinus is pure white and extends down in the form of a claw; in fact the whole of the white blotch resembles a small lip of the same shape but of a different colour laid on the top of the first. The plant has no pseudobulbs, but broadly lanceolate leathery leaves, of a deep green and only 3 in to 4 in. long. In habit it may therefore be compared with Oncidium pumilum, and would form an interesting subject for basket culture. The flowers are large relatively to the size of the plant.

Oncidium cheirophorum.

Size is not essential to beauty, nor rich colours either, for the Orchid under notice possesses a quiet beauty of its own, and a strong but agreeable odour which is almost as lasting as the flowers themselves. The whole plant is only 4 in. to 6 in. high, with panicles of numerous flowers many times larger than those of O. pumilum. The sepals and petals are yellow slightly tinted with green, but as they are reflexed, the three-lobed lip is brought into greater prominence, and this is bright yellow with a bold three-lobed crest, the middle lobe of which is white. The ovoid pseudobulbs are very small and furnished with lanceolate leaves several times shorter than the scapes. It is admirably adapted for basket culture, and those who like to see their flowers growing on the plants in preference to cutting them would find much to admire in this dwarf but neat habited, fragrant and endurable species.

Cypripedium Harrisianum.

Is it a common occurrence for this Cypripede to produce two flowers on a spike? I have a plant, grown on from a small piece, which has produced eleven scapes, six of which bore two flowers each. I never knew it to produce two flowers on a scape before.—*John Proctor, Devanha House Gardens, Aberdeen.*—[Not an uncommon occurrence as the result of good cultivation.—Ed.]

SOCIETIES.

Royal Horticultural, *October 27th.*—The principal features of the meeting on Tuesday last were the collections of cut specimens of ornamental trees and shrubs showing their varied autumn tints, and brought up to illustrate the afternoon lecture by Mr. H. J. Veitch. Chrysanthemums were also in some force, and fruits, especially hardy kinds, were in great abundance. Orchids were also noteworthy. A number of prizes were offered for exhibits of Apples, Pears, and Grapes by amateurs. The first prize for six bunches of Grapes was awarded to Mr. G. Reynolds, gardener to the Messrs. de Rothschild, Gunnersbury Park, Acton. He also took the first prize for a similar number of bunches for flavour. In the class for four dishes of dessert and six dishes of cooking Apples the first prize was awarded to G. H. Sage, gardener to the Earl of Dysart, Ham House, Richmond. The first prize for six dishes of Pears was awarded to Mr. James Hudson, gardener to the Messrs. de Rothschild, Gunnersbury House, Acton. A Silver Banksian Medal was awarded to E. C. Smith, Esq. (gardener, Mr. J. Quarterman), Silvermere, Cobham, for a splendid collection of Oaks, a few Maples, and other subjects as well as Toadstools, some of which were richly coloured. A Silver Flora Medal was awarded to Messrs. J. Veitch & Sons, Chelsea, for a rich and varied collection of trees and shrubs, showing a great range of colour both in foliage and fruit. A Bronze Banksian Medal was awarded to Messrs. Cutbush & Son, Highgate, for a smaller collection of Oaks and other trees and shrubs showing their peculiar tints. They also exhibited a collection of Pernettyas in fruit. A similar award was made to Mr. G. Wythes, gardener to the Duke of Northumberland, Syon House, for a collection of Oaks, Liquidambar, Deciduous Cypress, &c. A rich and varied collection of Oaks, Japan Maples, Berberis, Purple Hazel, Hornbeam, &c., was shown by R. S. Holford, Esq., Weston Birt, Tetbury, who received a Silver Banksian Medal for the exhibit. Messrs. J. Veitch & Sons exhibited a large group of Chrysanthemums representing the leading types, for which they were awarded a Silver Banksian Medal. Some new varieties of Chrysanthemums were shown by Mr. H. J. Jones, Hither Green, Lewisham. A Silver Banksian Medal was awarded to Mr. George Wythes for a collection of cut flowers of Chrysanthemums set up with their foliage and backed up with graceful Palms. Some Chrysanthemum blooms were shown by Mr. T. S. Ware, Tottenham. A collection of cut flowers of Chrysanthemums, chiefly Japanese and Pompons, in fine form, was staged by Mr. R. Owen, Maidenhead.

A group of Oncidiums, set up with Maidenhair Ferns, was shown by Messrs. Collins & Collins, Willesden Junction, for which a Silver Banksian Medal was awarded. A group of Orchids, including Lissochilus Krebrii, Dendrobium O'Brienianum, and Cattleyas, was shown by Messrs. F. Sander & Co., St. Albans, for which a Bronze Banksian Medal was awarded. Small lots of Orchids were also shown by Mr. H. A. Tracey, Twickenham; C. J. Lucas, Esq., Warnham Court, Horsham; C. Ingram, Esq., Elstead House, Godalming, who had some fine Cattleyas; also by Messrs. Pitcher & Manda, Hextable, Swanley; Admiral Cator, Hazelwood, King's Langley; F. Wigan, Esq., Clare Lawn, East Sheen; and by Messrs. B. S. Williams & Son, Upper Holloway.

At a meeting of the Fruit Committee a Silver Banksian Medal was awarded to Mr. Geo. Wythes for eighty dishes of Apples and Pears. A similar award was made to Messrs. Paul & Son, Cheshunt, for a large collection of Apples. Mr. G. Woodward, Barham Court, Maidstone, received a Silver-Gilt Banksian Medal for a large collection of remarkably well grown Apples and Pears. A Bronze Banksian Medal was awarded to Messrs. John Peed & Sons, Mitcham Road, Streatham, for a collection of clean-skinned fruits of Apples. A large collection of Apples and Pears was brought up from the Royal Horticultural Society's gardens at Chiswick. A Silver-Gilt Banksian Medal was awarded to Messrs. J. Veitch & Sons, for a magnificent collection of Apples and Pears, as well as sprays of Raspberries in full fruit.

WHAT TO DO IN THE GARDEN.

Temperature of the Stove.—November is usually the dullest month of the year, and that upon which we are now about to enter promises to be no better than its forerunners. If the external temperature is not particularly low, the air is generally constantly humid and the light is weak. The temperature of the stove must therefore be lowered in order to prevent any undue excitement of the plants, for growth at this season cannot under ordinary circumstances be productive of much good. A minimum night temperature of 60° will be quite sufficient, and such heat-loving subjects as Nepenthes should be placed at the warmest end of the house. Water only those plants which absolutely require it.

Climbers.—While climbing plants were flowering it was difficult or impossible to keep them clean, and being above the eye or out of sight, mealy bug and scale generally increase to an alarming extent, which is not only bad for the climbers themselves, but for everything growing beneath them. All those which have done flowering and which flower on the wood of the current season should have all the spores cut away which are not absolutely wanted to cover the roof. These would include Allamandas, Bourgainvilleas, Clerodendrons, &c. Bignonias, Toxicophlæas and others which flower on the old wood must only receive a judicious thinning out where necessary. Then all those whose stems are nearly leafless or that have hard foliage should receive a good syringing with paraffin and water at the rate of a wine-glassfull of the former to two or three gallons of the latter, or four gallons in the case of tender foliage, keeping the mixture well stirred all the time. Remove other plants from beneath the climbers so treated.

The Greenhouse.—Damp will have to be guarded against during this month by raising the temperature of the hot-water pipes in the morning and encouraging a circulation of air. The watering of Chrysanthemums must be done in the morning, and no plant allowed to suffer by getting dry during the flowering season. Camellias and Oranges, if very dirty, should be removed to a house and cleaned, so as to avoid unnecessary and undue moisture in the house.

Auriculas.—The plants should now be housed for the winter, whether in pits or properly constructed and ventilated frames. See that the drainage is good, as it often happens that worms get in the pots and stop up the bottom, thereby preventing the escape of water. The roots soon get into an unhealthy state and die, so that few flowers can be expected from them in spring.

Vineries.—The night temperature of Vineries where fruit is hanging must not be allowed to fall below 45°, especially if at all cold outside, otherwise there will be a deposition of moisture on the Grapes. The earliest house, where Grapes are required to be ripe in April, should be closed about the beginning of November. As a higher temperature is necessary to start the vines into vegetative growth at this season of the year than in spring, the house will have to be kept at 45° to 50° by night the first week, and from 55° to 60° by day.

Cucumbers.—Plants of the sowing made about the beginning of August should now be in full bearing. They should not be cropped very heavily at this season of the year, and all fruits should be removed as soon as fit for use. While the weather remains mild it will not be difficult to keep up a temperature of 65° at night. Watering had better be done in the morning so that all superfluous moisture may be got rid of during the day. Very little or no syringing will now be necessary, as a sufficient amount of atmospheric moisture may be kept up by sprinkling the paths and pipes, unless we get a spell of unusually dry and bright weather.

Strawberry Plants for Forcing.—The situation selected for storing the plants in pots should be sheltered but well exposed to light, with a southern exposure. The ground should have efficient drainage, so that all surface water may readily drain away, leaving the roots in sufficiently dry medium so as to ensure their proper aeration and healthy action. Plunge the pots in sifted coal ashes up to the rim.

Raspberries.—The old canes may now be cut clean away to allow a free play of light and air about the young ones which are left. Five or six according to their strength will be quite sufficient of the young canes to leave if they are to be tied to poles; but if trained on wires, more will be required to cover the space at command. Suckers which were left for the object of making young plantations may be transplanted as soon as the ground is ready for them. Unless there is danger of the canes being broken by high winds, they had better be left untied until the leaves fall.

Root Pruning Fruit Trees.—Where this can be done at once better results will follow than leaving the operation till spring, particularly if the soil is unusually dry as was the case during last winter and spring. The roots are now in active growth, and the trees will soon get established while the soil is yet warm. In the case of small trees of Apples on the Paradise stock and Pears on the Quince, lifting and replanting is all that is usually actually necessary.

QUESTIONS AND ANSWERS.

Slug with Small Shell.—*D. H.:* The slug you sent us is pretty frequently met with in heavy loam or clayey soil. The scientific name of it is Testacella halotidea. It is more frequent than is generally supposed, as it burrows in the soil and lies hidden, at least during the day. As it feeds on other slugs, worms, etc., you should protect rather than destroy or injure it in any way.

Leaving at the Term.—*Ne Plus Ultra:* No doubt it is a very unpleasant experience to be thrown out at the November term without the prospect of

an exchange, and we sympathise with you in the shabby treatment you have received from the gardener in question, but do not consider that it would serve any useful purpose to publicly discuss the matter. There were ever such people in existence, and it is to be presumed there ever will be—unfortunately.

NAMES OF FRUITS.—*Rose:* 1, Beauty of Kent; 2, New Hawthornden; 3, probably Green Balsam, but we are not certain; 4, Plum, not recognised, may be a small and late Victoria.

PEACHES BLISTERED.—*Foreman:* Trees that are very badly affected seldom do much more good; and it is advisable under the circumstances to root them out and plant young ones. When a few only of the leaves are blistered it would be worth your while to pull off and burn the diseased specimens as soon as they appear. By this means you would prevent the scattering of the spores, and the spread of the fungus to fresh trees. Now when the leaves are off you may examine the wood in order to cut away those portions which are unnaturally swollen, as the fungus often extends from the base of the leaves on to the young shoots, and causes them to become more or less thickened or distorted. In the case of valuable trees which you would like to save you might try spraying them with sulphate of copper, making several applications of the fungicide during the summer. The fungus already in the leaves would not be killed, but the spores appearing outside would be killed or prevented from growing, and the malady would therefore be confined within narrow limits.

NEPHROLEPIS DAVALLIOIDES FURCANS VARYING FROM SPORES.—*Geo. Crispin:* The variety with forks at the ends of the pinnæ may be raised from spores taken from an old plant of the same, but we cannot guarantee that the young plants will all come true to the type. In fact they do not, but vary in a remarkable manner. Some of them will be the same as the type, others inferior, and some may even be better. It would be an interesting experiment to raise young plants in this way, even although you would have to throw away many of the plants after you can determine what they are, if you have no other use for them and no space to grow them. To make sure of what they are going to turn out you must allow them to get to some size before discarding them.

NAMES OF PLANTS.—*A. C.:* 2, Fitzroya patagonica. *A. Williams:* 1, Clerodendron fallax; 2, Cotoneaster microphylla; 3, Hypericum oblongifolium; 4, Hypericum reptans. *H. J.:* Pyrethrum uliginosum; 2, Sedum spectabile; 3, Aster ericoides; 4, Aster diffusus horizontalis; 5, Rhus typhina. *W. Calder:* 1, Juniperus recurva; 2, Libocedrus decurrens; 3, Pinus austriaca; 4, Cupressus nutkænsis; 5, Cupressus Lawsoniana erecta viridis; 6, Cratægus coccinea; 7, Cratægus punctata. *J. B.:* 1, Adiantum diaphanum; Nephrodium patens. *A. R. L.:* The Orchid is a very fine variety of Vanda tricolor; the other is Chelona obliqua. *Wm. Cann:* The shrub latifolius with the berries is the broad-leaved Spindle Tree, Enonymus; the other is the Maidenhair-tree, Salisburia adiantifolia. *A. K.:* 1, Phalaris arundinacea variegata; 2, Oxalis Bowiei; 3, Chrysanthemum uliginosum.

CHRISTMAS ROSES.—*F. C.:* In order to avoid puddling the soil in its present wet condition, you could use some good loam taken from underneath the potting bench or from the store shed, if you have such a convenience at command—it will be drier from such sources. Mix it with a quantity of leaf soil, and place a quantity of the mixture round the roots of your plants, making it quite firm. The treading of the surface soil will then be of less consequence, and you can thus avoid puddling it when wet. This will better than planting afresh in spring, because Hellebores are very impatient of disturbance unless it is done with great care and as little injury to the fleshy roots as possible. In case you want to divide any of the pieces, remove all the adhering soil, so that you may see where the crowns can be separated with the least injury possible. Make the cut with an old knife in preference to either a trowel or a spade.

COMMUNICATIONS RECEIVED.—Portishead (next week)—S. B. W.—L. L.—T. F. R.—A. H. (many thanks)—J. B. (next week)—T. W.—G. D. S.—H. W. P.—J. L.—J. C. & Co.—E. P.—S. & S.—R. & B.

TRADE CATALOGUES RECEIVED.

WILLIAM CLIBRAN & SON, Altrincham.—Trees and Shrubs, Roses, Forcing plants, etc.

LITTLE & BALLANTYNE, Carlisle.—Forest and ornamental trees, Fruit trees, etc.

S. G. RUMSEY, Wrotham, Kent.—Catalogue of Roses.

EUGENIE GUEQUIVER, Ledeberg, near Ghent, Belgium.—Roses, Carnations, and other plants.

LONDON SEED TRADE.

October 26th, 1891.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Mark Lane, report a brisk trade in Red Clover, owing to the unfavourable weather damaging the English crop. White Clover dearer. Alsike and Trefoil steady. Ryegrasses unchanged.

COVENT GARDEN MARKET.

October 28th.

FRUIT.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.		s. d.	s. d.
Apples... per ½-sieve	1 0	5 0	Pine apples.		
Cobbs... per 100 lbs.	55 0	37 6	—St. Michael's, each	2 6	8 0
Grapes .....per lb.	0 6	2 0	Peaches .....per doz.	1 0	6 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
ArtichokesGlobe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Beans, French, per lb.	0 4		Lettuces ..per dozen	1 0	1 6
Beet..... per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages ... per doz.	1 6	2 6	Onions.....per bunch	0 4	0 6
Carrots ... per bunch	0 6		Parsley ... per bunch	0 6	
Cauliflowers, English, per doz.	3 0	6 0	Radishes... per dozen	1 6	
			Small salading, punnet	0 4	
Celery.....per bundle	2 6		Spinach, per strike...	1 6	
Cucumbers .....each	0 6	0 9	Tomatos..... per lb.	0 6	1 0
Endive, French, doz.	2 6	3 0	Turnips ..... per bun.	0 6	
Herbs .....per bunch	0 2	0 6			

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Aralia Sieboldi ...doz.	6 0	12 0	Evergreens, invar. doz	6 0	24 0
Bouvardias...per doz.	8 0	12 0	Ferns, invar..per doz.	4 0	18 0
Chrysanthemums, doz	6 0	12 0	Foliage Plants, doz.	12 0	60 0
— large .....per doz.	12 0	24 0	Heliotrope, per doz.	4 0	6 0
Coleus.....per doz.	3 0	6 0	Marguerites, per doz.	6 0	12 0
Cyperus .....per doz.	4 0	12 0	Mignonette, per doz.	4 0	6 0
Dracæna term., doz.	24 0	36 0	Palms in variety, each	2 6	21 0
Dracænaviridis, doz.	9 0	18 0	—scarlet .....per doz.	2 0	4 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blms.	4 0	6 0	Marguerites, 12 bun.	1 6	4 0
Asters, doz. bunches	4 0	6 0	Mignonette... 12 bun.	1 6	3 0
Bouvardias, per bun.	0 6	1 0	Myosotis..doz. bchs.	2 0	4 0
Carnations, 12 blooms	1 0	2 0	Parme Violets, French, per bun.	2 6	3 6
Chrysanthemums, doz. blooms	0 9	3 0	Dark " " "	1 0	2 0
			Pelargoniums, 12 sps.	0 6	0 1
Chrysanthemums, doz. bunches	4 0	12 0	—scarlet.....12 bchs.	4 0	6 0
Dahlia, doz. bunches	2 0	4 0	Primula, double, bun.	0 6	1 0
Eucharis ...per doz.	2 0	4 0	Pyrethrum, doz. bchs.	2 0	4 0
Gardenias 12 blooms	1 6	4 0	Roses, yellow, dozen	3 0	6 0
Heliotropes, 12 sprays	0 3	0 6	— mixed... doz. bchs.	4 0	6 0
Lapageria, 12 blooms	1 0	3 0	— Red..... doz. bchs.	6 0	12 0
Lilac, French, per bunch	5 0	7 0	— Saffrano...per doz.	1 0	1 6
			— Tea ..... per dozen	1 0	3 0
Lilium Harrisii, doz. blooms	3 0	6 0	Stephanotis, dz. spys.	3 0	5 0
			Tuberoses, per doz.	0 3	0 6
Liliumsvar., doz. blms.	1 6	3 0	Violets, English per bunch	1 6	2 0
Maidenhair Fern, 12bs.	4 0	9 0			

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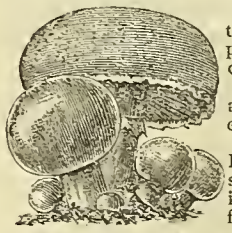

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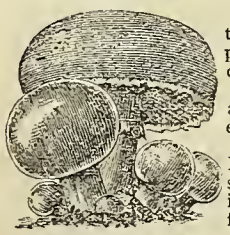

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Nov. 9.—Chrysanthemum Shows at St. Neot's and Truro (2 days). Bulb Sales at Stevens' Rooms.

TUESDAY, Nov. 10.—National Chrysanthemum Society's Exhibition at the Westminster Aquarium (3 days), Chrysanthemum Shows at Kingston (2 days), Eastbourne (2 days), Sevenoaks and West Kent (2 days). South London (2 days). Bulb Sale at Protheroe & Morris' Rooms.

WEDNESDAY, Nov. 11.—Chrysanthemum Shows at Bath (2 days), Birmingham (2 days), Reading (2 days), Bournemouth (2 days), Faversham (2 days), Southend (2 days), Guildford (2 days), Southgate (2 days), Chelmsford, Lewes (2 days), Croydon (2 days), Lindfield (2 days), Dartford (2 days), Market Harborough (2 days), Swansea (2 days). Bulb Sales, at Protheroe & Morris' and Stevens' Rooms.

THURSDAY, Nov. 12.—Chrysanthemum Shows at Barnsley (2 days), Cranbrook (2 days), Dawlish, Hornsey (2 days), Isle of Sheppey (2 days), Westerham, Winchester (2 days), Wimbledon (2 days), Tiverton. Bulb Sale at Protheroe & Morris' Rooms.

FRIDAY, Nov. 13.—Chrysanthemum Shows at Cheshunt (2 days), Derby (2 days), Eccles and Patricroft (2 days), Hayes, Exeter, Nottingham (2 days), Reigate, Tooting (2 days), Leicester (2 days); Bolton (2 days), Sheffield (2 days). Orchid Sale at Protheroe & Morris' Rooms.

SATURDAY, Nov. 14.—Bacup Chrysanthemum Show Bulb Sales at Protheroe & Morris' and Stevens' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, NOVEMBER 7th, 1891.

PROPOSED GREAT INTERNATIONAL FRUIT SHOW.—An ardent desire, not only of our own but also of all who are unselfish horticulturists, seems likely to find realisation. We publish elsewhere a report of a meeting held at the Cannon Street Hotel, under the presidency of Sir James Whitehead, Bart., at which steps were taken of a preliminary nature to organise a grand Fruit Show in London next year. We have little concern for names, but at least do think that whatever may be done elsewhere, in London at least it would be impossible to hold a great fruit show which was other than International in its breadth and aim. But whatever be that breadth and aim, it is morally certain that the show, if held, will be mainly composed of home-grown fruits, and against these even the best of foreign production will be of but indifferent importance.

We won't quarrel over an appellation, but all the same eminently prefer that which is of the most cosmopolitan rather than which is most parochial. Without doubt the aims of the promoters of this proposed show are ambitious, still if not ambitious they would be unworthy of the place and the object. London is the first city of the universe. We hold our profession of horticulture to be second to none on the face of the earth. The place and the object alike therefore are worthy of a grand effort, and all privileged to know Sir James Whitehead will admit that in him the movement has a worthy and capable leader.

It is morally certain that the success of an effort of this nature is most dependent upon the support, pecuniarily and moral, which the City of London will afford; and no one is so capable of eliciting that support as Sir James Whitehead. He is enthusi-

astically favourable to hardy fruit culture. He is distinguished in the City for high character, energy, and great business capacity; and he enjoys universal respect. Through his aid we have the liveliest hope that the proposed show will be organised and prove a great success. At least there can be not a shadow of a doubt but that no other body or person can hope for one moment to succeed should Sir James Whitehead fail.

THE ROYAL HORTICULTURAL SOCIETY.—The recent effort made to force upon the promoters of the proposed Great London Fruit Show by the Royal Horticultural Society its claims to control all the purely professional arrangements of that venture, is of so monstrous a nature, that it is satisfactory to find even members of the Council of that body shrinking from the effort with undisguised contempt. The assumption that because the Society has the prefix of Royal, and therefore some recognised national position, it is to be permitted to "boss" every venture of the kind referred to, is beyond all sense or reason.

We have given the Royal Horticultural Society all possible aid and support, and so long as it legitimately labours for the promotion of horticulture in its recognised sphere we will continue to do so. But under no circumstances can we admit that because of such approval the Society is entitled to control all other horticultural proceedings. What would be said if the Royal Agricultural Society—a body by the bye which has in relation to agriculture a position so pre-eminent that the Royal Horticultural Society can never hope to rival it—did it claim to control the Smithfield Cattle Club Show, the Dairy Show, the Cart Horse Show, the Shows of the Bath and West of England, the Royal Counties, or of other great societies? Such a claim would be scouted as monstrous, but then the Council of the Royal Agricultural Society is composed of gentlemen who would never think of setting up such pretensions.

The proposed great show it was at first suggested should be held at the Crystal Palace. Had it so been ultimately decided, even if the grandest of its kind ever seen, we should have heard nothing about the Royal Horticultural Society claiming to conduct its management. But Sir James Whitehead holds that so great an effort as is proposed should be made in the heart of London, and at once, like a vulture after prey, down pounces the Council of the Royal Horticultural Society, striving to carry off or strangle the bantling. It will not be allowed to do anything of the sort, and any further pretentions of the kind put forth will but serve to damage the society inestimably among fruit growers throughout the United Kingdom.

THE CHRYSANTHEMUM SEASON.—The recent white frosts in finally destroying all tender flowers out of doors, reminds one of one specially pleasing feature of the Chrysanthemum season, and that is found in its partial, though considerable, bridging over the gulf which winter formerly threw between the going of the garden flowers in autumn, and their coming in spring. Nay, even in our greenhouses very barren indeed might be our shows of flowers, up at least to the end of the year, but for the Chrysanthemums. We do not all grow them for exhibition, indeed tens of thousands grow Chrysanthemums, solely for their beauty, as late autumn and winter flowers, getting from them even though lacking what exhibitors regard as quality immense pleasure and satisfaction.

Still, but for the Shows we should never have known what Chrysanthemums really are, or can be made into. The ordinary clusters of flowers beautiful as they may be in their rough way, yet utterly fail to exhibit the variety in its true form, simply because true form can only be found in perfect culture, and with the aid of such developments as the art of the cultivator can give. To many who grow Chrysanthemums naturally the flowers seen on exhibition tables often come as a revelation. They are floral developments imagined to be unattainable. We shall see myriads of these wonderful flowers during the next few weeks, and be left to wonder where the development of the Chrysanthemum is to end. The process of production goes on rapidly, so much so that it is very difficult to keep pace with it. Growers, whether for show or for ordinary decorative purposes, find it difficult to keep pace with the advance, but happily the real good things are not so plentiful, and because such high standards have been set up, we may look for higher development of quality as time rolls on. That will be a great gain.

Thousands of seedlings may do admirably for ordinary culture but may not come within the higher circle of show flowers. We shall do well to keep that circle somewhat select, if very high standards are to be maintained. We hope the Shows, now so near, will all evidence the value of high standards in relation to exhibition Chrysanthemums.

Edinburgh Chrysanthemum Show.—We are requested to state that entries for this exhibition close on the 13th inst. They should be addressed to Mr. Robert Laird, 17, Frederick Street, Edinburgh.

Waterlow Park, Highgate.—We understand that Mr. R. Curle, late deputy superintendent of the Sefton Park, Liverpool, has been engaged by the London County Council as superintendent of their new Park at Highgate.

Mr. William Angus, lately gardener at Hoddam Castle, Ecclefechan, Dumfriesshire, has been engaged as gardener to Sir William Crossman, Cheswick House, Beal, Northumberland.

The Fruiterers' Company.—We understand that in view of the action that is being taken with the object of holding an international exhibition of fruit next year in London, Alderman Sir James Whitehead, Bart., has been nominated for re-election as the Master of this company.

National Rose Society.—We understand that it has been definitely fixed for this society to hold its Provincial Exhibition at Chester next year (1892) on July 14th. Mr. G. A. Dickson is acting as honorary secretary, and Mr. J. E. Edwards (City Treasurer) is the honorary treasurer to the fund being raised towards the needful contribution in aid of the National Rose Society's prize money, local prizes, and expenses. The amount already promised is nearly £50.

Proposed Superintendent for the London Parks.—At the meeting of the London County Council on Tuesday, the debate was continued on the recommendation of the Parks Committee "that the Council do offer £700 a year as salary for the Superintendent of Parks and Open Spaces," to which Mr. Hubbard had moved as an amendment "That £600 be substituted for £700."—On a show of hands the amendment was defeated by 44 votes against 32, and on a division by 56 votes against 38. The recommendation was then agreed to.

National Chrysanthemum Society.—At a meeting of the general committee on Monday evening, Mr. E. C. Jukes presiding, arrangements were made in detail for conducting the aunual exhibition at the Westminster Aquarium next week. It was also unanimously resolved that the annual dinner should take place at Anderton's Hotel on Tuesday, December 1st, at 6 p.m. Thirteen new members were elected.

Daffodil Prizes for 1892.—A series of Silver and Bronze Medals were offered for competition by Messrs. Barr & Son, Covent Garden, at the spring meetings of the Royal Horticultural Society this year; but—owing, we presume, to the want of greater publicity—there were very few competitors. We understand now that the Messrs. Barr have arranged to give a similar set of medals next season, the competitions to take place during the months of February to May inclusive.

Preston and Fulwood Floral and Horticultural Society.—At the monthly meeting of the members of this Society, to be held at the Legs of Man Hotel, Fishergate, Preston, this (Saturday) evening, Mr. W. P. Roberts, of The Gardens, Cuerden Hall, will read a paper on "The Bouvardia, and how to grow it." Chair to be taken at 7.30, by the President, R. W. Hanbury, Esq., M.P.

Gishurstine.—Having had some half dozen really dry days we had almost forgotten the discomforts of the drenching month of October, and would have been glad if we could have been allowed to jog along without having to bestow another thought on bad weather for some time to come. A seasonable sample of Gishurstine, to hand from Price's Patent Candle Co., however, serves not only to recall to our mind the subject of inevitable bad weather, but also to remind us of the comfort derived from keeping the feet dry. Well to do this we must have sound boots, and dress them with Gishurstine—there is really nothing better.

The Story of a Coffee Plant, as told by Dr. Kerr Cross, possesses, says *The Daily News*, quite a romantic interest. Some ten years ago the authorities of Kew Gardens sent out by way of experiment a number of slips of the coffee plant to Blantyre, in Central Africa. Unfortunately, one only survived the long journey; but this, as might be expected, was a particularly healthy and hardy little shrub. It grew, bore seed, proved itself wonderfully productive, and is now the progenitor of a million of plants growing on one estate alone, besides hundreds of thousands of others in that region. In three years the plants give return. The quality is also good as shown by the fact that Shiré coffee has recently been fetching wholesale 112s. a hundredweight in the London market. That little cutting from Kew bids fair, as Mr. Cross says, to have a mighty civilizing influence on this part of Africa, and to confer an inestimable boon on its people.

The Gardeners' Orphan Fund.—At the first meeting of the Committee after the recess, held on the 30th ult., Mr. John Laing presiding, the Honorary Secretary announced the receipt of two donations of £5 each; £2 2s. from the Bristol Chrysanthemum Society; £5 7s. 6d. collected by Mr. Wadds, The Gardens, Birdsall, York; and £11 7s. 2d. collected in various money boxes. Mr. Barron also announced that the total net proceeds of the late general collection was £250 2s. 1d. It was also announced that a District Committee had been formed in Manchester, consisting of Mr. Bruce Findlay, Mr. Tait (Dickson, Brown & Tait), Mr. Robinson (Dickson & Robinson), Mr. E. Griffith Hughes, Mr. Plant, Mr. Elkin, and Mr. Upjohn, Worsley Hall; the last named undertaking the duties of secretary. Mr. Upjohn, by virtue of his office, was elected a member of the Executive Committee, and power given to him to delegate any other member of his committee to attend the meetings in London. It was unanimously resolved to invite Alderman Sir James Whitehead, Bart., to preside on the occasion of the Annual Dinner, in February next.

Manchester Horticultural Improvement Association.—The annual meeting of this association was held on Monday evening, at the Atlantic Restaurant, and after the usual official business had been got through, the members and a few friends dined together, Mr. Bruce Findlay presiding and Mr. Griffiths Hughes occupying the vice-chair. Several good practical speeches were made on various horticultural topics, and a very pleasant evening was spent. The following is the programme for the ensuing season:—Nov. 12th, Dr. Hick, B.A., "The Making of Flowers." Nov. 26th, Mr. Lunt, "What is a Fruit?" Dec. 10th, Mr. Bruce Findlay, "Fruits of the Fruit Congress." Jan. 7th, Mr. Birkenhead, "Observations on the Manner of Growth and Classification of Ferns." Jan. 21st, Mr. Paul, Botanical Gardens, "Officinal and Medicinal Plants." Feb. 4th, Mr. Hough, "Early Forced Flowers." Feb. 18th, Mr. A. Stansfield, "Geographical Botany."

BERRIED PLANTS.

At some of our autumn shows prizes are offered for these winter decorative plants, and very pleasing variations in the too common form of table and other plants result. Of course the Solanums figure most strongly and invariably are the best berried, especially that as of plants of this description, suitable for pot culture, we have so few. If we could induce the ordinary free berrying varieties of the Pyracantha to berry as small pot plants, they would be very effective especially if trained in the form of standards, with rather drooping heads. Rosa Rugosa is in the bush form a very beautiful berried plant, although, as is the case with Capsicums, the fruits are hardly to be classed as berries.

The Prince of Wales Capsicum, which assumes naturally such a pleasing standard or umbrella form, makes exceedingly pretty plants, the rich yellow fruits when ripe hanging down in great profusion. Charming as these are, however, they will not endure through the winter, as Solanums, the which are at once harder-wooded and capable of resisting much cold, will endure. The Solanums seen at these autumn exhibitions are too much of one type. The schedule usually asks for six berried plants in pots, without in any way indicating variety or anything else. It is therefore very common to see all the six plants bush Solanums of the same form and variety, and in that respect far from being so attractive as is desirable. A couple of Solanums, a couple of standard Capsicums, and a couple of the Coral Red Chilis make a very pretty selection.

It is hardly fair in connection with a class of this sort that exhibitors should be allowed to set up just the easiest grown varieties, and especially of Solanums only. Of course, so long as judges go for the best berried only, irrespective of variety, there is little chance that exhibitors will vary their exhibits. If, however, those who arrange schedules will insist upon greater variety being introduced into the class, the gain will be considerable. I have often wished to see a class for six Celosias at these late shows, for they are often seen in beautiful form so late as Christmas if kept in gentle warmth. Naturally the shows are chiefly for Chrysanthemums, but all other late decorative plants should be encouraged.—*A. D.*

LEICESTER FRITH,

The seat of Thomas Swift Taylor, Esq., stands on elevated ground about three miles distant from the centre of the town of Leicester. The gardens attached are varied and extensive, and, under the able management of Mr. H. Woolley, can now very favourably compete with any in the Midlands, and at all times will well repay a visit from any horticulturalist. At the present time, when the subject of hardy fruit culture is absorbing so much attention in our islands, and having for several years had many opportunities of visiting the Frith Gardens, and observing the magnificent crops—of Pears especially—grown there, I venture to submit to you a list of such, with a few remarks as to position, &c.

The situation is a cold one, and the natural subsoil an impervious clay, which has been very much modified by incorporating burnt ballast which seems to encourage fibrous roots. In pruning the strong shoots are left at full length and thinly disposed. This induces a more tardy circulation of sap, and the result is the formation of fruit spurs. Root pruning is carefully attended to, and also surface dressing. The following is a list of Pears grown, which are treated as Pyramids, Bush and Cordons:—

Cordons.—Rivers' Seedlings, Dr. Hogg, Beacon, and Princess, a handsome Pear, a seedling from the Louise Bonne of Jersey; Clapp's Favourite, Madame Treyve, Conseiller de la Cour, Pitmaston Duchess, and Grégoire Bourdillon.

Pyramids.—Doyennè d'Eté, Jargonelle, Williams' Bon Chrêtien, Beurrè d'Amanlis, Souvenir de Congrès, Louise Bonne of Jersey, Marie Louise, Glou Morceau, Doyennè du Comice, Duchesse d'Angoulême, Hacon's Incomparable, Beurré Diel, Beurré Bachelier, Beurré d'Aremberg. Winter Nelis, Joséphine de Malines, Bergamotte d'Esperen, Easter Beurré, and Beurré Rance.

Hardy bush fruits do well, and bear most abundantly each year, despite climatic influences, which is the more remarkable considering the exposed position. Mr. Woolley confines himself to very few varieties, viz., Gooseberries, Whitesmith and Crown Bob; Red Currants, Raby Castle and La Versaillaise; Black Currant, Black Naples; Strawberries, Sir Joseph Paxton, Elton Pine, Keans's Seedling, and Vicomtesse Héricart de Thury.

The fruit and plant houses are well stocked, and are extensive. There is a fine range of span-roofed vineries, divided into three sections. No. 1 house is entirely filled with Black Hamburghs. No. 2 contains Muscat of Alexandria, which on the 6th of October (the time of my last visit) were bearing a splendid crop of amber-coloured fruit. No. 3 is planted with Lady Downe's Seedling, Black Alicante, Gros Colmar, and Alnwick Seedling, and a finer and better coloured house of late Grapes I have never beheld.

The orchard house (a lean-to 100 ft. by 14 ft.) is filled with a splendid collection of Plums, including Green Gage, July Green Gage, Reine Claude de Bavay, Coe's Golden Drop, and Transparent Gage. A span-roofed range of Peach houses for forcing, is planted with the following varieties, which are in good bearing condition:—Hale's Early, Royal George, and Noblesse; Nectarines, Early Rivers', Rivers' Orange, Elruge, and Lord Napier.

The large stove, which is also span-roofed, is filled with decorative and flowering plants, including a magnificent collection of medium-sized Crotons, Dracænas, Alocasias, Anthuriums, &c., and the roof is covered with Alamandas, Stephanotis, Bougainvillias, and Aristolochia elegans. One of the most useful houses on the place is devoted to Tea Roses, a lean-to 60 ft. by 12 ft., and planted with the following:—Marechal Niel, Gloire de Dijon, W. A. Richardson, Climbing Niphetos, a grand Rose for indoor work, and a robust grower, Madame Falcot, Catherine Mermot, Devoniensis, and Rêve d'Or.

The larger conservatory, which is entered from the mansion, is 120 ft. by 30 ft., the roof being covered with Tacsonias, Van Volxemii, and Exoniensis; some splendid specimens of Palms, standard plants of Cassia corymbosa, the latter bearing myriads of beautiful orange-yellow flowers; a grand display of early flowering Chrysanthemums, including Madame Desgranges, G. Wermig, White George Wermig, Mrs. Hawkins, L'Isle des Plaisers, Roi des Précoces, &c.; Lobelia Cardinalis (var. Victoria), a most useful plant for decorative work. The walls at the extreme end are covered with virgin cork, and planted with Maidenhair Fern and Lycopodiums, thus giving a pleasing effect to the whole.

The flower garden and pleasure grounds are in excellent keeping, and reflect the greatest credit on the estimable gardener, Mr. H. Woolley.—*J. B.*

A NEW BLACK STRAWBERRY.

Under the name of Souvenir de Madame Struelens, M. Ed. Pynært-Van Geert is sending out a new Strawberry which is remarkable for its intensely black colour. It is described as without doubt the darkest of all the Strawberries, including Negress of Soupert and Notting, which was rejected from cultivation twenty years ago, on account of its poor quality, also Negress of Tirlemont, which is equally a reddish black, superior in quality but tender, as the greater part of it disappeared from Continental gardens during the severe weather of last winter.

Strawbery Souvenir de Madame Struelens.

The fruits of Souvenir de Madame Struelens are ordinarily large, but sometimes very large, of regular form, generally roundly conical, the largest ones being triangular, flattened, or like a cockscomb. The colour is very dark, and in this respect quite different from that of any other known Strawberry. The carpels (generally termed seeds) are numerous, prominent, and yellow. The flesh is copious, rose in the centre, and deeply coloured towards the circumference, possessing a juice comparable to that of a Mulberry, the flavour of which it also recalls to some extent, very melting, buttery, extremely sugary, and perfumed.

The plant is very vigorous, and extremely fertile. By its vigour, fertility, and hardiness it is claimed to be worthy of cultivation in all collections, and to rank among the best dessert Strawberries. Amongst the most beautiful of them it will show by its dark colour, which one is not accustomed to see in the genus. At the same time it will add to the perfume which it gives off from its fruits, an odour which it possesses almost to the degree of the Hautboy Strawberry, which ought, without doubt, to constitute a part of its recommendations. We are indebted to M. Ed. Pynært-Van Geert, for an opportunity of figuring it.

CHRYSANTHEMUMS.

Swanley.

Succeeding years show fresh developments to meet the requirements of those who cater for the public love of Chrysanthemums. A large, roomy, and well lighted house has just been built by Messrs. H. Cannell & Sons, Swanley, Kent, to accommodate a collection of Chrysanthemums grown solely for decorative and cut flower purposes, as distinguished from those grown for exhibition. The two objects must be kept in view unless the cultivator goes in for one or the other.

The flowers that are grown to exhibition size are accommodated as usual in the long and narrow span-roofed houses with which every one who has visited Swanley is well acquainted. One of these houses

contains over 150 plants of Louis Bœhmer which were three parts expanded when we saw them last week, and certainly presented a fine appearance. The plant is dwarf and vigorous with foliage of great substance, more or less bronzed on both surfaces, and evidently a variety that can be grown by anybody. This is saying a great deal for the constitution of the plant when we compare it with Mrs. Alpheus Hardy. The florets of Louis Bœhmer are pink, varying almost to white in some blooms, distinctly bristly on the back and the incurved and unexpanded tips are yellow. Close by were some plants of Viviand Morel, a reflexed Japanese variety having huge, compact heads of silvery lilac-pink flowers. The blooms are neater than those of Etoile de Lyon, which still however holds its own for size.

Amongst standard kinds E. Molyneux and Avalanche show that they are capable of producing four blooms of large size on one plant. The same may be said of Sarah Owen, which varies so much with yellow or partly yellow blooms. W. H. Lincoln is a dwarf variety with large golden yellow heads and broad golden yellow florets. When fully developed the fimbriated white heads of Album Fimbriatum appear quite globular, and Mr. A. Tricker is similar in form but of a silvery, soft pink colour. The vigorous and easily grown Stanstead White is a favourite with most growers. W. B. Smith is very dwarf, and light chestnut tinted with gold, and, as well as Puritan, is an incurved Japanese kind. The latter keeps up its character for large pink blooms with very broad florets. What may be the ultimate character of Florence Davis cannot yet be determined, but if the centre opens properly it will be a good pure white Japanese sort. Madame Mezard is somewhat similar in form to Madame J. Laing, but the florets are white. The darkest of the E. Molyneux and Mrs. C. Wheeler type is a variety named Murillo, with rich maroon-crimson florets tipped with gold. It is by no means full in the centre, but if it could be grown as a single with two or three rows of florets it could hardly fail to become popular on account of its rich colour.

A defect in Eynsford White for exhibition purposes is the small size it sometimes attains, but here the heads present a semi-globular mass of large size and pure white, somewhat resembling Avalanche, but with broader florets. Quite another thing is Madame Mary Hoste, having broad heads and broad, white florets more or less tinted with pale lilac, especially at the edges. Few varieties present the rich, dark magenta colour of Alberie Lunden, and it has several times shown its value on the exhibition table.

Incurved varieties are not extensively grown at Swanley, but we noted a few, including Robert Cannell, the florets of which are crimson on the upper surface, and bronzy-chestnut on the under surface, tinted with gold. The heads attain good exhibition size. Amongst reflexed varieties Dr. Sharpe takes a high rank, and the dark chestnut sport from it recently certificated under the name of R. Smith, will probably be as great a favourite with growers. Amongst Pompons we noted a very beautiful dark magenta-purple variety shaded with crimson in the centre, at least in the early stages. The blooms are of good average size and freely produced.

White Flowers of Chrysanthemums.

In January last *Le Jardin* called attention to a method of procedure followed by the florists in some parts of France, to have white flowers of Chrysanthemums by a given date. Gardeners in this country would do well to try the method for themselves, and to take measures to protect the Chrysanthemums they may still have growing in the open air before the advent of frost injures them. By placing them in pits where hard frost is just kept out, the opening of the flowers will be retarded till within a few days of the time they are required. Then the shoots showing buds of good size should be cut and put in bottles of water, and hung on the walls of a close house furnished with ample means of heating and of evaporating water so as to saturate the atmosphere with vapour. The temperature should range from 55° to 65° to produce this effect; and in the course of five or six days the buds will be completely expanded. Light should be entirely excluded so as to ensure the purity of the flowers. The durability of Chrysanthemums even in a cut state is well known, and even after such unnatural treatment they are stated to last in good condition for a whole week.

The Temple Gardens.

A new house has been built here since last year for the accommodation of the Chrysanthemums, and it takes the curved and angled outline of a dwelling house against which it abuts. The display is hardly equal to those to be seen in any of the parks, and the blooms are smaller. Stanstead Suprise, Mrs. J. Wright, and F. Marrouch are very tall, and occupy the back line. Other representative sorts are Etoile de Lyon, Gloriosum, Red Dragon, James Salter, Condor, Sarah Owen, Phœbus, Florence Piercy, La Triomphante, Middle Temple, and Ada Spaulding, the lilac-purple incurved Japanese variety. Incurved sorts are represented by Empress of India, Lord Alcester, Golden Empress, and Prince of Wales. Cloth of Gold and Dr. Sharp are still good reflexed varieties.

A LESSON FROM NATURE.

On the lawn in the garden of R. P. Gill, Esq., Ashton-on-Mersey, near Manchester, stands a huge Chestnut tree, whose branches, like the one alluded to by Longfellow in his poem entitled "The Village Blacksmith," spreads its branches in all directions until they touch the ground—consequently no grass will grow under its dense shade, thus rendering the space beneath bare and unsightly for several months in the year. But Mr. Gill's excellent gardener, Mr. W. Plant, taking a lesson from Nature, has succeeded in rendering the spot quite an attractive one from the end of January until the tree becomes clothed with its bold foliage. He has accomplished this by planting bulbs, such as a large quantity of Snowdrops, which bloom first, followed by Crocuses. I may state that Mr. Plant blooms every year a number of Crocuses in pots, and, when they have gone out of flower, they are planted out under the tree; and so there is gradually accumulating quite a plantation of varied coloured Crocuses.

Following the Crocus comes Scilla sibirica, of which about 2,000 bulbs were planted a year ago, with a large bulk of the common Daffodil, Narcissus Telemonius plenus. The latter did not bloom so well as might have been expected, which I attribute to the fact that clumps of Daffodils require to be pulled to pieces at certain times and re-planted, say about once in three or four years. It would be possible to carry on the flowering period even longer by planting the blue and white varieties of the Bluebell, the white and blue forms of Scilla trifolia, and Muscari botryoides, blue and white. None of the bulbs employed are expensive. They can be purchased at a cheap rate in quantities, and their employment in this manner shows how many barren spots, wanting in picturesqueness, can be brightened and made pleasant through their employment.—*James Percival, Smithy Bridge, Rochdale.*

[The winter Aconite is well worthy of a place among the spring flowering plants mentioned by our correspondent. We saw some years ago in the park of Castle Ashby near Northampton, the seat of the Marquis of Northampton, a huge spreading Chestnut tree, and the ground beneath extending a considerable distance literally swarmed with the winter Aconite, and when in bloom the effect was one of a remarkably striking character. It is astonishing the way the Aconite will extend itself under ground, spreading with remarkable rapidity. Our correspondent adds as a footnote that the planting of Crocuses and Snowdrops on lawns does not seem to answer, as they invariably fail to flower well after the first time or two of blooming: the scythe or mowing machine cuts away the foliage, with the result the bulbs gradually dwindle and die.—Ed.]

Caladium sagittatum.—The leading aspect of the leaves of this Caladium is their relative length and narrowness. The apex of the leaf is drawn out to a long, narrow point, and the two basal lobes, giving the leaf its sagittate or arrow-shaped outline, are similarly elongated and pointed. Along the centre of the main body of the leaf as well as the basal lobes runs a broad band of a beautiful red, running out into tongues or flames into the dark green hue pervading the rest of the leaf. The petioles are slender and spotted with brown. The species is a native of Para and other provinces of Brazil, watered by the majestic tributaries of the Amazon, from whence it was introduced last year by the Messrs. Linden, of the L'Horticulture Internationale, Brussels. There is a well executed figure of it in *L'Illustration Horticole, Pl.* 138.

THE MANCHESTER FRUIT CONFERENCE.

On the first day of the late conference, held in the Town Hall, Manchester, after the opening address given by Lord Derby, a summary of which we gave in our last number, Mr. E. J. Baillie, of Chester, read a paper on

The Fruit Growing Movement:—Present Day Features and Prospects.

Mr. Baillie said there was an increased and increasing area devoted to fruit cultivation; the yield of home-grown fruit was increasing, and the importation of fruit was in no way diminished; the quantity of fruit consumed was increasing, but there was room for enormous development here, and much more fruit ought to be consumed as food. Of the fruit grown much had to be sold at the barest profit to the producer, and much of it was not sold at all. The consumer had to take at a high price what he could get in the shape of fruit; there were market complications, difficulties in obtaining delivery, and no recognised agency for the removal of obstacles and anomalies, and the bringing of producer and consumer into nearer relationship. Although there had been a large increase in the quantity of fruit grown in England, we still paid millions of pounds to the foreigner for produce that might well be grown at home. Foreign fruit was grown, harvested, packed, and presented to the consumer in such perfection as to leave little or nothing to be desired, and this was the great secret of the ready disposal of such fruit. He complained that there was no Government aid in the direction of fruit growing, though other industries, and notably the fishing industry, had such aid. Neither was there any Government supervision. If they were anxious to provide a remedy, important market centres ought to be provided in the provinces where fruit could be sold without the intervention of the middleman. Then it ought to be made possible to sell all fruit by sample and brand. This, of course, would mean a reduction of the number of varieties, and, indeed, there was no reason why there should be so many qualities as there were. He urged that fruit ought to be more used as food than it now was, and especially in the poor districts; and he expressed the hope that philanthropic societies would take the matter up. He indicated means by which fruit could be preserved, and suggested measures that ought to be taken to spread knowledge of fruit culture.

In the course of the discussion that followed, Mr. Findlay said for several years past he had made detailed examinations of orchards, not only in his own immediate neighbourhood, but in other more favoured localities, and he had come to the conclusion that more than half the trees ought to be grubbed up and burnt. They were cumberers of the ground, and it was of no use talking about digging about them and manuring them, because it would be labour thrown away. The causes of this state of things were various. One was improper planting, and the popular idea was that anybody could plant a tree—that one had only to dig a hole and stick the tree in. Another cause was that unsuitable varieties were planted. Many kinds that would grow in Essex and other districts would not grow in Lancashire. Still another cause of failure was the old age of the trees. The great impediment in the way of the distribution of fruit was the high railway tariff.

The Raising, Budding, Grafting, and Pruning of Apple Trees for Orchard and Estate Planting.

On the subjects enumerated in the above heading Mr. William Crump, Madresfield Court Gardens, Great Malvern, said the business of raising fruit trees was generally understood as belonging to the trade of nurserymen—men who grew trees for public sale; but there were a few home nurseries established on large estates where trees were specially grown for estate purposes only, and annually distributed gratuitously to the farm and cottage tenantry. Experiments had been made at Madresfield during the last ten years. These were intended to be more educational than economical in character, and it was desired to establish a fairly complete collection of Apples, Pears, and Plums in order to demonstrate the kinds best suited to the locality as well as to teach an object lesson to tenants and others concerned, to show the best method of cultivation, pruning, &c., and to encourage the home industry of fruit growing, and to further improve the property.

He proceeded to describe in detail the work carried on at Madresfield. The kinds of trees they generally tried to raise were those with fairly vigorous shoots, sleek bark on stems, foundation branches thinly and evenly radiating outwards, furnished with fruit spurs from base to summit, and last, but not least, an abundance of fibrous roots that had been obtained without a severe mutilation of original tap roots of the stock, and which, when evenly spread out horizontally, would retain the tree self-supporting in a perpendicular position. For general purposes they preferred the free Crab seedlings sown thinly, and raised from well-ripened pippins of some high-coloured fruit, such as best cider was manufactured from. A good method of raising stocks was by root cuttings—that was, pieces of Crab stock roots half-an-inch or so in diameter, and cut into pieces three or four inches in length, planted shallow in firm soil and transplanted in the same way. He considered August the best month for budding. His object had been to improve the flavour, size, colour, habit, good bearing, and long keeping qualities of the Apple; and the experiments of which he had spoken were in no way hostile to the general nurseryman, who so worthily catered for the public wants.

ORCHARD HOUSE CULTURE.

This was the title of a paper read by Mr. T. F. Rivers, of Sawbridgeworth, in which he gave the result of a series of experiments in cultivating Peaches, Nectarines, Pears, Apples, and other fruits under glass. He did not pretend to say that the method was less expensive than the old fashion of growing such fruits, but he claimed that the extra expense was compensated for by the increased yield of the trees, and the added comfort of a dry atmosphere throughout winter and spring. Grown under glass Pear trees amply repaid their cultivation in such form, and the crop was rendered a certainty. Grafted on to the Quince stock the trees became very fruitful and easy to cultivate. On the other hand Apples grown under glass attained a flavour rarely equalled out of doors. Cox's Orange Pippin, when kept entirely under glass, became full of juice, and possessed the fleshy texture of the Pineapple.

On the second day after Sir James Whitehead, Bart., had delivered his opening address, Mr. Luckhurst, of Romford, called attention to the importance of

EARLY PLANTING AND SHELTER IN FRUIT CULTURE.

Mr. Luckhurst said that the importance of early planting could not be over-estimated, while the importance of shelter was so self-evident that one would suppose it would have at least equal care with the planting of the trees. The due provision of shelter was a very simple matter. With the planting of an orchard there should be shelter belts made by the planting of trees, such as the Lombardy Poplar, which by its erect habit and the rapidity of its growth was well adapted for that purpose. A double row of it, or rather two rows so planted that each tree formed a triangle with the two nearest to it in the other row, made a tolerably efficient barrier, calculated to break the force of high winds sufficiently to prevent damage to the fruit. But when space could be had a belt of three or four rows of Austrian Pines outside the Poplars was most desirable for sheltering the orchard from the cold cutting winds of spring. Conjointly with the provision of shelter belts, attention should be given to the selection of fruit trees easy to shelter. The best of all forms for general purposes in fruit farming was undoubtedly the half-standard, with its stem of about four feet in height. The branches were elevated just sufficiently to render them most accessible for all purposes of cultivation, they were open to the full action of light and air, and the fruit was easily thinned, easily gathered, and easily sheltered from high winds.

THE CONDITION, PREPARATION, AND AFTER-TREATMENT OF THE SOIL FOR FRUIT CULTURE,

was the subject of the next paper, by Mr. Joseph Cheal, of Crawley. He said the treatment of fruit trees might be divided into two parts—the one above ground and the other below it. Important as was the subject of selecting the right varieties to plant, and the pruning and general treatment of the tree above ground, the first subject to claim attention should be the condition and treatment of the soil. The soil being the principal medium through which the building up of the tree and the formation of fruit took place, it should receive careful study as to its suitability for the purpose, and it should be borne in mind that it served, not only as a basis upon which the tree fixed itself and maintained its position, but it was the medium through which it drew its food supply, as well as that wherein many of the chemical changes took place in the preparation of the various elements of plant food. Before determining what preparation might be required it would be needful to ascertain the present condition of the soil. A chemical analysis was the only means of ascertaining this accurately, so that where deficiencies existed they might be supplied artificially and the line of culture determined upon. The first point in culture to note was that of drainage, and secondly deep cultivation. The latter was utterly useless unless the drainage was good. It was impossible to secure healthy growth of fruit trees in land that was close and water-logged. If the soil and subsoil were so close that water did not readily escape, let the first operation be to thoroughly drain the land. There need be no apprehension of making it too dry by draining, it being a fact that land which was sodden with water in winter would in dry weather shrink and crack and become far more parched than when it was well drained; and again land that was properly drained, and through which water readily percolated, always retained a higher temperature, the warmth of the sun being absorbed and retained by a porous soil, but largely thrown off in evaporation by a close and wet one. On the other hand, if the land be a rich light sand, and of a porous and dry nature, it would not require draining, but might be greatly improved by the addition of a small quantity of clay or chalk. As to the condition of land best suited for planting, probably that from which a root crop had been taken, after having been well manured for the roots, might be the best of all. But if the planting was to follow a corn crop, it would be naturally more exhausted, and would require the application of more manure at the time of planting.

FRUIT GROWING FOR PROFIT.

On this subject, Mr. S. T. Wright, Glewston Court Gardens, Hereford, said that in probably no calling or profession were there so many difficulties to contend with as in that of the fruit grower's. Success depended not alone on the competency of the grower, but on a favourable combination of circumstances, any one of which being wanting might imperil the success of the whole. For a full measure of success they required suitable varieties of fruit for the district, a favourable climate and position, good soil, well drained, intelligent management, and careful and honest packing. Over these matters they might have some control, but there were other elements not under their command, such as bad seasons, insect pests, heavy railway rates, etc. He assured them that there was no royal road to fruit culture, and first-class results could only be obtained by first-class surroundings. As to the choice of trees to plant, he preferred to plant Apples. The crop was not so risky as either Pears or Plums, and there was less liability to damage on the way to the market. Plums must be sold, but Apples in the case of a glut could be held back a day or two. A pamphlet had been issued by the Royal Horticultural Society which embodied the opinions of forty able authorities on all points of fruit growing. He would only demur to two of their recommendations. It recommended the planting of the Blenheim Orange, to which he said "Don't." Life was not long enough and it gave too many sorts. A little time would be well spent in finding out those which suited the soil and climate, and then let the intending grower resist the inclination to buy more than half a dozen varieties. Their supply should come in before the American and Canadian shipments interfered with them, and after the best of them had gone into consumption; avoiding also competition with the Tasmanian imports, some of which were excellent. There was less expense with the early sorts, as they went directly into consumption. Foreigners had not only established a large trade with this country, but they were straining every nerve to increase their production. Still, in spite of them, there was a future for fruit-growing in England. There was a good deal to be said, however, against putting all their eggs in one basket, because with soft fruits they possessed a great advantage over their continental rivals, as they could not put such goods on the English markets in a presentable condition. Then by growing a variety of crops it must indeed be a wretched season if all failed.

Gleanings from the World of Science.

Plant Growth by Night.—Some lowly organised plants can grow only at night, and that after having been exposed to sunlight during the day. The work of assimilation in such cases has to be done under the influence of daylight, while the student who would like to see any addition of growth and cell division must burn the midnight oil, in order to witness the accomplishment of such growth. Plants with which the gardener has to deal do make the greatest amount of increase by night, by building up into tissue what material has been elaborated during the day; but they do also grow to a certain extent by day. Some authorities state that this division of labour is due to the plants having adapted themselves to the alternation of day and night, and that during the latter period they use up the food in growth, while the process of assimilation has perforce ceased. There is however a more potent reason for the two kinds of work being performed at different times. The loss of water during bright sunlight is so great that the cells, of which the plant is composed, are so limp that they are not in a condition to elongate, or, in other words, to grow. This loss of moisture is checked by the cessation of transpiration in darkness, so that the turgid condition of the cells necessary for growth is restored. A familiar example may be given in the case of the young shoots of a vine. There is a danger of breaking them if an attempt is made to tie them down early in the morning, whereas about midday, under the influence of sunshine, they may be bent down easily without danger of snapping.

Bouillie Bordelaise and Sulphosteatite.—The first-named fungicide is stated to contain from 30 to 40 per cent. of sulphate of copper, while the second consists of 9 to 10 per cent. of sulphate of copper with 90 per cent. of silicate of magnesia. The latter is applied to plants in the form of a powder, and labourers, enshrouded with clouds of the dust all day while applying it, suffer no injury to health. Now, if sulphosteatite is as efficacious a fungicide as it is stated to be, the purposes to which it could be put in combating fungi of various kinds are endless.

The Origin of English Cucumbers.—As long ago as 1651 a Cucumber was described and figured under the name of Cucumis longus by Bauhin, and which equalled in size those of the best types at the present day. The modern race has, however, been evolved during the present century from the short and spiny kinds known as ridge Cucumbers. More than a century ago great attention was given to the forcing of Cucumbers under glass owing to the variable and uncertain nature of our climate. Varieties began to be selected for their size, absence of spines, and fine appearance, independently of their hardiness and earliness. The improvements must have proceeded apace on those lines, for we find that in 1820 Patrick Flanagan, gardener to Sir Thomas Hare, sent some Cucumbers to the London Horticultural Society, as recorded in the fourth volume of the Transactions of that body. A green one, fit for use, measured 17 in. in length and 11½ in. in circumference. About nine years previous to that, however, he had grown one which measured 31 in. in length, and which must have been no mean example of horticultural skill in those days.

Curious variation of a Gentian.—When on a botanical trip to the Auckland Islands Mr. Thomas Kirk, of New Zealand (as recorded in the *Journal of the Linnæan Society*), discovered some singular cases of variation of the flowers, leaves, and stems of a Gentian allied to Gentiana concinna occurring on Antipodes Island. It was abundant, and formed dense masses, 1 ft. to 2 ft. in diameter, of nearly procumbent barren stems, from which flowering shoots arose perpendicularly to a height of 6 in. or 12 in. The stems and leaves in some cases were yellow, with the flowers white; in other cases the white flowers were streaked with red, while the stems and leaves were red. The plants had to be examined somewhat closely before the flowers became noticeable. The island in question is of small size and merely the crater of an extinct volcano. The questions arise whether the peculiarity is constant, and whether or not the nature of the soil has had anything to do with the variation.

PROPOSED GREAT FRUIT SHOW IN LONDON.

A MEETING of horticulturists was held at the Cannon Street Hotel, on the 30th ult., Alderman Sir James Whitehead, Bart., presiding, to consider the advisability of holding a great International Fruit Show in London, next autumn. Among those present were Mr. H. R. Williams (Fruiterers' Company); Mr. James Douglas, Great Gearies; Mr. G. Bunyard, Maidstone; Mr. A. H. Smee; Mr. J. Cheal, Crawley; Mr. John Laing, Forest Hill; Dr. Masters, F.R.S.; Mr. F. Sander, St. Albans; Mr. Cutbush, Highgate; Mr. John Wright, Mr. W. G. Head, Mr. Wythes, Mr. B. Wynne, Mr. Crute, Mr. Reynolds, Mr. Herbst, Mr. Hudson, Mr. A. Dean, Mr. J. Willard, Mr. R. Dean, and Mr. Cuthbertson (Dobbie & Co.), Rothesay.

SIR JAMES WHITEHEAD said he had asked those present to meet him in order that they might discuss a very important subject. There would doubtless have been more present that afternoon if it had not been for other engagements—he alluded particularly to the several friends who were visiting a gentleman in Surrey. He was, however, placed in a somewhat invidious position, because that meeting was not convened entirely on his own suggestion, but on the suggestion of a large number of horticulturists in various parts of the kingdom, and he felt that he could not do otherwise than call those together who were even more interested than himself in fruit culture, which was saying a great deal. They were probably aware that the spirit of fruit culture was abroad; that much remained to be done in promoting the improved culture of hardy fruits; and that the schoolmaster was abroad also, for the public were being educated to a great extent through the instrumentality of the various societies, which had done a great deal for the national welfare and the national prosperity. He felt that they might now take occasion by the hand by promoting a nationaland international exhibition, and if it was the wish of that meeting that this should be done, it could be arranged on probably the largest scale ever attempted in this country. The exhibition which was held in Edinburgh the other day was a considerable success, but if the meeting decided that here should be a large exhibition held in London, that exhibition, he ventured to say, would surpass those which had been held before in this or any other part of the world. If the meeting decided upon promoting this exhibition, they must commence at once, so that due notice should be given to the growers at home and those who were living in the colonies. It appeared to him desirable that a fresh face should be placed upon the exhibition, in contradistinction to the exhibitions which had been held in this country in previous years. In this matter he hoped all associations would join hands, that there would be no jealousies whatever; it should not be connected with any particular association, and he hoped the work might be considered good enough for every man, whether he held a high position or a low one in the scale of horticultural science, to join in the cause. As to a site for the proposed exhibition, there were several places where it could be held, such as the Crystal Palace or the gardens of the Royal Horticultural Society; but he was inclined to believe that if they wished to make it a great success it should be held in the heart of London, where railway lines converged, and where anyone residing in London or the suburbs could visit it without difficulty. He knew there was a site on the Thames Embankment belonging to the Corporation, and assuming that the Corporation had not let that site for building purposes, or disposed of it in the interval between the present time and October next, he had no hesitation in saying that, as a body, having shown a disposition to assist in the cultivation of fruit, the Corporation would help them as far as they could. He had taken one step with a view of sounding those in authority on the matter, and he hoped if a proper application was made at the proper time there would not be much difficulty in securing this site without any cost or charge whatever. But it was necessary that a guarantee fund should be started, not that he expected any deficiency, but they must provide for any such emergency, and he thought he would be able to obtain very considerable guarantees from those who occupied the highest positions in the country. He would himself guarantee £500. As to what should be done with the surplus, if there should be any, it was not a subject the meeting could discuss at the present time, but there were societies which were doing good work in fruit culture, and there were two charities connected with horticulture which were worthy of consideration, as being especially favoured by the horticultural community, and therefore in the future it might be considered how far those associations had claims upon them. He did not desire in the slightest degree to occupy any position of prominence, personally, with respect to the proposed exhibition, if it was felt by those present that other steps should be taken, and that someone else should be put forward as president or chairman of committee. He could assure them that he would be willing to take a humble part in the efforts which would be made in bringing about a successful result. He hoped also that all present would pull together heartily, with a desire to promote an exhibition which would be worthy of their united efforts.

Sir James then read several letters expressing regret at inability to attend the meeting, one being from Mr. Wilks, the secretary of the Royal Horticultural Society, who explained that the subject of the advisability of holding a fruit show on a large scale in London next year had been discussed by his council, and the possibility of being able to hold this exhibition on the Thames Embankment. Letters were also read from Dr. Hogg and Mr. Bruce Findlay, secretary of the Royal Horticultural and Botanical Society of Manchester, promising to give their cordial assistance to the movement. Referring to the letter of Mr. Wilks, Sir James said he had no idea that the Royal Horticultural Society intended moving in this matter, and with regard to the site on the Embankment he had reason to believe that no application had been made to the Corporation by the society. Whatever was done they should not like to be opposed by that society because they wished its members to join them in the movement. He had put down a few points which he thought might be considered by the meeting, and these were that the title of the exhibition should be the National and International Fruit Exhibition; that it should take place in October; that it should be kept open for nine or ten days; that the arrangements for carrying out the same should be on the broadest basis, and that the Royal Horticultural Society, the Fruiterers' Company, the Royal Agricultural Society, the Gardeners' Company, the British Fruit Growers' Association, and all provincial horticultural societies and associations should be invited to assist.

A somewhat lengthy discussion ensued, in which varions details connected with the proposed exhibition were discussed. Mr. Bunyard took exception to the title of International, contending that the exhibits should be confined to British home-grown fruits, although he admitted that it was only in a very small way in which foreign-grown fruit took the lead, and that that fact was owing to a better climate abroad. Mr. Smee then moved the following resolution: "That in the opinion of this meeting it is desirable to take advantage of the prevailing enthusiasm in the cause of fruit culture in order to promote a national and international exhibition in London next year, and that efforts should be made to combine with it popular lectures and demonstrations for the practical education of the people in profitable fruit culture." This resolution, which was adopted, was seconded by Mr. Wright, and supported by Mr. H. R. Williams, Mr. Cheal, Mr. Herbst, and Mr. Cuthbertson.

Mr. Douglas said he had been asked by the council of the Royal Horticultural Society to move the following resolution: "That the Royal Horticultural Society are ready to cordially co-operate in holding a great national fruit show in 1892, on the understanding that the horticultural arrangements of the show should be left to the society, whose members comprised nearly all the fruit experts in the United Kingdom."—The Chairman, however, thought that societies should sink their individuality in this movement. He would much regret the fact if the Royal Horticultural Society should decide not to co-operate with them in the manner he had suggested, but he was bound to say that whether they did so or not, the movement would go on just the same. The resolution was not seconded.

Dr. Masters asked if the promoters of this movement had taken any steps to consult the council of the Royal Horticultural Society before calling that meeting, and on being replied to in the negative, said he considered that the neglect of the promoters to do so was a deliberate insult to the society, which for ninety years had taken the lead in all horticultural matters in this country.—Sir James Whitehead thought Dr. Masters could hardly have understood what he had said with reference to their intention to seek the assistance of the Royal Horticultural Society and other societies, and denied the assertion that any insult whatever was intended to be offered to the society in question. Most of those present were supporters of the Royal Horticultural Society, but were not precluded by that fact from supporting any other society or horticultural movement.

It was afterwards moved by Mr. John Laing, and seconded by Mr. B. Wynne, and resolved that a provisional committee should be appointed to formulate a scheme for carrying out the object of the foregoing resolution, and report thereon at a future meeting. And it was further resolved that the Royal Horticultural Society, the Fruiterers' Company, the Royal Agricultural Society, the British Fruit Growers' Association, the Gardeners' Company, and the other horticultural societies should be invited to co-operate in the movement. One member from each of the above-mentioned societies, and a member of the Corporation and six other gentlemen, will constitute the provisional committee, with Sir James Whitehead as the chairman.

On the motion of Mr. Williams, seconded by Mr. Crute, a hearty vote of thanks was accorded to the chairman for presiding.

CLIMBING ROSES.

How often we see these wrongly treated, while if properly grown and pruned they are by far the best for forcing purposes. Whether grown as pillar or wall Roses, under glass or in the open air, there is only one way to do them to perfection, and that is to get as much strong, healthy growth as possible, and to secure this being thoroughly well ripened before severe frost sets in, or before starting them into heat again.

I was quite lately called in to see what was the matter with a lady's Roses. The varieties were Maréchal Neil and William Allen Richardson. She had only had a matter of half-a-dozen or so flowers from each sort during the whole season, and expressed herself as much dissatisfied with their flowering qualities. I could see at a glance what was the matter with them, and her first sentence confirmed this. "They keep throwing up these long shoots that never flower," were the first words she used as we went into the conservatory. Now I am very desirous of saving others from cutting these away as she had been doing, because it is "these long shoots that never flower" which will carry such large quantities of grand blooms next spring, that is, if you secure a well-matured growth.

It may safely be taken as a general guide that all of the strong growing Roses get a great deal more pruning than is good for them. Both among Teas, Noisettes, and hybrid perpetuals the same rule holds good. Mademoiselle Gabrielle Luizet, Abel Grand, Magna Charta, Ulrich Brunner, and others of the strong growing hybrid perpetuals, will flower freely from such summer made wood. These Roses bloom more profusely if tied or pegged down, thus giving a more even flow of sap to all the eyes. When left upright, the bulk of the sap goes to the two or three top eyes, and these push into growth and take the lot, leaving some dozen or more good plump eyes quite dormant beneath them, and which would all have carried flowers if the shoot had been tied or pegged down.

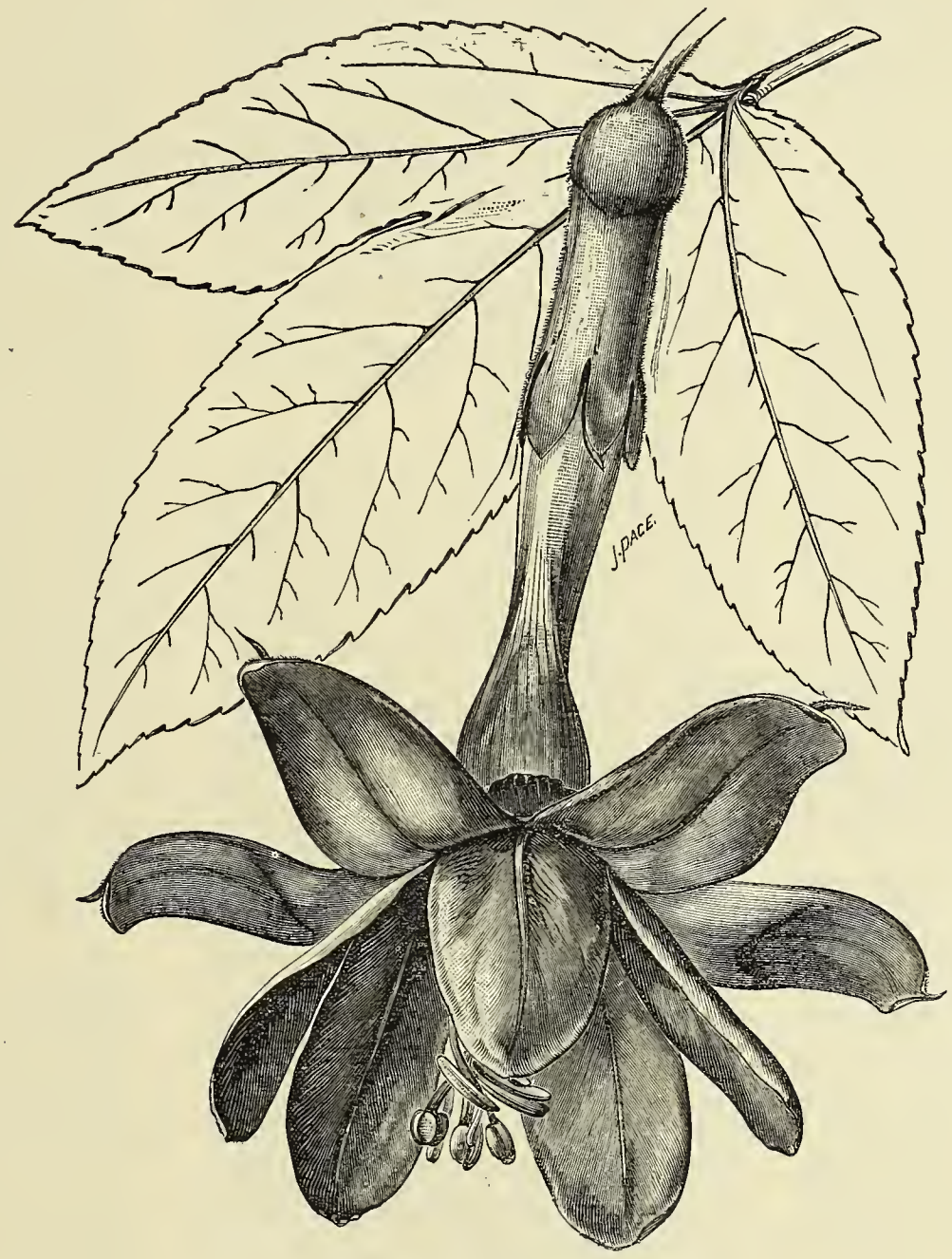
As soon as the blooms are secured, it is as well to remove the bulk of the wood that has flowered. You will find there are more young shoots springing from the base of the plant; grow these on as strongly as possible consistent with securing well-matured wood, and you can bend these down in the same manner next spring.

Climbing Tea-scented and Noisette varieties are not so apt to flower from the few top eyes as those of the hybrid perpetual class, but even these will do much better if trained in as spreading and horizontal a manner as possible. It always vexes me when I hear Roses spoken of as being splendid growers but shy bloomers. I do not believe there is a single strong growing Rose grown that cannot be induced to flower freely if treated as I have suggested. It is when thoughtless or inexperienced persons trim away these strong growths that the mischief is done. As

this only causes more eyes to start, and these varieties being naturally of a strong growing habit, continue to make these long shoots. To any who are troubled with shy-blooming varieties I would ask them to give this plan a fair trial; and it is because they should not cut away any shoots of this description during the coming winter and early spring that I give these few seemingly unseasonable notes. —*Experience.*

TACSONIA SMYTHIANA.

A SHORT time ago some leaves and a flower of a new Tacsonia were sent us by Mr. Wm. Smythe, gardener at Basing Park, Alton, Hants, who tells us that he raised it from T. manicata crossed with T. exoniensis. Our illustration, taken from the material sent, gives a faithful representation of it. The three bracts were 1¾ in. long and united for the greater part of their length into a tube split down one side, with the free tips ovate - lanceolate. The splitting of the tube, reminding one of a Datura, might have been accidental in the specimen sent us. The calyx tube was cylindrical, slightly widened at the base and a little twisted upwards, as may be seen from the accompanying figure, and green. The flower was about 3 in. across, with oblong, obtuse sepals 1¾ in. long and ¾ in. broad, slightly keeled on the back, with the midrib running out into a little point below the apex; the outer face of two of them was green, another was green on one side of the midrib and salmon-red on the other, while the remaining two were salmon-red with exception of the midrib only; the inner face of all was salmon-red. The petals were ovate-oblong, broader than the sepals, but of the same length, very blunt, and of a deeper colour, almost scarlet. The corona was reduced to two rows of small white tubercles, variegated with violet at the base, and the throat was white. The filaments and style were flesh-coloured, the anthers yellow, and the one-sided stigma green. The leaves were deeply three-lobed, leathery, deep green above, pale and finely downy beneath, moderate in size, and the lobes were lanceolate and finely serrate.



TACSONIA SMYTHIANA.

The plant has been grown in a 10-in. pot plunged in the ground against a south wall, and in this position Mr. Smythe says it has been flowering with great freedom ever since July, and is quite distinct from anything else he has. The large flowers stand out conspicuously from the foliage, and are all the more prominent owing to the small size of the leaves. Mr. Smythe is well known for the improvements he has effected amongst this class of plants and may be congratulated upon his most recent acquisition, which ought to become a popular plant.

TRINITY ROAD NURSERIES, WANDSWORTH.

THE nurseries of Mr. Robert Neal contain some fifty-five acres of land in detached pieces and under different names, but all are in close proximity with exception of the Garret Lane nursery, which consists of twenty acres planted with fruit trees. The Trinity Road nurseries lie about midway between Clapham Junction and Wandsworth Common railway stations, and not far from either. Formerly trees and shrubs, fruit trees and herbaceous plants were chiefly grown, but within the past year or two a large number of glasshouses have been erected at the Trinity Road nursery for the cultivation of Palms, Dracænas, bulbs for forcing purposes, Ferns, and various flowering plants. Large quantities of Pteris tremula, P. cretica major cristata, Nephrolepis davallioides furcans, and other Ferns are grown from spores, besides Cyperus distans, 3,000 Bouvardias, 40,000 to 50,000 Pelargoniums, Chrysanthemums, Chinese Primulas, and other subjects. Mr. Neal has also a seed and bulb shop in Trinity Road.

The Cemetery nursery, which is close at hand, is planted with a great variety of ornamental and forest trees and shrubs. Many of them are of large size, and suitable for making an effect at once, either in parks, pleasure grounds, or for street planting. For instance, there are 2,000 Golden Poplars (Populus canadensis aurea), 8 ft. to 10 ft. high, with bushy heads; large quantities of the Scarlet Chestnut, 8 ft. to 10 ft. high, grown as standards; Variegated Sycamores, Laburnums of sorts, 6 ft. to 10 ft. high; Black Poplars, 8 ft. to 12 ft.; Lombardy Poplars, 12 ft. to 15 ft.; 10,000 London Planes (Platanus orientalis acerifolia), 8 ft. to 15 ft. high; standards of the Weeping Willow (Salix babylonica), 10 ft. high; Limes, 10 ft. to 12 ft.; White Birches (Betula alba), 10 ft. to 12 ft., suitable for open spaces in towns, and Tree of Heaven (Ailantus glandulosa), 10 ft. to 12 ft. Besides the above there are Maples, Oaks, Ash, Elm, Balsam Poplar, Liquidambar, and various ornamental and other forest trees, from 12 ft. to 20 ft. high, and suitable for lifting.

The cut-leaved Birch (Betula populifolia laciniata) has much larger leaves than the cut-leaved variety of the White Birch, and they are deeply lobed and distinct in general appearance from Birches generally. Aucubas must be popular subjects judging from the stock of 60,000 plants of all sizes which is grown here. The green and tree form of the common Box (Buxus sempervirens) is also grown in quantity, from 1 ft. to 4 ft. high, as well as 50,000 of Ligustrum ovalifolium and large quantities of the golden variety L. o. aureum. The rich purple of Prunus Pissardi was still very fine when we saw the plants the other week, and which were 6 ft. to 8 ft. high; the purple-leaved Peach had all the leaves on the younger wood of a rich purple. Maiden Almonds on the Brompton Stock were 6 ft. to 8 ft. high, and would soon make fine trees for spring flowering. Lilacs in variety, including the lilac and white varieties of the Persian Lilac, were in robust health, and Mahonias about 18 ins. high covered about a quarter of an acre. The Golden Elder in quantity, and 4 ft. to 5 ft. high, still retained its foliage in fine condition.

The Russian Laurel is still one of the best varieties, and both it and the Colchican Laurel vary in size from 18in. to 4ft. high. The same may be said of the Portugal Laurel (Prunus lusitanicus), which was in robust health. Green Hollies may be had of various sizes from 1ft. to 4 ft. high. The Snowball tree is the only variety of the common Guelder Rose which is grown. Cornus alba, with its white berries and deep red stems, is valued for the colour of the latter in winter. The bright red berries of Cotoneaster Simmondsi are so profusely produced as to constitute a very ornamental subject in the shrubberies and for covering fences or arbours during the winter months. Paul's Double Scarlet Thorn, on the other hand, produces one of the finest effects in the shrubberies during the months of May and June.

A miscellaneous assortment of other things are also grown in this portion of the nursery, including some 200,000 roots of Sea Kale, 150,000 of which are suitable for forcing; only the strong growing red-leaved sort is kept in stock. A large stock of Asparagus, two or three years old, is in fine order. There are 15,000 briars for standard Roses, and 20,000 dwarf stocks. Brompton Stocks in large quantity were worked with Peaches and Nectarines last summer. Nearly half a million Wallflowers should give some idea of the quantity required and the popularity of the plant.

The Prison nursery, only two or three minutes distant, is largely devoted to Conifers, and a miscellaneous assortment of climbers. There are, however, standard Catalpas, 10 ft. to 12 ft. high, and smaller specimens of the golden variety. Large quantities of Cupressus macrocarpa, Retinosporas, Thuyas, Cupressus, 10,000 golden Euonymus, 30,000 Irish Ivies, 2 ft. to 9 ft. high; Elæagnus, Jasmines, Roses, Laurestinus, Escalonias, etc., are grown in pots for the trade. Near by here is another piece of nursery ground devoted to the cultivation of herbaceous plants, including Irises, Pyrethrums, Pæonies, Violas, and Asters are grown, the latter being in flower.

The Garret Lane nursery is devoted to the cultivation of fruit trees, including some 50,000 maiden trees of Apples, Pears, Peaches, Plums, etc. Apples are chiefly grown as bushes and pyramids, but some are trained horizontally. About 5,000 Pear trees are grown as pyramids up to 10 ft. high, including all the

leading sorts. Mr. Neal has also a large stock of the Victoria Plum, dwarf trained and 10 ft. wide; also a large stock of standards. Of Apples, Pears, and Plums alone there are 25,000 maiden trees. Peaches are mostly trained as riders with stems 4 ft. high, while others are dwarf trained. They, as well as Nectarines and Apricots, are in fine condition. Something like 100,000 Raspberries of sorts are grown to meet the demand. Of red, white, and black Currants there are 10,000 plants all four years old. Gooseberries in all the leading varieties, and three to four years old, are grown to the number of 6,000, and 2,000 of these are in very fine condition.

THE APPLE AND HOW TO GROW IT.*

My subject is one which a very short paper could scarcely do justice to, but the limited time at my disposal renders it necessary that what I have to say should be as short and concise as possible. The culture of the Apple and Pear in this country has received very great attention of late years by fruit growers—perhaps I should have said all classes of people—in Great Britain, from the nobleman to the peasant. All alike have been fired with the desire to grow fruit, to grow it well, and to grow only the best varieties to be obtained. This has been brought about in a great measure by the enormous importations into this country of excellent fruit from our Colonies, America, and elsewhere, which have had the effect of limiting the sale of our home produce to the best fruit only, inferior quality being unable to find a market. It is not that foreign fruit is superior to ours of the best kinds in quality or flavour, as I have had frequent opportunities of judging; but they seem to have a keen perception of what varieties are best to cultivate, how to grow them, how to select for sale purposes, and how to pack them, as shown by the excellent condition in which they are received here. I may here say that I have seen many examples of fruit that have been grown in this country, when delivered in the market and also placed upon the table, quite a disgrace to English fruit-growers, caused by the want of care in gathering and storing. It, therefore, shows that to have Apples and Pears in perfection, it is necessary that everything should be thoroughly understood from the moment the trees are received for planting till the fruit is placed on the table for use. I will endeavour, to the best of my ability, to give a few hints bearing on the subject, based on the practical experience I have had. I will confine my remarks to the culture of the Apple and Pear for gardens only, and for family supply. I should like here to say that the annual Fruit Exhibitions that have been held annually in the city of Exeter have assisted very much by their excellent displays to bring about also an increased interest in the growth of these fruits in our Western Counties—a fact to which our nurserymen could testify by the great demand that has been made upon their stock. In passing, I should like to remark that these exhibitions of fruit have not been excelled in quantities or qualities anywhere out of London, which is saying a great deal for our Devonshire fruit growers. The judges on these occasions endeavour to make the awards to the best fruits before them, irrespective of how they are grown, or whether the varieties are prolific and easily cultivated, so that there is still something wanting to guide the public on these points. Here I will say that a society of this kind can be rendered of very great benefit by bringing together so many practical men that their opinions upon all matters connected with horticultural and fruit and vegetable culture may be obtained and imported to the whole of the fraternity to the benefit of the public. I know all do not possess the same opinion as to the culture and treatment of the vast number of subjects that come under notice, but the knowledge of how perfection is obtained under different modes of treatment is of very great help to everyone. If they fail in one course they do not give it up in despair, but try some other methods, one of which will, no doubt, lead to success.

Soil.

The Apple can be grown in most districts and situations with a certain amount of success, but the best results may be expected where the soil consists of a good substantial loam, if not too dry or too moist. In the counties of Gloucester and Hereford, where the Apple and Pear thrive, the deep soil to be found there is composed principally of a good loam, oftentimes mixed with marl. Heavy clayey soils should be well worked, and other lighter soils well incorporated with them to render them more friable and porous, and the subsoil should be well drained. In the southern parts of Devonshire, where the soil is a light loam, resting on a subsoil of red sandstone, the Apple succeeds admirably, so long as sufficient moisture can be kept at the root. The sandstone affords a perfect drainage; therefore there is no fear of having an excess of moisture. The great evil in these districts to contend with is in very dry seasons; a spell of dry weather of only a few weeks' duration soon renders the soil very dry, and unless artificial means are adopted for supplying this deficiency the trees are sometimes spoilt in one season for future cropping. Therefore light, deep, loamy, well drained soils are the best, guarding against excess of moisture by draining.

Planting.

Trees at planting time should have all possible care taken of their roots, that they be not exposed to the sun, drying winds, or severe frosts. The small fibrous roots should not be damaged in any way. The larger roots, those that have a downward tendency, should be cut as far back as possible; those travelling horizontally should be shortened—the object being to produce as many fibrous roots as possible, and to grow horizontally and near the surface. All torn or jagged roots should have the damaged portion cut away. Strong roots are productive of strong vigorous shoots, and usually unproductive of fruit, hence the reason for pruning them. Trees should never be planted deeply, and should be so arranged that the stem shall show as much above ground as when growing in the nursery.

Training.

As I purpose treating on the culture of the Apple for gardens only and for family supply, I will first mention the most desirable mode of training them. Undoubtedly, the "Pyramid" form is the favourite shape, on account of the small space it occupies and the ready manner in which any of the operations of pruning, root pruning, and the gathering of the fruit can be performed. Besides, it admits of pruning so as to insure an efficient exposure of the wood, foliage, and fruit to the full action of the sunlight and a free circulation of air, so necessary to perfect maturation. It is decidedly ornamental, and from its construction the fruit is not endangered by the effects of high winds. The "bush" form gives less trouble and anxiety in training, but occupies more space. It can be made equally fruitful, but without the other advantages mentioned for "pyramids." Espaliers and Cordons are especially adapted for small gardens, with limited spaces for fruit growing; they take up so little room, and have a very neat appearance if trained to strong wire or iron trellises instead of wooden stakes. They may be induced to fruit as successfully as by any other mode of training, and are also very suitable to grow where taller forms would produce undesirable shade. Standards I would not recommend for garden work; they certainly give the least trouble after the first few years, but their presence greatly interferes with the cultivation of other garden subjects. I do not propose to enter into the raising of stock, neither would I recommend it for gardeners, or amateurs, unless for experimental purposes. We have so many nursery establishments that make a speciality of preparing stock, and that can be relied on to supply what is true to name, and good trees ready for fruiting at moderate prices within the reach of everyone, that I consider it sheer waste of time, labour, and space to attempt it. We all try to get the best possible results in the shortest possible time, and my advice is to buy your trees. It is always cheaper to buy the largest and best shaped. Trees from five to six years from the graft are especially recommended.

Transplanting.

There are times for performing all the operations necessary to successful culture. The same rule refers to Apples and Pears as to all other trees of a deciduous nature. They all shift or transplant best as they are shedding their last autumnal foliage. With the Apple and Pear the end of October and early in November this occurs, so that to secure the best results the selection of the varieties required should have been made and placed in the hands of the nurseryman some time prior to this date. The ground, too, should have been deeply trenched 18 in. deep, or pits 3 ft. to 4 ft. across prepared, and any draining required done, so that nothing might delay planting at the proper time. Planting may safely be done up to the end of February, but as root action commences immediately the tree is planted, so it is quite clear that the earlier it is done the sooner will the plants become established, and, of course, better results. Pyramids may be planted from 10 ft. to 15 ft. apart, Espaliers, 15 ft.; and Cordons, if single, trained horizontally, 6 ft.; if double, 12 ft., and if trained upright or obliquely on trellis work or walls, 18 in. to 2 ft. apart. Having determined the distances for planting, pits should be taken out 3 ft. to 4 ft. across and 18 in. deep, the lower spit being simply turned. In filling up the pits at time of planting, a barrow-load of fresh loam should be mixed with the ordinary soil as the planting proceeds. First of all a mound should be raised in the centre until of sufficient height that the plant, when placed in position, shall stand 3 in. above the surrounding level, and gradually slope about 3 in. from the centre to the sides. The plant, being placed in the desired position, should have its lower roots carefully and regularly laid out all round, covering them with fine earth, generally obtainable from the surface of the garden quarters near, and which has been frequently enriched by constant dressings, and which forms excellent food for the young roots to start in, continuing the same process with each layer of roots till all are covered; give the stem a good shaking, which will mix and settle the soil among the fibrous roots. At every stage the soil should be made moderately firm with the foot. If the soil is naturally poor, manure from the refuse heap should be mixed with the soil when planting, but avoid strong or farmyard manures, which would only promote strong and vigorous instead of hardy and sturdy growth. If very wet weather prevails, rendering the soil in a heavy and saturated condition, it is much better to defer planting till such times as the soil can be worked easily and in an efficient manner. All trees requiring it should be immediately secured against the effects of wind by having three stakes driven in at equal distances round the tree and 3 ft. from the stem, which should be firmly tied by using tarred cord, first of all encircling the stem with a band of hay, straw, cloth, or other material, to prevent the ligature damaging the bark. The surface of the soil should then be mulched with litter to protect the roots from the effects of severe frosts and the soil from drying winds. By using bands made of hay or straw this litter may be pegged down neatly, which will ensure a tidy appearance and prevent the birds from digging or scratching during the winter months in search of food.

(To be continued.)

* A paper read by Mr. D. C. Powell, Powderham Castle Gardens, at the first meeting of the Devon and Exeter Gardeners' Association.

NEW & RARE PLANTS.

The undermentioned subjects were exhibited at the Drill Hall, Westminster, on the occasion of the meeting of the Royal Horticultural Society on the 27th ult., and received awards according to merit.

Chrysanthemum Louis Bœhmer.—In the early stages or when half expanded the flower heads of this variety are broad, spreading, and concave, owing to the incurving of the florets, but as the crown develops they assume a semiglobular form. The florets vary greatly, both in width and in colour, apparently according to cultural treatment. They are narrow, or at other times relatively wide, and pink shaded, with white at the tips, but yellow in the early stages, and bristly along the back, but particularly near the apex. Blooms or plants were exhibited by Messrs. J. Veitch & Sons, Chelsea, Messrs. Pitcher & Manda, Hextable, Swanley, and by W. Furze, Esq., Broom Road, Teddington. An Award of Merit was accorded in each case.

Chrysanthemum Mons. R. Bahuant.—For description of this fine incurved variety see p. 114. It was exhibited by Mr. R. Owen, Castle Hill, Maidenhead, Mr. R. Falconer Jameson, Hessle, Hull, and by Messrs. J. R. Pearson & Sons, Chilwell, Notts, receiving an Award of Merit in each case.

Chrysanthemum Mrs. Nisbet.—This is an English raised seedling, growing about 3 ft. high. The flower head for the reflexed Japanese class may be considered large. The florets are very broad, and deep crimson-red, with a silvery reverse, and are slightly concave at the tips. After full expansion

the silvery reverse is of course hidden. It was shown by Mr. R. Owen, and received an Award of Merit.

CHRYSANTHEMUM WM. WELLS.—The heads of this variety attain a large size, are semiglobose, and of a soft sulphur yellow. The outer and older florets are slightly twisted in one direction at their apices. The variety is a sport from Madame B. Pigny, with which it agrees in every other particular except colour. It flowers very freely, as one dwarf plant will give from four to eight blooms of good average or even large size, and is in all respects easily grown. Blooms were shown by Mr. W. Wells, 8, High Street, Redhill, and received an Award of Merit.

CHRYSANTHEMUM R. SMITH.—Being a sport from the reflexed Dr. Sharp this is precisely of the same dwarf and robust habit, easily grown, and flowers freely. The florets of Dr. Sharp are easily recognised by the lower half tapering into a narrow quill or tube. The sport has, of course, the same peculiarity, but the upper and flattened portion of the floret is of a deep rich chestnut. Some blooms were shown by Messrs. H. Cannell & Sons, Swanley, who received an Award of Merit for the variety.

RICHARDIA AFRICANA COMPACTA.—This is a dwarf and compact variety of the Trumpet Lily, best known in gardens under the name of R. æthiopica, and growing as it does to a height of 18 in. or 20 in. is midway between the type and the pigmy known as Little Gem. The leaf stalks are short and robust in keeping with the flower scape, and the spathe is as usual white. It was exhibited by Messrs. R. Veitch & Son, Exeter, and received an Award of Merit.

GRAPE CHASSELAS NAPOLEON.—The bunches of this little known Grape are large and fairly well shouldered, the berries large, oval, and very similar in colour to those of Muscat of Alexandria, that is, they are pale green when fully grown, but when fully finished assume a fine pale yellow tint. As a matter of fact it would be included amongst the white Grapes. The variety was obtained by the crossing of Muscat of Alexandria and Hamburgh, and is a noble looking Grape, not liable to crack or get spotted, like several others of the same class. Its worst fault is that it does not keep long, and must therefore be classed amongst midseason Grapes. A bunch of it was shown by Mr. G. Reynolds, gardener to the Messrs. de Rothschild, Gunnersbury Park, Acton, and a First-class Certificate was awarded the variety.

At a meeting of the National Chrysanthemum Society held in the Royal Aquarium on the 28th ult., various exhibits of new Chrysanthemums were made, and the undermentioned varieties received First-class Certificates.

CHRYSANTHEMUM BEAUTY OF EYNSFORD.—This is the name given to a Japanese Anemone of large size and showy appearance. The rays are numerous, broad, deflexed, and inclined to become revolute at the margins when they get old. The disc is very large and prominent, creamy-white at first, but changing to pale purple when fully expanded.

CHRYSANTHEMUM R. SMITH.—For description of this variety see above. Both it and Beauty of Eynsford were exhibited by Messrs. H. Cannell & Sons, Swanley, Kent.

CHRYSANTHEMUM MADAME DARRIER.—The heads of this new incurved variety are of medium or large size, very neatly incurved, flatly conical, judging from the specimens shown, and of a beautiful rosy-fawn, tipped with yellow. Evidently it will require little or no dressing. The heads measured 4½ in. to 5 in. in diameter, and may yet be larger, as the variety was only obtained from the Continent this year, and cannot be considered to have had time to show the extent of its capabilities. It was exhibited by Mr. C. Blick, The Warren, Hayes, Kent.

CHRYSANTHEMUM MADAME C. HARMAN PAYNE.—The general impression is, that this new Japanese variety is of the same type as Madame J. Laing, but it is altogether a larger and broader bloom. The florets are more incurved, especially in the centre, and deep purple, shaded with violet, and having a silvery reverse, well shown by the incurving of a considerable number of them. They are of the same breadth as those of Madame J. Laing, but apparently will never be so decidedly upright, so that the bloom is flatter on the top. The leaves are large, deep green, three lobed, with very blunt lobes of great substance, and the uppermost leaves are oblong and undivided resembling bracts, as in the case of Etoile de Lyon. The variety was exhibited by M. Ernest Calvat, Grenoble, France.

FLORICULTURE.

NATIONAL AURICULA AND NATIONAL CARNATION AND PICOTEE SOCIETIES.

THE annual meeting of the members of these Societies took place in the room of the Horticultural Club Hotel, Windsor, on the 20th ult. Martin R. Smith, Esq., in the chair, there being a fairly good attendance. The secretary, Mr. J. Douglas, read the report of the committee of the Auricula, and afterwards that of the committee of the Carnation Society, this being the fifteenth year of the existence of both; that of the Auricula set forth that satisfactory progress had been made with the culture of the Auricula during the past year, and considering the adverse character of the season the display last April was remarkably good, but the northern growers were not able to compete, their plants not being in bloom. The new varieties of late years are taking the places of the older ones, and with the exception of Headley's George Lightbody, scarcely one of the latter are now grown for exhibition purposes; indeed the new have quite susperseded the old.

The Alpine varieties were very good, and showed the great improvement which is taking place in the section. The species of Primulas were very interesting and instructive. Border Polyanthuses and Primroses made a fine display. The judges were thanked for their services, and the committee of the Horticultural Club for allowing the use of their room free of charge. The amount of subscriptions during the past year was £70 6s. 6d. The amount of prize money awarded, £62 6s. 0d., and a balance of over £8 is carried forward. The report of the Carnation society stated that since the first exhibition of the Society, most satisfactory progress had been made. Last season was a late and trying one for growers, which prevented many from showing, and the amount of prize money awarded was much lower than usual. Owing to the late season the competition for the Martin Smith special prizes for border Carnations took place a fortnight later, and resulted in a remarkably interesting exhibition. The premier Carnation was Henry Cannell, S.F., and the premier Picotee, Madeline, Rose Edge. The subscriptions to the Carnation Society amounted to £71 11s. 6d., the prize money paid was £48 15s. 0d., and a balance of £21 15s. 0d. is carried forward to next year. In the course of the discussion upon the reports it appeared that there is standing to the credit of the Carnation Society in the Liberator Building Society, on deposit the sum of £25, the original trustees being Miss H. Selfe Leonard and Shirley Hibberd, and owing to a vacancy by the death of the latter, Mr. Martin R. Smith was appointed in his place. It was resolved that so much of the balance in favour of the Carnation and Picotee Society as will, with the sum on deposit and interest accruing, bring the sum up to £40, be invested, the trustees undertaking to do so.

In moving the adoption of the report the chairman suggested the importance of bringing the objects and names of the Society more prominently before the public, by using a leaflet or something of the kind, setting forth the privileges and advantages of membership. He also suggested whether it would be possible to come to some arrangement by which new varieties of Primulas and Carnations could be put into the hands of members of the two Societies before they were offered to the general public, also if it were possible to obtain and offer to the public seed of reliable quality that will grow; as a great deal of what is little better than rubbish was sold as Carnation Seed of high quality. He also expressed his willingness to modify the conditions of his special prizes in Carnations in any way that may seem desirable; he thought he had been somewhat sharply criticised in the gardening papers. The reports were ordered to be printed and circulated in the usual manner.

The election of officers of the Auricula Society was then proceeded with. Sir J. D. T. Llewellyn Bart., was elected president; the vice-presidents, with the addition of the name of Mr. Martin R. Smith, and the committee, were re-elected. Mr. Smith was elected the president of the National Carnation Society; the vice-presidents and committee were re-elected, with the addition of the name of Mr. Arthur Veitch to the latter. Messrs. T. E. Henwood and James Douglas were re-elected treasurer and secretary of both Societies, and the auditors were re-elected. It was resolved that the date of the Auricula Show should be on April 20th, though it was pointed out that it is only those who bring on their Auriculas in artificial heat who can hope to show at such a early date. The date of the Carnation Show was fixed for the last Tuesday in July. Some suggestions were made with a view of revising the schedules, one being to the effect that prizes should be offered for Carnations and Auriculas grown within four miles of Charing Cross, but as this could be done, so it was said, only at the expense of reducing the prizes in some of the other classes, the opposition to any reduction was too great to admit of the suggestion being carried out.—*R. D.*

STRONG-GROWING CARNATIONS.

CONSIDERING the numerous varieties of Carnations and Picotees now in cultivation, I should like to know on behalf of myself and other amateur growers, which are the strongest in constitution and finest in quality of flower for exhibition. As this is the time recommended for making additions or restorations, would a few of the best growers kindly give in this paper a selection of fifty varieties as follows: Five from each class Bizarres and Flakes; ten selfs and ten "variety"; also five light and five heavy edged Picotees from each class red, purple, and rose.—*Gee Cross.*

THE BOUVARDIA.

WITH the exception of the Chrysanthemum, there is no flower more useful than this. Indeed, it does not give way to the Chrysanthemum for elegance or chasteness; the only point in which this most popular flower can pass the Bouvardia being in its size and greater adaptability for general decorations. At present I have a fine lot of these in full flower, and which will continue to bloom all through the coming winter and early spring. It is as a winter-blooming plant that I wish to speak of the Bouvardia. It is an easily-grown subject, and when well done, none can be more useful for cut flowers or as a decorative plant. My plants are of all sizes, some being in 48's, others in 16's. In height they vary from 9 in. to 4 ft., and all sizes are literally covered with buds.

The new double variety of Hogarthii—B. Hogarthii flore-pleno—is a grand acquisition, and makes a wonderfully pretty and compactly grown plant. This and Mrs. Green are two of the best to grow for small specimens intended for table work. I have plants of each, about a foot high and as far through, that are one mass of bloom.

Bouvardias are readily increased either from cuttings of the wood or roots. Young growths will strike as freely as Verbenas, Fuchsias, etc., in the spring, and under similar treatment. As soon as they are well rooted pinch out the tips of young growth, and after a few more days, just as the young shoots are commencing to start, pot them off into 60's, giving them a steady temperature of 60° to 65°. Keep the young growths stopped so as to form nice, bushy plants, and also to induce strong shoots from the base of the plant later on. These strong, sucker-like growths will grow some 2 to 4 ft. high, according to the variety, and will produce fine trusses of flowers, followed by more grand trusses upon their laterals. A fair amount of water at the roots, with an occasional syringing upon bright weather, will grow them very well. The best compost being a nice mixture of strong turf, a little peat, and a good dash of sharp sand or road grit.

Where one grows them for winter cut flowers only, very few plants give so little trouble. You can turn them out into a deep pit or frame in June, some eighteen to twenty-four inches apart, according to the strength of growth of each variety. If they are kept properly watered and have a good ventilation upon all suitable days, they will thrive well. At the end of July, remove the lights entirely and expose to all the sun and air possible, giving a syringe overhead morning and evening upon all fine, warm days.

Let them remain thus all through August and September, when they should be carefully lifted and potted into good sized pots.

If the pit is deep enough return the plants to it for a few days, place the lights over, giving a slight shading upon sunny days, and if you keep them well syringed overhead they will very soon have recovered from their shift and be quite ready to place in an ordinary greenhouse temperature of 60°. Plants so treated will throw an enormous quantity of splendid flowers throughout the greater part of the winter and early spring.

A few of the finest varieties, as I have proved them, are Alfred Neuner, a pure double white of excellent habit and very free-flowering; President Garfield, double pink, same style and habit as the preceding variety; Hogathii flore-pleno, double scarlet, a compact grower and wonderfully free-flowering These are the three best doubles. The finest singles are, Vreelandii, pure white; President Cleveland, scarlet, the most effective single scarlet grown, and very floriferous; Humboltii, white, sweetly scented, and a good summer bloomer; Jasminiflora, white and also sweet-scented; Candidissima, a very dwarf and compact growing kind, white; Hogarthii, intense scarlet; and Mrs. Green, a splendid habited kind, salmon-pink in colour, and one of the very best and freest flowering of all the Bouvardias.—*Experience.*

GARDENING MISCELLANY.

SOUVENIR DE LA MALMAISON ROSE.

THOUGH this Rose is mentioned by most Rose growers as being a very vigorous one and as a rule doing well under any circumstances, but Mr. James Percival, of Rochdale, points out that there are exceptions to rules in matters horticultural as in other things, and informs me that Souvenir de la Malmaison does not appear to like the Manchester district, for he has never seen but one plant in a flourishing condition, but his own plants of it have died. The Rose he recommends is Bourbon Queen Victoria, which he states grows with him like a Willow, the flowers, the colour of the old China Rose, and perfectly globular, though not very double but nevertheless grand, and the foliage so robust as to be almost beyond conception. The old China Rose also does well in the Manchester district, as indeed it seems to do well anywhere.—*R. D.*

NATIONAL CHRYSANTHEMUM SOCIETY'S CATALOGUE.

As several inquiries have recently been addressed to me concerning a re-issue of our official catalogue, may I be allowed to say, through the medium of your paper, that it is not intended to publish a new edition this year, nor have the committee proposed to publish an appendix or supplement to the existing centenary edition, which, having been brought close up to date will answer all practical purposes for the ensuing season.—*C. Harman Payne.*

CLEOME HEPTAPHYLLA.

SOME of the species of Cleome are hardy annuals, while others require a greenhouse or stove temperature. That under notice may be grown either way, but in the open grouud it does not usually exceed 18 in. or 2 ft. Some specimens planted out in the porch of the Lily house at Kew are 5 ft. high, and have been flowering for a long time past. The flowers are rosy-purple, and produced in racemes terminating the branches. The leaves are digitate and consist of seven to nine lanceolate entire leaflets somewhat similar to those of the Hemp, but broader and not serrate. Grown in pots the plants would no doubt be much dwarfer, but the flowering season would probably be curtailed by the earlier maturing of the plants.

HEDYCHIUM CORONARIUM.

WERE it not for the greater height of this species than H. Gardnerianum, and the fact that it requires a higher temperature, it would no doubt become as popular for it is certainly a showy thing when in bloom and deliciously fragrant. The stems of well-grown plants attain a height of 5 ft. or 6 ft., and are well furnished with long, lanceolate leaves. The flowers are produced in succession from the axils of a dense spike of bracts terminating the stems, and a considerable number of them is always in bloom at one time. The three outer segments of the flower are lanceolate, the lateral ones of the inner series of three are spathulate, while the third one is deeply obcordate, resembling the lip of an Orchid. All are white, with exception of the large one which has a pale yellow, but conspicuous blotch on the lower half. The plant succeeds equally well, whether grown in pots or planted out, but in the former case, the pots should be stood in a pan of water, or stood upon inverted pots in a tank, so that the roots may just dip into the water. The large supply of water necessary for the vigour of the plant will then always be at hand, and the plants cannot be starved through neglect.

HORTICULTURE IN THE UNITED STATES.

A PRELIMINARY report upon the nursery industry of the United States, which has now been made a subject of census investigation, is published as a bulletin by the census office. From the tables in this bulletin it appears that there are in the United States 4,510 nurseries, valued at $41,978,835, and occupying 172,806 acres of land, with an invested capital of $52,425,669, and giving employment to 49,657 men, 2,279 women, and 14,200 animals, using in the propagation and cultivation of trees and plants $990,606 worth of implements. Of the acreage in nurseries 95,025 acres were found to be used in growing trees, plants, shrubs, and vines of all ages; and the figures, based upon the best estimate of the nurserymen, make the grand total of plants and trees 3,386,855,778 of which 518,016,612 are fruit trees, 685,603,396 grape-vines and small fruits, and the balance nut, deciduous, and evergreen trees, hardy shrubs and roses. The largest acreage is devoted to the production of Apple trees—viz., 20,232 acres, numbering 240,570,666 young trees, giving an average of 11,890 per acre; while the Plum, Pear, and Peach have respectively, 7,826, 6,854, and 3,357 acres, producing 88,494,367, 77,223,402, and 49,887,894 young trees, or an average of 11,307, 11,266, and 14,861 trees to the acre. The tables that are included in the bulletin clearly prove the steady growth of the nursery industry, while the great increase in the planting of large orchards and the constantly developing taste and demand for fruit and ornamental trees, vines, shrubs, and plants for home adornment assure its continued growth and prosperity.

AUTUMN-TINTED VINE LEAVES.

THE colouration of Vine leaves, like those of other deciduous subjects, must depend greatly upon the conditions under which they are grown and the cultural treatment they receive, for in many instances they simply turn yellow and drop. We are in receipt of specimens from Mr. D. P. Bell, Clive House, Alnwick, showing the richest tints it is possible to conceive in the case of the Vine. The larger and darker of them were of a rich, dark, bronzy crimson, showing patches of brilliant red or crimson, and again giving place to yellow. The under surface might be described as bronzy purple. Other large leaves were variously blotched and marbled with deep olive green on a yellow ground, with the midribs and principal veins of a warm red. The leaves of several varieties were sent, some being smooth and almost of a uniform bright red on both surfaces, the stalks also being red. The finely-cut nature of the leaves of a small-leaved variety added considerably to their beauty. It would seem also that they varied according to age and that bronzy crimson is the first stage, giving place to bright crimson and red. Light also plays an important part in the colouration, for wherever a lobe folded over another portion the latter was of a uniform clear lemon yellow. The decorative purposes to which such highly ornamental leaves could be put are numerous.

DISEASE OF PLANE TREES.

HITHERTO the London Plane, so called from its extensive use in the streets of London, has hitherto enjoyed immunity from fungoid diseases, and has been very little troubled with insect pests. On the Continent however a fungoid disease is playing great havoc amongst the Planes. M. De Nobele, as stated by *L'Illustration Horticole*, has determined the fungus to be Glæsporium nervisequum, the mycelium of which runs parallel with the course of the nerves, forming red or brown streaks, and causing the leaves to drop prematurely. The Planes planted along the public promenades at Ghent, Antwerp, and Brussels have suffered severely, and it is stated that the trees at Lille are in a similarly precarious condition. On the 10th of September in all the centres several trees, completely spoiled, had assumed their winter nakedness. Three very grand examples existing at Ghent in the neighbourhood of the Pecherie near the bridge of the red Lour, and historical trees, have succumbed.

LAND TENURE IN MADEIRA.

WILL one of your numerous readers be good enough to give me a reference to a book or books in which I shall find an account of the system of Land Tenure which obtains in Madeira at the present day. I have searched quite a number of books for this information but have been unsuccessful in my quest.—*Agricola.*

ORCHID NOTES AND GLEANINGS.

Cattleya labiata.

A GREAT amount of interest still centres in the old autumn flowering Cattleya labiata, as might have been witnessed at the auction rooms of Messrs. Protheroe & Morris, Cheapside, on the 30th ult., when a splendid consignment of it from Messrs. Linden, of Brussels, was on sale. There were two hundred established and flowering specimens, besides a large number in sheath and other unflowered pieces, affording a spectacle which has never before been witnessed in this country, as far as flowering plants of this Cattleya are concerned. The sale opened with a number of pieces under the name of Cattleya labiata majestica. The first piece consisting of seven old and eight leaf-bearing pseudo-bulbs, sold for 11 guineas. Others sold at prices varying from 2 to 6 guineas. Then followed some established pieces of Dendrobium lencolophotum, selling at 2 to 3 guineas each. A striking drop from the above prices took place when some established and finely flowered plants of Rodriguezia pubescens sold for nine or ten shillings each. The established and flowering pieces of Cattleya labiata with which Cattleya labiata Warocqueana is synonymous, were then brought to the hammer, and the first plant realised 28 guineas, and the second 24 guineas. Other pieces sold for 7½, 8½, and 10½ guineas; after a time the prices dropped considerably, single specimens fetching from twenty to twenty-eight shillings. A few small pieces with pale flowers sold at 22s. to 26s. a pair. For picked specimens with richly-coloured flowers the prices run up in a short time to 5½ and 9½ guineas. Altogether the desire to possess the autumn flowering Cattleya labiata is still strong.

Mr. Reginald Young's Collection.

IN the neighbourhood of Liverpool there are a number of fine collections of Orchids, and among them is that of Mr. Young, at Fringilla, Linnet Lane, which contains some very choice specimens. Visiting Mr. Young recently I found the following in flower: Cattleya Bowringiana, very fine; C. Warocqueana (the old labiata); C. Aurea, Young's variety, one of the very best forms I have ever seen, and which has been figured in Williams' *Orchid Album*; C. Hardyana, another perfect gem; and C. Eldorado, the finest variety I have ever met with. Amongst the Cypripediums were some of the rarest known species and varieties, making a very interesting display. Lælia Dormaniana was very conspicuous; so also were the lovely Dendrobiums bigibbum and Phalænopsis. A number of Odontoglots, including the beautiful O. Krameri were in bloom. There will shortly be a grand display of Lælia anceps, albida, and autumnalis varieties, innumerable strong spikes being thrown up. Vanda Amesiana and A. Kimballiana are represented by healthy, well flowered plants, and noticeable also is a magnificent specimen of a fine dark flowering variety of V. Sanderiana. The plant has six growths, and five flower spikes bearing respectively ten, nine, seven, and two of six blooms, or a total of thirty-eight blooms in all. Last year the same plant had three spikes (two upon one growth), and thirty blooms—a grand sight truly. Mr. Poyntz is a most successful cultivator, and is to be congratulated upon the admirable health of the plants under his charge. Mr. Young, I regret to say, is unable to enjoy himself among his pets through illness, from which I wish him a speedy recovery.—*Rusticus.*

Dendrobium O'Brienianum.

THE stems of this species are 2 ft. to 3 ft. high, slender and tapering upwards. The racemes are pendulous from near the apex of the stems and the flower bearing portion from 4 in. to 6 in. long. The flowers themselves are small but pretty and curious on account of the long, greenish spur which is curved forward towards the apex similar to that of some of the Aerides. They are white flushed with pale green; the sepals are ovate, the lateral ones

being united at the base and greatly prolonged at the base so as to form the long spur. The petals are smaller, and the spathulate lip which is toothed at the edge is also very small, and reflexed at the sides. A flowering specimen of it was exhibited at the Drill Hall on the 27th ult. by Messrs. F. Sander & Co., St. Albans, when a Botanical Certificate was awarded it.

Cypripedium Pitcherianum Wilialms' var. The leaves of this Cypripedium are ligulate, deep green above, paler underneath, and 6 in. to 8 in. long; and the plant altogether seems very robust and vigorous. The scape is about 10 in. high, one flowered, and deep purple, covered with hairs of the same colour. The upper sepal is very large, roundish, suddenly narrowed to a point, and revolute at the sides. The ground colour is white, suffused with green at the base, and with purple for three parts of its length, while the dark midrib is continued till near the apex. The petals are spathulate, horizontal, undulated on the upper edge, ciliate at the edges, shining brownish-purple along the upper longitudinal half and paler on the lower corresponding half. The lip is large, inflated and bold, and deep shining brownish-purple. The staminode is suffused with pale purple. A flowering piece of this plant was exhibited by Messrs. B. S. Williams & Son, Upper Holloway, at the Drill Hall on the 27th ult., when a First-class Certificate was awarded it.

Cypripedium radiosum. In this we have a hybrid from C. Lawrenciannm crossed with C Spicerianum, and the foliage is intermediate as far as size is concerned, the leaves being 2 in. to 4 in. long, but resembling those of C. Lawrencianum in being tessellated with dark green on a light coloured ground. The scape of a plant shown at the Drill Hall on the 27th ult. by C. Ingram, Esq. (gardener Mr. Bond), Elstead House, Godalming, was about 8 in. high and two flowered. The upper sepal is strongly revolute at the sides like the male parent, and white suffused with green at the very base and on each side of this with deep purple. The spathulate petals are horizontal, ciliated on the edges with black hairs, undulated on the upper edge, spotted with black on a green ground and suffused with pale purple on the upper half. The lip is of a deep purplish-brown, and the staminode is violet purple as in C. Spicerianum. An Award of Merit was accorded it.

SOCIETIES.

Kent County Chrysanthemum Society.—The annual show of this Society was held at the Rink, Blackheath, on Tuesday last, when a very creditable show as usual was got together. Owing to the peculiar nature of the season the exhibits were not quite so numerous as on former occasions, but the quality was quite up to the standard. The first prize for a group of Chrysanthemums was awarded to T. Williams, Esq. (gardener, Mr. Payne), Oaklands, Lewisham Park. The blooms were of good size, and the group was graduated from front to back. The second prize went to J. Vavasseur, Esq. (gardener, Mr. J. Rhoden), Rothbury, Blackheath Park, whose plants were much taller, but generally good. Col. E. Larking (gardener, Mr. E. Trollope), The Firs, Lee, was third; and F. J. Preston, Esq. (gardener, Mr. T. Dobson), South Bank, Blackheath, was fourth. Prizes were offered for groups of flowering and foliage plants, open to gardeners, and the best group was that of Stephen White, Esq., C.C. (gardener, Mr. A. Tomalin), Oakwood, Crayford, Kent; W. Strang, Esq. (gardener, Mr. J. Mullins), Lee Terrace, Blackheath, was second; and Mr. Jeffrey, gardener to Mrs. Crundell, The Moat, Eltham, was third. The class for eighteen incurved and eighteen Japanese blooms as usual was keenly contested, and the first prize was deservedly awarded to Mrs. M. Tomlin (gardener, Mr. J. Doughty), Angley Park, Cranford. Amongst the Japanese kinds, Stanstead White, E. W. Clarke, Mrs. F. Jameson, Boule d'Or, Mrs. Irvine Clarke, and others were grand, while Lord Alcester, Lord Wolseley, Queen of England, Alfred Salter, and others, were good incurved sorts. The second prize lot was also good and went to—Goschen, Esq. (gardener Mr. E. G. Whittle), Ballards, Addington, in whose exhibit was Queen of England, the best incurved bloom in the show. M. Hodgson, Esq. (gardener, Mr. H. Shoesmith), who was stronger in incurved than Japanese varieties, took the third place; and A. G. Hubbuck, Esq. (gardener, Mr. R. Leadbetter), Elmhead Lodge, Chiselhurst, was fourth. Martin R. Smith, Esq., Hayes Common (gardener, Mr. C. Blick), had the best twenty-four Japanese blooms, and also the best bloom of that class in the show in a magnificent specimen of Viviand Morel 8 in. wide and 6½ in. deep. C. E. Shea, Esq. (gardener, Mr. G. Picker), The Elms, Foots Cray, Kent, was second. J. Scott, Junr., Esq. (gardener, Mr. J. Blackburne), Elmstead Grange, Chiselhurst, had the best twelve Japanese blooms in grand specimens.—Goschen, Esq., was first for twelve incurved blooms. C. E. Shea, Esq., had the best 12 reflexed blooms. The best twelve Anemones were those of Mrs. Arbuthnot (gardener, Mr. J. Mitchell), Bridgin Place, Bexley. J. Whatney, Esq. (gardener, Mr. E. Tickner), Shermanbury House, Reigate, Surrey, was first for Pompons, H. F. Tiarkes, Esq. (gardener, Mr. J. Lyne), Foxbury, Chiselhurst, had the best six blooms of the "Queen" family. Mrs. M. Tomlin had the best six white Japanese blooms in Stanstead White. Sunflower represented the best yellows, and the six blooms taking the first prize were shown by C. E. Shea, Esq. Martin R. Smith, Esq., had the best six of any other Japanese kind in Viviand Morel. — Goschen, Esq., had the best white six incurved blooms in Empress of India, and the best coloured incurved blooms. In the gardeners' class for twelve incurved and twelve Japanese blooms, Mr. Payne was first. Mr. J. Rhoden had the best twelve Japanese varieties, and also the best six incurved blooms. A goodly number of prizes were offered for competition by amateurs, and the first prize for twelve Japanese and twelve incurved was awarded to H. Fincham, Esq., Hartley House, Cranbrook. The first prize offered by the President for eight each of Japanese, incurved and reflexed varieties, was awarded to Mrs. Arbuthnot. The first prize for six blooms of Avalanche was awarded to J. Scott, Junr., Esq., as well as that for six blooms of Laing's varieties. A fine group of Chrysanthemums not for competition, was exhibited by Mr. H. J. Jones, Hither Green, Lewisham. A collection of forty-eight dishes of Apples and Pears in good order, was exhibited by Messrs. J. Peed & Sons, Mitcham Road, Streatham. Some baskets of Pernettyas were shown by Messrs. W. Cutbush & Son, Highgate.

WHAT TO DO IN THE GARDEN.

Dracænas.—Plants of the softer stemmed kinds, and which are getting too tall for ordinary decorative purposes, should have the tops taken off and rooted. Such cuttings will form plants fit for use as soon as properly rooted and when established in the fresh soil after repotting. The old stems will push out young shoots, which, when of suitable size and moderately firm, may be taken off with a heel and rooted. They make the best and most graceful plants ultimately, but require longer time to get fit for use.

Pandanus Veitchi and Variegated Pineapple.—Small suckers of Pandanus Veitchi should be taken off when they can be had and rooted, giving preference to those pieces showing the best variegation, as some of the more rampant-growing suckers are inclined to become green. When fairly well variegated the plants grow more slowly and keep longer in a useful size. The same applies to the variegated Pineapple when suckers are taken from the tuft of leaves on the crown of the fruit. Such shoots form dwarf, slow growing plants with equally rich variegation or even better than the true suckers.

Aralias.—When such of the Aralias as A. Veitchi, A. elegantissima, and A. gracillima grow too tall for decorative purposes they also lose much of their beauty by the larger and coarser growth of the leaves. Large plants should therefore be cut down in order to get young shoots for grafting, while some of the smaller terminal shoots may also be used for the same purpose. The old stocks may also be used by cutting down the stems within an inch or two of the graft, and a bud allowed to grow up and form the young plant. Very little water should be given till the buds begin to push, after which the ball may be reduced and put in smaller sized pots.

Selaginellas.—Some of the dwarfer and denser growing of the Selaginellas are very liable to damp off during the winter months, and such kinds would keep better if some pots of them are pricked off now. So treated such species as S. apus, S. Martensi and its varieties, S. Kraussiana and its varieties, S. plumosa, and others would make useful stuff for spring work, besides making sure of the stock passing the winter in safety.

Bouvardias.—These are now flowering freely in the intermediate house, and should receive plentiful supplies of water to keep them growing. After the leading shoots with their flowers are cut off others will arise lower down in the axils of the leaves, and later on afford a useful supply of flowers. Above all, keep a close watch upon the first appearance of green fly and fumigate at once, otherwise the plants get so dirty that great difficulty will be experienced in getting them into their former health and cleanliness.

Vines.—Where fermenting material is used in the forcing of the early pot Vines the latter should be stood on some firm framework that will support them, and avoid the disturbance that would be caused by the sinking of the fermenting material and also the renewal of the same. Permanently planted Vines required to produce fruit in May should be started about the middle of the month. If the rods are young they should be tied down horizontally to cause them to break equally all along their length. The presence of fermenting manure and occasional syringing with tepid manure will aid materially in causing the buds to develop.

Fruit Trees in Pots.—Until required—about the beginning of the new year—fruit trees had better stand in the open air plunged in Cocoa-nut fibre, or the pots covered with dry fern. To prevent worms getting into the pots the latter should be stood on a layer of ashes, and a surer precaution would be to put some soot on the positions where the pots are stood.

Asparagus for forcing.—For the first batch a good strong heat will be necessary. A good bed of fermenting material should therefore be made up, and the temperature of the house kept up to 70°, otherwise many of the crowns will not start regularly. Use some fine soil to cover the roots, pressing it firmly about the latter, and watering with tepid water.

Leaves for fermenting material.—In carriage drives, and other places where there is much traffic, the leaves should be collected from time to time, otherwise they will get beaten into the mud, not only occasioning more labour, but making the leaves less lasting for forcing purposes. The general raking up of leaves must be deferred till a hard frost brings the remainder down.

LAW NOTES.

A Flower Show dispute.—At the Hull County Court on the 29th ult., Mr. John Melbourne, Albert Avenue, Hull, sued the executive committee of the Hull Amateur Floral and Horticultural Society for £6 15s., the nominal value of twenty-three prizes won by him as an exhibitor at the Show held in connection with that Society on the 20th August last, at the Artillery Barracks, Park Street, Hull.—The defence was that in the plaintiff's exhibit of eight Tomatos, for which he was adjudged the first prize, he did not comply with the Society's regulations by which it was provided that all specimens shown must be grown in the gardens of the exhibitor. The plaintiff stated that he grew the Tomatos on his own plants, and cut them off about eight days prior to the show, as they were beginning to ripen. Cross-examined, he said he did point out to the inspecting committee only two places where Tomatos could have been cut off. He knew by the rules of the Society he would forfeit all his prizes if the objection to this exhibit could be sustained, and admitted at a meeting of the committee the question was decided in favour of the objection. Other witnesses were called on behalf of the plaintiff, who gave it as their opinion that the Tomatos were grown on the plaintiff's plants. For the defendants, Messrs. Thos. Pinder and Jas. Littlewood, who formed the visiting committee, deposed to visiting the plaintiff's garden two days prior to the Show, when they informed him that they should object to his exhibit of Tomatos as not being grown on his own plants. An informal meeting of the committee was held the same evening, when it was decided to request Mr. George Cooper, nurseryman, to also inspect plaintiff's plants. Mr. Cooper, who gave evidence, said he did so, and as a gardener of over twenty years' experience, said he had no hesitation in coming to the conclusion tha

the Tomatos were not grown on plaintiff's plants; the plants he saw were very healthy ones, but too young to have borne the fruit shown to him by the plaintiff. The advocates then addressed his Honour, who, in giving judgment, commented at length on the case, and said it was one which, considering the evenly-balanced evidence given on both sides, occasioned him, as a judge, great anxiety in coming to his decision, but having carefully weighed all the circumstances, he could not do other than uphold the decision come to by the committee. His Honour accordingly gave a verdict for the defendants, with costs.

Obituary.

Mr. Henry Glasscock, a well-known cultivator and exhibitor of the Dahlia, died very suddenly at his residence, Rye Bank, Bishop's Stortford, a few days since, at the age of seventy-one years. He was always a familiar figure at the annual exhibition of the National Dahlia Society at the Crystal Palace, and acted as secretary for a few years on the death of Mr. Thomas Moore. He was a florist of many years' standing, and at one time a cultivator of Pansies, and later of Fuchsias, Roses, &c.; but of late years devoting himself to the Dahlia, and being very successful as an exhibitor. Born at Bishop's Stortford, and by business a builder and brickmaker, he took a great interest in all matters connected with the town and was a member of the Local Board of Health from 1875 to 1890. His death creates another vacancy in the ranks of the florists of a past generation, as he had been identified with Floricultural Societies for nearly half a century. He is deeply mourned by a large family and his fellow-townsmen.

We regret to learn also of the death recently at St. Bagot's, Jersey, of the famous Grape grower, Mr. G. Bashford. In early life Mr. Bashford was a photographer, but took to Grape growing for the London market, and at the time of his death had literally acres of glass under fruit cultivation.

QUESTIONS AND ANSWERS.

Greenhouse Floor.—*W. B. B.*: All that you can do is to relay the floor or buy a mop, and we suggest the latter course as being the cheapest. If you arrange the plants in beds on the floor you might put some Cocoa-nut fibre refuse under them to absorb the moisture, but you would have to change it fairly often.

Names of Fruits.—*Portishead*: 1, Fearn's Pippin; 2, not known; 3, Cox's Orange Pippin; 4, Manx's Codlin; 5, Pear Catillac; 6, not recognised.—*S. B. W.* Brownlees, Russet; 2, Golden Russet; 3, Cox's Pomona.—*W. W. R.*: Apples: 1, not known; 2, Minshall Crab; 4, Winter Redstreak; 5, Munche's Pippin; 7, Yellow Ingestrie, erroneously called by some Golden Pippin. Pears: 2, Winter Nelis; 3, Passe Colmar; 4, Old Crassane.

When to divide Cœlogyne.—*J. W.*: From what you say of the size and growth of your Cœlogyne we believe it to be C. cristata, or a variety of it. The best time to divide and repot it is just when it commences to grow after having flowered. Observe when the first roots begin to push out, and before there is danger of breaking them in the operation, and have the work accomplished at once. For the matter of that you could separate and repot the pseudobulbs immediately they have done flowering. Drain the pans well, and use a compost consisting of one half good fibrous peat and the other half sphagnum, with a quantity of silver sand. Press the material very firmly about the rhizomes to keep the pseduobulbs in position till roots are emitted into the fresh material. Give a watering to settle the soil, but comparatively little will be required afterwards till they begin to grow strongly, when a higher temperature and copious watering will be necessary during the remainder of the growing season.

Communications Received.—A. H.—Sir C. J.—G. H. H.—S. & S.—T. W.—H. J. C.—D. W. (next week).—E. K. (next week).—R. P.—W. K.

TRADE CATALOGUES RECEIVED.

Richard Smith & Co., Worcester.—General Catalogue of Nursery Stock.

James Backhouse & Son, York.—Roses, Forest and Ornamental Trees, etc.

Dicksons, Limited, Chester.—Forest and Ornamental Trees, Evergreens, etc.

LONDON SEED TRADE.

November 2nd, 1891.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, E.C., report a brisk enquiry for large grained Red Clovers, at an advance of 2s. per cwt. on prices current last week. White Clover, Alsike, and Trefoil steady. Ryegrasses unchanged.

COVENT GARDEN MARKET.

November 4th.

Fruit.—Average Wholesale Prices

	s. d	s. d.		s. d.	s. d.
Apples... per ½-sieve	1 0	5 0	Pine apples.		
Cobbs... per 100 lbs.	55 0	37 6	—St. Michael's, each	2 6	8 0
Grapes .....per lb.	0 6	2 0	Peaches .....per doz.	1 0	6 0

Vegetables.—Average Retail Prices.

There are no alterations in last week's prices.

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Aralia Sieboldi ...doz.	6 0	12 0	Evergreens, invar. doz	6 0	24 0
Bouvardias...per doz.	8 0	12 0	Ferns, invar., per doz.	4 0	18 0
Chrysanthemums, doz	6 0	12 0	Foliage Plants, doz.	12 0	60 0
— large .....per doz.	12 0	24 0	Heliotrope, per doz.	4 0	6 0
Coleus .....per doz.	3 0	6 0	Marguerites, per doz.	6 0	12 0
Cyperus .....per doz.	4 0	12 0	Mignonette, per doz.	4 0	6 0
Dracæna term., doz.	24 0	36 0	Palms in variety, each	2 6	21 0
Dracænaviridis, doz.	9 0	18 0	—scarlet .....per doz.	2 0	4 0

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Acacia or Mimosa French per bunch	1 0	1 6	Marguerites, 12 bun.	1 6	4 0
Arum Lilies, 12 blms.	4 0	6 0	Mignonette... 12 bun.	1 6	3 0
Bouvardias, per bun.	0 6	1 0	Myosotis..doz. bchs.	3 0	6 0
Carnations, 12 blooms	1 0	2 0	Parme Violets, French, per bun.	2 6	3 6
Chrysanthemums, doz. blooms	0 9	3 0	Dark " " "	1 0	2 0
Chrysanthemums, doz. bunches	3 0	9 0	Pelargoniums, 12 sps.	0 6	0 1
Encharis ...per doz.	3 0	6 0	— scarlet.....12 bchs.	4 0	6 0
Gardenias 12 blooms	1 6	4 0	Primula, double, bun.	0 9	1 0
Heliotropes, 12 sprays	0 3	0 6	Pyrethrum, doz. bchs.	2 0	4 0
Lapageria, 12 blooms	1 0	3 0	Roses, yellow, dozen	3 0	6 0
Lilac, French, per bunch	5 0	7 0	— mixed... doz. bchs.	4 0	6 0
Lilium Harrisii, doz. blooms	3 0	6 0	— Red..... doz. bchs.	6 0	12 0
Liliumsvar., doz. blms.	1 6	3 0	— Saffrano...per doz.	1 0	1 6
MaidenhairFern, 12bs.	4 0	9 0	— Tea ..... per dozen	1 0	3 0
			Stephanotis, dz. spys.	3 0	5 0
			Tuberoses, per doz.	0 3	0 6
			Violets, English per bunch	1 6	2 0

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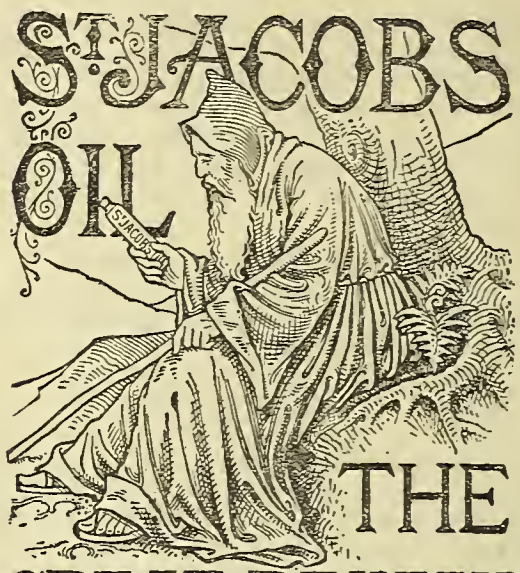

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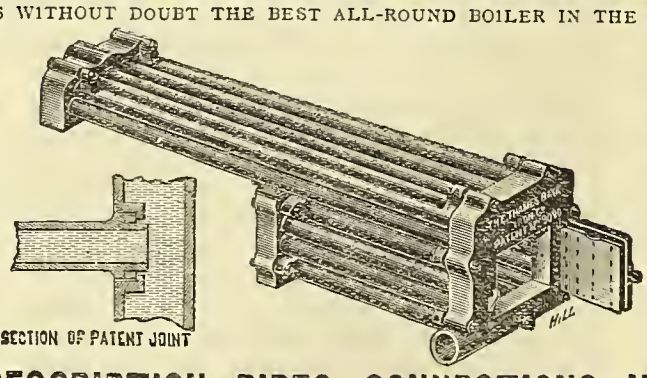

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" "	60's	...	"	60s. "
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" ...	48's	...	"	100s. "

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Single Crowns Lily of Valley, very fine .. .. per 100 6s.

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	Per doz.
Lily of Valley	12s.
Spiræa astilboides	30s.
" japonica	5s.
" japonica compacta multiflora	12s.
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Pure white, with yellow crown. A well-known and excellent variety for cutting, bearing two flowers on the same footstalk.
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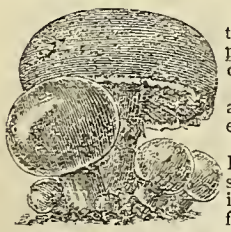

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Special Autumn List

ON APPLICATION.

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For Index to Contents see page 169.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Nov. 16.—Bulb Sales at Protheroe & Morris' and Stevens' Rooms.

TUESDAY, Nov. 17.—Chrysanthemum Shows at Liverpool (2 days), Oxford, Hampstead (2 days), Hartlepool (2 days) Salisbury (2 days), Diss (2 days), Twickenham (2 days). Sale of Nursery Stock at Reigate, by White & Sons.

WEDNESDAY, Nov. 18.—Chrysanthemum Shows at York (3 days), and Hull, Cardiff, Hanley, Spalding and Rugby (all 2 days). Bulb Sales at Protheroe & Morris' and Stevens' Rooms.

THURSDAY, Nov. 19.—Chrysanthemum Shows at Edinburgh (3 days), Bristol (2 days), Crediton, Norwich (2 days), and Wantage.

FRIDAY, Nov. 20.—Chrysanthemum Shows at Bolton (2 days), Stirling, and Chorley (2 days). Orchid Sale at Protheroe & Morris' Rooms.

SATURDAY, Nov. 21.—Batley Chrysanthemum Show.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, NOVEMBER 14th, 1891.

THE CHRYSANTHEMUM SHOWS.—In the production of simultaneous effort in exhibitions the Chrysanthemum takes precedence of every other element in horticulture. It is very difficult to obtain the information so fully as is desirable, but we believe that over 50 shows, chiefly dedicated to the Chrysanthemum, were held in the country during the present week. If we take the whole of the Kingdom and the entire Chrysanthemum season, it will probably be found that hardly less than 150 shows, dedicated to the Chrysanthemum, are held every year. That is a remarkable fact, and shows most forcibly the great popularity to which it has attained.

There is, of course, a wide distinction between the fine shows held at the Westminster Aquarium, at Kingston, Birmingham, Liverpool, Manchester, Hull, Edinburgh, and other great centres, and those held in rural districts. Still the sentiment towards the popular flower is all the same. It does sometimes happen that at these humbler shows, elements of quality or of beauty are found which merit the highest praise. We frequently meet with such evidence, and realise that could the growers who perform such good work in so small a way, be transferred to larger places, they might then soon develop into champions, having a national fame.

The little shows are not to be despised because small. So far from that being the case, they rather prove to be admirable nurseries for the development of talent of the highest order. We have no fear that there will be, for a long time hence, any falling off in cultural enthusiasm or skill. Still it is well to find all these modest Chrysanthemum shows being so well supported, as they serve to feed the larger ones with exhibitors from time to time. The season has not been, on the whole, one of the best, but none the less there have been seen many grand blooms, whilst the average of quality shows that there has been no retrogression.

CHRYSANTHEMUM COMPETITIVE GROUPS.—Everybody familiar with the Chrysanthemum shows now being held fully understand the meaning of Chrysanthemum groups, as seen at exhibitions. We make no apology for further referring to matters of this nature, as just now the air is full of all that relates to "the Golden Flower." These groups are, without doubt, in plants, the strong feature at many of the exhibitions, and, as a rule, constitute very striking and effective displays. They have the merit also which cut flowers do not possess —of being still retained for the beautifying of their owners' gardens, long after the show is over, if duly cared for.

But we specially refer to these groups because it so commonly happens that the wording of the schedule relating to them is somewhat contradictory, and not unfrequently land judges in a dilemma. Only last week we found at one show that the judges had awarded the prizes in a group class on the ground of the quality of the blooms. Later on, their attention being drawn to the wording of the schedule, which specially stipulated "for effect," their original judgment had to be completely reversed, as the group thus placed was decidedly the most effectively arranged one. In a second case, the judges were a long time oscillating between "quality" and "effect," as both terms were specially used in the schedule; for whilst one group, largely composed of Japanese varieties, was singularly effective, another one had most incurved blooms, and the best quality.

Clearly it is unfair to place judges in this kind of difficulty. Either quality in the blooms or the plants should be specifically required, or else effective arrangement—not both. We prefer the latter condition, as so many groups come under our notice in which, whilst the blooms may be of fine quality, the arrangement is deplorable and ungainly. We do not, for one moment, assume that should the requirement of quality of bloom be removed, that it would lead to the presentation of inferior flowers, but it would give the competitors a much freer hand.

THE LONDON PARKS SUPERINTENDENT.—The London County Council have at length decided to appoint a Parks Superintendent at what most people will regard as a large salary, but which is really not an extravagant one when we consider the duties of the position as compared with those of the Assistant Director at Kew, for instance, to whom a similar salary is paid. There is something curious, however, in the fact that the advertisement inviting candidates appears only in one gardening paper, and that one perhaps not the most widely read. We sincerely hope it is not suggestive of jobbery at head-quarters, but the circumstance does suggest that even the ways of that democratic body, the London County Council, may be past finding out.

There may be good reasons for making this appointment, but so far they have not been made very potent. We naturally have some sympathy with the present park superintendents who do their work so well, notwithstanding the difficulties they labour under in having so many masters, and some of them so difficult to get on with, and we fear they can hardly view with equanimity the appointment over them of some person who, whatever his social position may be, may be totally unfitted to control men as good as himself. The desired qualifications for the office are such as can only be gained in a lifetime, and yet the candidates must be under 50 years of age. We shall look with exceeding interest to the ultimate selection. The occupant should be a man of great force of character, of good address and education, a gentleman in conduct and appearance, and have knowledge and capacity of control of a high order. He should also possess great tact and firmness, for these are qualities which will be largely required in the conduct of his office. In reality, he will be the buffer between the Park Superintendents and the Parks and Open Spaces Committee, and the man who can best manage both will be the man who will longest hold the post.

A few men could be named who are eminently fitted for the position, but they are all past the specified age. In gardening, in fact, no man seems to have reached to full capacity until he is 60 at least. Happily, the conditions laid down by the Council exclude naval and military officers, and, indeed, all but very few. There may be a number of applicants, on the principle that something may be picked up in due time if looked for, but it will not be a matter for surprise if even the final selection should be found to fall very far short of our requirements for such a distinguished position.

FRUIT CULTURE IN IRELAND.—We have been favoured with a copy of an interesting little *brochure* which has been printed for private circulation by Mr. W. H. Hall, of Six Mile Bottom, Newmarket, the present High Sheriff of Cambridgeshire, and whose earnest efforts to promote a revival of Irish industries, and especially of fruit and vegetable culture, on improved methods, are well known. Ireland is the great difficulty of statesmen and philanthropists. What she most needs in relation to her industries is that the people should first have ample liberty to create their own prosperity, and secondly, that they should, both through the establishment of popular institutions and from outside the kingdom, receive all possible help.

Mr. Hall seems to have realised this need fully, and, being unable to furnish the free institutions, which of themselves promote self-help and self-reliance, has done his best by offering to supply parcels of one dozen fruit trees in response to applications made through schoolmasters, postmasters, and station agents in eight union areas. No less than 150 applications appear to have been made in 1889, and 117 persons received the grants. In August of last year Mr. Hall, accompanied by Mr. T. F. Rivers, of Sawbridgeworth, made a tour of inspection through those parts of Ireland where the various gift trees had been planted, taking part also, on the way, in some hardy fruit conferences, which seem to have been well attended, and which doubtless resulted in the creation of additional interest in the subject.

Generally the gift trees, especially at the station agents, were found doing very well, and seemed to be highly appreciated. Of course the good thus done is but as a drop in the ocean, but Mr. Hall merits all praise for his good nature and earnest unselfish efforts to better the condition of the Irish peasantry. We cannot follow the writer through some of his reflections on the small holding system, but learn with pleasure that Ireland seems climatically to be well adapted for fruit culture.

Gardeners' Orphan Fund.—We are much pleased to hear that Alderman Sir James Whitehead, Bart., has kindly accepted the invitation of the Executive Committee to preside at the annual dinner in February next.

Mr. R. Savage, late gardener at Moone, has been engaged as gardener and steward to Mrs. Cobbe, Newbridge House, Donabate, Co. Dublin.

The Bolton Chrysanthemum Show takes place on Friday and Saturday next, November 20th and 21st., and not on the days inadvertently stated in our last issue.

Mr. George Garney, late foreman at Londesborough Park, Market Weighton, and formerly at Basing Park, Alton, has been engaged as gardener to Mrs. Powell, at Maesgwynne, Whitland, Carmarthenshire.

The York Gala.—It has been decided that the grand Floral Fête annually held at York shall take place next year on June 15th, 16th, and 17th.

Mr. James Dryden, who for some years has been general foreman to Mr. Inglis, at Howick Gardens, Lesbury, has been engaged as gardener to Major Browne, Doxford Hall, Chathill, Northumberland.

The Leek Orchid Growers held a conversazione on the 5th inst., over which a local amateur, Thomas Hale, Esq., presided, and who, in opening the proceedings, gave an interesting account of how he became an Orchid grower. Mr. McNab, the representative of the Liverpool Horticultural Company (John Cowan), Limited, delivered an address on "Orchids and Orchid Growers," which was listened to with much attention; after which Mr. Eyre was called upon for his experiences. Mr. Eyre said his enthusiasm had burnt brightly for upwards of thirty years, each year becoming more and more intense. Mr. Gillman and Mr. Walker also gave addresses, and a musical programme, admirably carried out, brought a pleasant and enjoyable evening to a close.

Peeling Gladiolus Bulblets.—Named varieties of Gladiolus bulblets are increased true to kind from bulblets only and not from seeds; division of the large corms, too, according to their eyes, is sometimes practised, but so seldom that we need not now refer to it. Well, says Mr. Falconer, in *The American Florist*, have you ever wondered why it is that these hard bulblets make such irregular and little growth for the first year after planting? The truth is, their coating is too hard, tough, and tight. Our large Gladiolus growers peel their bulblets before planting them! This may appear incredible to many, but it is nevertheless a fact and the employées of these large nurseries not only peel bulblets by the dozen in winter, but also bring them home, and they and their families peel them at night by contract, thereby adding to their income. Peeled bulblets grow as much in one year as unpeeled ones grow in two years, and every one of them grows, which is not the case with unpeeled ones. Were it not for this system of peeling the bulblets to induce quick growth, hence quick multiplication, our florists could never get up stock enough of the choice popular kinds to supply the demand.

Potato Experiments in Ireland.—Lord Powerscourt has communicated to the *Times* the results of some experiments in determining the varieties of Potatos most profitable to grow and least subject to disease in Ireland. The Potatos were grown in a field at Powerscourt, Co. Wicklow; all the drills were exactly alike, namely, 97ft. 8in. long and 30 in. wide; farm-yard dung was applied at the rate of twenty tons per acre. Robertson's Victory yielded the greatest weight—132lb. 8oz. of marketable Potatos, 20lb. 8oz. of small, and only 2lb. of diseased tubers; Scotch Champion, a total weight of 148lb., with 4lb. diseased; Farmer, 142lb., of which 12lb. 4oz. were diseased. Imperators were seventh on the list, with 5lb. 4oz. of diseased in a crop of 125lb. 4oz.; Bruce, 1lb. 8oz. bad to 119lb. 8oz. good; American Early Rose, 9lb. 8oz. bad to 100lb. of good; Magnum Bonum, 96lb. 4oz. large tubers,

10lb. 4oz. small, and only 8oz. diseased in a crop of 107lb.; Reading Hero yielded nearly as great a weight, but had 1lb. 8oz. diseased. Early Kemps and Generals produced 87lb. and 85lb. respectively, of which 7lb. and 13lb. 8oz. were diseased, and these were the least satisfactory of the eighteen varieties experimented with.

Lost Treasures.—"Abies Humbugiana" writes in *The Garden*:—Can anyone tell me why, in these days of excellent weekly periodicals on every subject, it is that horticultural, arboricultural, and other kindred societies persist in bottling up those papers read at "meetings" and "conferences," and stowing them away in their "transactions" for an indefinite period—perhaps for ever—seeing that such papers are in no way different, no better, and often not so good as similar contributions that appear regularly in the weekly press and elsewhere? I am assured that some of the "papers" would be certain to make the acquaintance of the editorial scissors if they had to run the gauntlet of a discriminating editor and his subs. Is the bottling supposed to improve their flavour? My opinion is that they are mostly stale when they do appear, and often anticipated. The practice may be aptly compared to a man bottling, say, half-a-dozen pints of water from the general source of supply, and serving the stale liquid out long after when nobody wants it or needs it. Really it is high time that this method of disseminating knowledge was dispensed with. Keep a record, if you like, but the press is now the recognised medium of any communication worth reading.

A New Feature in Local Shows.—We have to congratulate our horticultural friends in the Surrey parishes of Carshalton, Wallington, and Beddington upon the great success which attended their efforts last week to inaugurate a new and extremely useful feature in the working of local horticultural exhibitions. As the chairman at the luncheon, Mr. A. H. Smee, observed, the local horticultural society was a young and an adventurous one. Neither rain nor tempest daunted them, as they went through fire, water, and hail at their last show at Beddington Park, and came out of it successfully. If they were not so successful financially as they might wish, there was certainly one thing that they did, and that was to awaken an enthusiasm for horticulture, not only in the district, but throughout the county. It was mainly due to their conference in Beddington Park that the Surrey County Council decided to establish lectures on horticulture throughout the county, and it is understood that Hampshire and other counties were about to follow suit. Their society had that day made the experiment of gathering together a fruit collection without any hope of reward in the shape of prizes being extended to the exhibitors. They had only asked gentlemen in the neighbourhood, cottagers, villagers, and allotment holders to send produce, and the result was a display far larger than the committee had any hope of obtaining. A great quantity of fruit was sent for naming, and that was a most hopeful sign, as at one time people were satisfied with an Apple so long as it was a good sort, but now they wanted to know the name and whether it was a good kind or a bad kind. The show would undoubtedly prove of great benefit to the district, by teaching people what varieties were good and what were worthless.

Vegetation living without foliage.—As a general rule the life of a plant is not long prolonged without the aid of its foliage. Recently, says the *Bulletin d'Arboriculture de Floriculture, etc.*, we note the persistence of life in a Fir tree, of which the trunk, broken at a yard above the soil, and immediately deprived of its branches, has continued to live in this state for eighty-six years. The *Revue Horticole* reports an analogous fact, except that the duration of vegetation has not been so long. Some trees of Abies excelsa, growing too closely together and already having a thickness of 6 in., were felled at 18 in. above the soil. Ten years later one of the Spruces in question, being quite deprived of its branches and leaves, was found furnished with a cushion-like outgrowth all round the cut. According to the journal cited that was explained by a sort of union or grafting by approach amongst the roots of the subject cut down, and those of the tree remaining upright about 9 in. distant.

GRANDFATHER GOODY.

Royal Grandfather Goody, one day took offence
Not being consulted, out-measured his sense,
Enfeebled in pocket, he yet had the brains,
And strove with great Mastery to handle the reins,
But the steed kicked and plunged, old Goody sat back,
And now he remains to follow the track.

A. M.

HARDY TREES & SHRUBS.

Clematis.

MANY of the hardy species of this genus are amongst the most ornamental of climbers for trellis work, the front of buildings, and for walls in the flower garden or similar places. Nothing is more handsome in the way of flowering plants for covering arbours; and splendid effects are produced by getting the tops of some Spruce or Fir trees, shortening the shoots and inserting them in the ground as supports to the finer types of Clematis in open spaces where the light will reach them on all sides, thus causing a fine development of bloom. Those that flower on the previous years shoots flower in spring or summer, while those that develop their flowers on the current season's growth are the glory of the late summer and autumn months. In order to get the best results it is necessary to plant in deep rich soil, and to manure freely as well as mulch on the surface. This latter is more particularly necessary in dry summers and in the south than in Scotland, although even there liberal treatment more than repays the trouble of good cultivation. It is useless to dig a hole sufficiently large to admit the roots and then imagine that good results will follow. The soil must be taken out to a depth of 2 ft. and 3 ft. wide, filling in with good loam to which a liberal quantity of partly-decayed leaf soil, old hot-bed manure and some road scrapings have been added. Propagation

CLEMATIS FLAMMULA.

is usually effected by grafting on pieces of roots taken from old-established plants of any strong growing kinds. Cuttings may also be rooted in propagating pit with a gentle heat. Layers may also be rooted by anybody by cutting off a small portion of the bark at a joint and bending this down so that it may be covered with soil, and kept watered during the summer.

CLEMATIS FLAMMULA. — The flowers of this species are small and white, but their lack in size is fully compensated for by their profusion and fragrance. The pinnate and lobed leaves are of a rich dark green, and the flowers begin to expand in July and keep on till October. The climbing stems attain a great height and look picturesque when rambling over some old half dead tree. It is one of the earliest introductions, having been imported from South Europe in 1596. The accompanying illustration shows a pair of leaves with a panicle of bloom terminating a shoot.

C. MONTANA.—Amongst the earliest to flower in spring is C. montana, a native of Nepaul, but perfectly hardy at least in all the southern counties of this country, and flowers through the early part of summer, being in perfection in May. The flowers are of medium size, pure white, and highly ornamental from the extraordinary number produced on an old plant. The leaves are trilobed or divided into three leaflets. For the front or end of a building it is very choice in every way.

C. CŒRULEA.—From this plant a large number of forms or hybrids have been raised, and are reckoned amongst the showiest of garden kinds. The flowers are large, sky blue with deep purple stamens, and are very showy during the months of June and July. One of the sorts raised from it is Patens, a white variety generally mentioned as the type of this class. The species comes from Japan and is quite hardy even in the north of Scotland. It is often grown under the name of C. azurea grandiflora.

C. PITCHERI.—The flowers of this species are bell-shaped, deep purple, and moderate in size compared with the last. It comes from the United States, and proves perfectly hardy in this country although not very common. The flowering period is July and August.

C. VIORNA.—The Leather-flower gets its name from the thick and leathery texture of the sepals which cohere so as to form an inflated or balloon-shaped tube with four reflexed points. The flowers of the type are purple and yellow internally; those of the variety C. V. coccinea are of an intense vermillion externally, and very showy and distinct on that account. The whole plant is slender and elegant. It requires a position against a wall, as it comes from Texas.

C. VITICELLA.—The flowers of this species vary from blue or purple to a rose colour, and are abundantly produced from June to October. They are of moderate size compared with those of C. cœrulea, but some of the garden forms, including C. V. rubra grandiflora, which have been raised from it are very choice and deserve a place in every garden. The species is a native of Southern Europe and Western Asia, and was originally introduced to this country in 1569.

C. FLORIDA.—Notwithstanding the name this species comes from Japan, and proves hardy in this country. The flowers are large, white, and borne upon the wood of the previous year, continuing from April to September. The double forms are more popular than the single and typical form, and have bluish-lilac, lavender-blue, and brilliant mauve-blue flowers.

AWARDS AT FLOWER SHOWS TO MISCELLANEOUS EXHIBITS.

THREE of the principal nursery firms of Birmingham and district have just issued a circular to horticultural societies, calling the attention of officials to the fact that they, in common with other firms, do their best to support and encourage flower shows, but they think that in doing so, "a little compensation is due to them." They put their case thus: "We frequently make expensive exhibits, and do not get what is most valuable to us—a notice in the daily papers." There I think they are quite right, but that is not so much the fault of the promoters of shows as it is of the papers. The fact is the ordinary newspaper reporter is never at such a loss as when he attempts to report a flower show. It is natural that he should fail to make a satisfactory notice because he knows little or nothing of the subjects about which he is writing, and he is occasionally entrapped by some wary exhibitor who manages to get pretty well the whole of the notice to himself, and often to the setting up of the undeserving, whereby deserving things sometimes suffer. But those who issue the circular make no suggestion as to securing a better system of daily paper reporting, and even in our gardening papers, while competitive exhibits come in for a pretty fair and full notice, non-competitive groups are generally only casually mentioned, though they are very frequently of a highly interesting and meritorious character.

Those issuing the circular suggest that promoters of flower shows "offer medals, not necessarily of great value, for any meritorious exhibit." "By this means we should get reported, and we think it would fully satisfy and encourage special exhibits, which frequently are of great attraction to shows." "We would suggest the medals might be silver and bronze, as awards to exhibits of special merit—not for competion—whether groups or collections of plants, cut blooms, floral designs, or new or rare plants, &c." "Arrangements might be made with a good medalist to supply appropriately designed medals to any Society, at one uniform price, particulars of what awarded for could be engraved on the medals afterwards, but when the award is made, a proper card should be affixed to the exhibits at the time awarded."

As a matter of course societies cannot be expected to go to the cost of each preparing a die of a medal for their exclusive use, therefore it is a good sugges-

tion that a medal be struck that would be suitable for all societies. I think it would pay a medalist to prepare a die and offer medals to societies at a reasonable cost, and thus meet the suggestion made in the circular under notice.

I may state that my practice at the exhibition held at the Royal Aquarium by the Royal Aquarium Society has been, to distribute all monies saved in the schedule among the miscellaneous exhibits. According to the estimate formed of them by the judges, I placed upon the exhibits a Silver Medal, Bronze Medal, or highly commended on the distinct understanding these awards were honorary, though fairly illustrative of the value of the exhibit, and I allotted the spare money in the miscellaneous class pro rata, as a contribution towards carriage. This has given satisfaction to all who at the Royal Aquarium exhibitions showed groups, etc., not for competition. The subject is one well worthy of a little discussion.—*R. Dean.*

THE APPLE AND HOW TO GROW IT.*

(Concluded from p. 150.)

Pruning.

This is a very important operation, for it is by the judicious use of the knife or secateur that the tree is shaped and induced to become fruitful. The pruning the first season after planting should be done in February. In the young state of the tree the pruning should be performed with the object of laying a good foundation, so as to produce the requisite number of branches, and to equalise their distribution. In the case of pyramids and bush trees, the branches should radiate from the stem without crossing each other, and as they extend to allow them to branch, keeping the prevention of crowding always in view. After the first pruning, I strongly advise summer pruning, which should be performed about the last week in July or early in September, reducing the leading shoots to about 9 in. more or less, according to the size of the tree and the position of the shoots, and shortening the side shoots to 1½ in. or 2 in. If done earlier in the season many of the buds left will be forced into growth, which again must be cut back at the winter pruning. But if done at the time advised, the buds are forced into existence, but only to lay the foundation of fruit spurs. Great attention should be paid always, in pruning, to the prevention of overcrowding of the branches, for by exposing the branches and foliage to the full action of the sunlight and air, the wood and buds become thoroughly ripened, an essential to all fruit trees for the production of perfect flowers and fruit. If summer pruning has been executed in a proper manner, very little will be left for winter, which may be performed any time after the fall of the leaf. Of course, when destitute of foliage, it can readily be seen where any branches or shoots were overlooked in the summer, bearing in mind the same principles of pruning throughout. Some kinds of Apples—like the Cornish Gillyflower, Irish Peach, and Ross's Nonpariel—often bear on the tips of shoots made the preceding year. Some growers recommend that these shoots should be allowed to remain, but I have treated those trees to the pruning I have recommended as for other varieties, and with successful results.

Root Pruning.

It is often found necessary to supplement these periodical prunings by pruning also at the root, or lifting, which is only required when trees are growing too vigorous and not producing flower buds. Early in September is the best time to do this, by taking out a trench, 2 ft. deep, all round the tree, at from 3 ft. to 4 ft. from the stem; then burrow beneath the ball with a fork or pick, to enable any root striking downwards to be cut away. One-half should be done at a time, replacing the soil by ramming it firmly before commencing the second half. When the whole of the roots have been examined, the whole of the soil should be returned and made quite solid. This operation checks the vigorous growth, and conduces to the production of flowering buds the following season. It is needful sometimes to repeat this to some subjects; but generally when a tree becomes fruitful it remains so.

Fruiting.

It is a mistake with all fruit trees to allow them to bear heavy crops during their young state. If allowed to do so, the trees become stunted in growth and never develop into large trees. The thinning of the crop should commence early, removing any that are deformed fruit—of all, leaving the most promising until the crop is reduced to what is considered sufficient for the tree to carry consistent with its size and health. At the end of July the thinnings of culinary varieties may be made use of for tarts, etc. The keeping qualities of fruits are, no doubt, much enhanced by the methods adopted for pruning: for certain, where fruit has been thoroughly exposed to the sunlight and air, it becomes thoroughly matured and consequently lasts much longer in good condition. Colour—so great an acquisition to all fruit, and a good sign of perfection—is put on when fully exposed, even should it not have all its surface exposed to the sun, a free circulation of air will effect it.

Gathering and Storing.

As the Apple matures and readily separates from the tree it should be gathered, selecting always, if possible, dry weather for that purpose. Late kinds benefit by allowing them to hang on the trees as late as possible, consistent with their safety from high winds and severe frosts. Especially has it been the case this year. Fruit left on the trees swelled up and attained a much larger size than that picked the last week in September.

Fruit Room.

This should have a dry atmosphere and cool temperature, and should be kept near about one temperature, say from 40° to 50°. Ventilate only when the temperature outside corresponds with that inside and when dry, otherwise it will cause a moisture to settle on the fruit. There is no doubt fruit keeps longer and more plump if stored in bulk than when laid out on shelves in single layers. It stored in barrels or large boxes or in heaps the fruit is not so easily exposed to fluctuations of temperature, the greatest drawback being that decaying fruit are not so easily detected. I should here impress upon all the great necessity of exercising the greatest possible care when gathering and storing fruit. They should be handled very carefully at every stage to prevent bruising or scratching, and examined for damage from birds, none being stored that are the least injured, otherwise immediate decay ensues, to the loss also of those in contact with them.

Mr. Powell then enumerated the varieties he recommended both for culinary and dessert purposes, and concluded by saying that by pursuing the directions given as to pruning the roots and branches, and by prevention of excessive drought or moisture, many of the causes of canker—so fatal to good crops on the Apple tree—is avoided, but there are others, such as the accumulation of moss or lichen, which can easily be removed by dusting the trees well with slaked lime in the winter when the trees are damp. The American blight frequently becomes the precursor of canker, and where trees are infected an application, applied either with the syringe or brush, should be made of petroleum diluted with water.

* A paper read by Mr. D. C. Powell, Powderham Castle Gardens, at the first meeting of the Devon and Exeter Gardeners' Association.

PLANTS BY PARCEL POST.

The Postal authorities at St. Martin's-le-Grand having obseved that in the autumn and spring seasons free use is made of the Parcel Post for the cheap, rapid, and punctual conveyance between distant parts of the country of young plants of various sorts, choice young Currant and other fruit trees, young shrubs, dwarf and other Roses, &c. Accordingly, a useful public notice has been issued suggesting the following methods of packing as likely to ensure the safe transmission of such parcels: "Shrubs and dwarf trees should have the roots encased in bass matting, and the branches and twigs tied together with bass or string. Dwarf standard Rose trees should have bands of hay, or of bass matting, wound round their entire length, so as to prevent all risk of injury to the young shoots. Wooden boxes should be used for flowers and soft or tender plants. The address label attached to such parcels should bear the words, 'By Parcel Post. Plants—Perishable.' And every care will be taken that parcels so marked are packed with the view of avoiding, as far as possible, pressure of any kind. The limits of size are—greatest length, 3 ft. 6 in.; or length and girth combined, 6 ft.; and the rates of postage are—for the first pound, 3d.; for every additional pound up to 11 lb. (maximum weight allowed), 1½d. Compensation for loss of, or damage to, an ordinary inland parcel is given up to £2. Parcels may be registered."

THE CHRYSANTHEMUM SHOWS.

Exhibitions of Chrysanthemums come thick and fast, and it is impossible to report them in detail. On the 3rd inst., the Ipswich and East of England Horticultural Society held their show in the public rooms, and a very good one it was. There were fine and effective groups of Mums, as also of miscellaneous plants. Blooms were numerous and very fine, and fruit and vegetables very good. The best group came from Mr. G. Jordan, gardener to the Rev. H. A. Berners, the Hon. Secretary of the Society, admirably grown and bloomed, and finely staged. On the whole plants were good, but not a trained specimen to be seen. The leading cut flower class for twenty-four blooms, twelve incurved and twelve Japs, brought a very fine lot from Mr. W. H. Lees, gardener to the Duchess of Montrose, Sefton Lodge, Newmarket, admirably grown and staged. Messrs. Saltmarsh & Sons, Chelmsford, who are good growers, were second. Mr. Lees was successful in other classes, and given the requisite convenience there is a great future for this young grower as an exhibitor. Some very fine Japs were shown by Mr. W. Dance, gardener to Mr. Lowe, Gosfield Hall, Halstead; and he took the first prize in another class for twenty-four blooms, twelve incurved and twelve Japs, the Rev. H. A. Berners being a close second. Mr. William Colchester, of Ipswich, offered a Silver Cup for twenty-four Japs grown with his "Ichthemic Guano," and it was awarded to Mr. W. Boyles, gardener to B. B. Cabbell, Esq., Cromer House, Cromer, with a very fine lot of blooms indeed. The two premier blooms were Avalanche, Jap, and John Lambert, incurved, the Certificate of the National Chrysanthemum Society being awarded to each.

On the 4th, the Ascot, Sunninghill, &c., Horticultural Society held their annual Chrysanthemum show in the spacious premises of the Jockey Club, at the back of the grand stand. Some magnificent groups were staged, and cut blooms both of incurved and Japs were very fine. It was an admirable show, one growing rapidly in importance. Having to leave early in order to get to the West of England, we were unable to take any notes, but simply give our estimate of the show, and the admirable arrangements of the Hon. Secretaries, Messrs. F. J. Patton and A. G. Lacy.

On the 5th, the Stroud Chrysanthemum Society (Glos.) held its annual exhibition. Here groups were very fine, the best coming from Mr. F. J. Wilkinson, gardener to Miss Frith, who has won this prize three years in succession. There were some very good small specimen plants; and such things as Bouvardias, Primulas, Cyclamens, etc., were a good feature. We were particularly struck with some excellent Mignonette from Mr. A. J. Driver, gardener to Mrs. Davies. Bridgend. Mr. Wilkinson had the best group of stove and greenhouse plants, a very effective one indeed. The best forty-eight blooms, twenty-four incurved and twenty-four Japs, a very fine lot, indeed, came from Mr. A. J. Driver, and he had the best twelve, six incurved and six Japs. The best twenty-four, twelve incurved and twelve Japs, came from Mr. C. Mayo, gardener to A. Apperley, Esq.; he also had the best twenty-four incurved in eighteen varieties. In the minor classes the blooms were very good throughout. Baskets of Chrysanthemums were a very good features also. The premier incurved Mum was a grand bloom of Miss M. A. Haggas, shown by Mr. A. J. Driver; and the premier Jap, Etoile de Lyon, from Mr. C. Mayo. Fruit was generally good, and vegetables remarkably fine. We have reason to believe the attendance was good, and the financial results highly satisfactory.

The seventeenth annual exhibition of the Lambeth Amateur Chrysanthemum Society was held at the Horns, Kennington, on November 3, 4, and 5, when a very nice display was made, although trained plants were not so numerous as we have noticed on former occasions. Some nice groups were set up, Mr. Hole taking the first prize for a group occupying not more than 40 square feet. As is customary at this society the special prizes were exhibited on a table in the room, and the patrons of the society are never wanting in their generosity. Cut blooms were staged in the usual style, Mr. Sharps taking the lead in the class for twelve dissimilar Japanese. Mr. Davison came second, followed by Mr. Parker. In the class for six Japanese dissimilar Mr. Sharps was again to

the front, as he was also in the mixed class for twenty-four blooms. The class for members who had never taken a prize excited greater competition, Mr. Bungan taking the lead with six nice blooms of Val d'Andorre, Louis Bœhmer, Madame Audiguier, M. Astorg, M. H. Jacotot, and La Triomphante. The whole of the arrangements were well carried out under the supervision of the energetic secretary, Mr. T. F. Davison.

At the CRYSTAL PALACE, on Nov. 6th and 7th, the groups of Chrysanthemums were a grand feature, on account of their number and generally high quality. In the case of cut blooms, the Japanese varieties were in most cases up to the standard, but here as elsewhere there seemed to be a falling away in the incurved classes, owing probably to the unfavourable nature of the weather during the last month. The leading award for 24 Japanese and 24 incurved varieties, was taken by Messrs. W. & G. Drover, Fareham, Hants, the quality of the blooms being well sustained in both classes. Good Japanese blooms were W. H. Lincoln, Stanstead White, Etoile de Lyon, Mrs. F. Jameson and Mons. Bernard; Lord Alcester, Emily Dale, Empress of India, Alfred Salter, John Doughty, Princess of Wales and Queen of England were in good form amongst incurved sorts. Mr. E. White, gardener to C. H. Goschen, Esq., Ballards, Addington, Croydon, came in second with fine blooms of the Japanese type; and the same might be said of the exhibits of Mr. C. Gibson, gardener to J. Wormald, Esq., Morden Park, Surrey, and Mr. H. Shoesmith, gardener to M. Hodgson, Esq., Shirley Cottage, Croydon, who took third and fourth respectively. There were 7 entries in this class. Mr. E. Whittle had the best 18 incurved varieties, and was followed by Mr. C. Cox, gardener to J. Trotter, Esq., The Grange, Brickendon, Herts. The best twelve incurved blooms were those of Mr. J. Hughes, gardener to H. F. de Paravicini, Esq., Heathfield, Bracknell, Berks; Mr. A. Turner, gardener to F. Murray, Esq., Woodcote Hall, Epsom, had the best six. The first prize for eighteen Japanese varieties was taken by Mr. C. E. Shea, The Elms, Foots Cray, Kent, whose blooms were so large that they were simply crowded. Mr. Glen, Worth Park, Crawley, was second with an even lot. Mr. J Douglas, gardener to Mrs. Whitbourne, Great Gearies, Ilford, took the lead in the class for twelve Japanese sorts; and Mr. J. Hughes was second. Mr. C. Cox took the lead with six Japanese blooms of one variety. The first prize for eighteen reflexed and Japanese reflexed was taken by Mr. A. Feldgate, Burhill, Walton-on-Thames, who was followed by Mr. C. J. Salter, gardener to T. B. Haywood, Esq., Woodhatch Lodge, Reigate. The latter took the leading prizes for twelve Pompons and twelve Pompon Anemones, the blooms in both cases being very fine of their kind. In like manner the leading awards for eighteen Anemone and Japanese Anemone-flowered, and twelve Japanese Anemone-flowered, were taken by Mr. W. Green, gardener to Miss Wyburn, Hadley Manor, Barnet. The best twelve single varieties were those of Mr. G. Carpenter, gardener to Major Collis Browne, Broad Oaks, Byfleet.

Pot plants were pretty numerous, but the large groups constituted the best feature, the trained specimens not being equal to those of former years. Mr. J. Providence, Townsend Nursery, Gardeners Lane, Putney, had the best group of incurved varieties, and was closely followed by Mr. H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham; the third place was taken by Messrs. Mobsby & Son, Moffat Road, Thornton Heath. The large groups of Japanese varieties were of a high order of merit. The first award was taken by Messrs. Reid & Bornemann, Tewkesbury Road, Sydenham, with a group evenly graduated from the back almost to the ground in front. Messrs. J. Carter & Co., High Holborn, were second with a semilunar and showy group. Mr. H. Loder, Kirkdale, Fairlawn Park Nursery, Sydenham, was third with a group of well grown and well bloomed plants that might have taken a higher place but for a slight defect in the arrangement. The first prize for a group in the gardeners' class was awarded to Mr. T. W. Wilks, gardener to C. Ralph, Esq., Cranbrook Villa, Upper Norwood, who had a neat group. Mr. R. Illes, gardener to the Rev. C. H. Spurgeon, Westwood, Upper Norwood, was second; and Mr. J. Gravett, gardener to Dr. Hetley, Morbury Lodge, Upper Norwood, was third. Mr. R. Clarke, gardener to W. Griffiths, Esq., Palace Road, Streatham, had the best four trained specimens of Japanese, as well as incurved sorts. Mr. J. Weston, gardener to G. D. Martineau, Esq., South Road, Clapham Park, was first for six trained Pompons; Mr. W. Wesker, gardener to A. Heaver, Esq., Streatham Elms, Upper Tooting, had the best six trained Japanese plants; and Mr. G. H. Cooper, Sydenham Road, Croydon, had the first prize for nine standard specimens. Special prizes were offered by Messrs. J. Carter & Co., for six dishes of Potatoes; and they were taken by Mr. E. S. Wiles, Edgcote Gardens, Banbury; Mr. F. Peckover, Wardington, Banbury; Mr. C. W. Howard, Bridge, Canterbury, and by Mr. C. J. Waite, Glenhurst, Esher, in the order named. In the miscellaneous class a collection of eighty-seven dishes of Apples, ten dishes of Pears, also cut blooms of Chrysanthemum and various decorative plants, were shown by Messrs. J. Laing & Sons, Forest Hill. Several new Chrysanthemums, including Louis Bœhmer, were shown by Messrs. Carter & Co., and a group of that variety with finely coloured blooms was shown by Mr. H. J. Jones. A rather novel exhibit in the form of Lichens both of the natural colour and dyed green, worked up into harps, wreaths, and various other devices, was exhibited by Messrs. Roberts Brothers, 21, Catherine Street, Strand.

There was an absence of the competitive groups of Chrysanthemums at the autumn show of the CHISWICK HORTICULTURAL SOCIETY on the 5th inst., but instead there were some very fine non-competitive groups, and the pot plants were more numerous. The first prize for twelve untrained plants was awarded to J. T. Thornycroft, Esq. (gardener, Mr. F. Meads), Eyot Villa, Chiswick, who had very dwarf specimens. Mrs. Sanderson (gardener, Mr. J. R. Wood), The Duke's Avenue, Chiswick, was second, but she had the best single specimen as well as the best six untrained Pompons. Messrs. W. Fromow & Sons, Sutton Court Nursery, Chiswick, were awarded the first prize for a group of miscellaneous plants, including Chrysanthemums. J. T. Thornycroft, Esq., had the best stove or greenhouse plant in Dendrobium Wardianum. E. M. Nelson, Esq. (gardener, Mr. E. Chadwick), Hanger Hill House, Ealing, had the best table plants. There were ten entries for Chinese Primulas, and J. B. Johnson, Esq. (gardener, Mr. A. Ratcliff), Little Sutton, took the first prize. Cut blooms were up to the mark of former years, and the first prize for twelve incurved and twelve Japanese blooms went to Mr. C. J. Waite, Glenhurst, Esher. He was followed by E. P. Oakshott, Esq. (gardener, Mr. C. Long), Orchard Dene, Ealing; and Mrs. Sanderson was third. E. Tautz, Esq. (gardener, Mr. F. Davis), Queen's Walk, Ealing, had the best twelve incurved blooms, the best twelve Japanese, the best six incurved of one variety, and the best Japanese of one kind. The first prizes for six incurved and six Japanese were awarded to W. Daniels, Esq. (gardener, Mr. H. Head), Inglewood, Kew Gardens. Mr. C. J. Waite was first for six reflexed, for six coloured Japanese, and six Pompons. Mr. E. Chadwick was first for six single varieties, and also for a bouquet and stand of Chrysanthemums. There was good competition in the classes for fruits and vegetables. Mr. C. J. Waite was first for Apples; Mr. J. R. Wood for Pears, and Mr. F. Davis for Grapes. Mr. C. J. Waite, Mr. W. Peasey, and Mr. E. Chadwick took the prizes for vegetables in the order named. The exhibits of cut blooms and pot plants of Chrysanthemums as well as vegetables, exhibited by amateurs and cottagers, were both representative and creditable. A number of miscellaneous exhibits were quite an effective feature of the show, and the undermentioned were highly commended. Mr. T. May, gardener to the Marquis of Bute, Chiswick House, showed a large and representative group of Chrysanthemums; and another finely flowered group was exhibited by Mr. A. Wright, gardener to E. H. Watts, Esq., Devonhurst, Chiswick; while a third came from the Royal Horticultural Society's gardens at Chiswick. The stage was decorated with Palms, Crotons, Bouvardias, etc., by Mr. Reynolds, gardener to the Messrs. de Rothschild, Gunnersbury Park, Acton. A group of Chrysanthemum blooms tastefully set up with Palms, and some well grown Nepenthes were shown by Mr. G. Wythes, gardener to the Duke of Northumberland, at Syon House. A collection of forty-six dishes of Apples and fifteen dishes of Pears was shown by Messrs. Charles Lee & Son, The Vineyard Nurseries, Hammersmith; and another collection of Apples and Grapes came from the Royal Horticultural Society's gardens at Chiswick.

For report of the National Chrysanthemum Society's Exhibition, see p. 167.

Gleanings from the World of Science.

Protection of Buds in the Tropics.—Some observations have been made by M. C. Potter, M.A., F.L.S., upon the protection of young and tender leaves in the bud state against unfavourable conditions in tropical countries. The observations were made in Ceylon, and treat of protection by means of stipules, by the position assumed by the leaves when young, by shade from older leaves, and by gum. The position assumed by the young leaves of the Cocoanut is given as an example of how tender leaves are protected from the sun. The pinnæ are folded over one another somewhat similar to the plaits of a fan, and the whole leaf resembles a straight rod till almost fully grown, before expansion. It also maintains an erect position, and therefore receives only a minimum amount of heat, till the tissues become hardened and leathery, after which the leaf gradually arches over horizontally and finally becomes pendent. Many other instances of the same kind occur amongst the Palms. Another interesting point is the protection of the expanding leaves of the bud by the older leaves conniving or even overlapping one another and forming a canopy over them. Uvaria purpurea is given as an instance of this. Mr. Potter's observations are recorded in the *Journal of the Linnean Society.*

Dimorphic Flowers.—The number of Orchids in which two forms of flowers are produced on the same species is now considerable. The male and female flowers of Catasetum, it is now well known, are produced on different plants, and in some rare instances both kinds are produced on the same plant. Formerly the sexes were classed under different genera, until Darwin pointed out the significance of the two often remarkably distinct forms of flowers. There are, however, two species at least of Arachnanthe, namely A. Lowii and A. Rohaniana, which produce flowers of two kinds on the same raceme. In the former species the two basal flowers are different from all the rest, and in the latter four of them are in this condition, the significance of which is not apparent. Some of the species of Cycnoches also behave in a seemingly erratic manner, particularly C. ventricosum, which develops one kind of flower under certain conditions and another under different conditions, or even both kinds on one raceme. In some forms of Grammatophyllum the lower flowers consist of four instead of six segments, the lip being absent.

A New Saprophytic Orchid.—The term saprophytic is applied to those plants which derive their food from decaying vegetable matter, and cannot utilise the inorganic matter in the soil as in the case of most ordinary plants containing chlorophyll in their leaves or stems. The Orchid under notice is taken as the type of a new genus, and described by H. N. Ridley, M.A., F.L.S., in the *Journal of the Linnean Society* under the name of Leucolena ornata. The rootstock is fusifurm and rhizomatous resembling that of some Anemone, but far from being identical. The stem is about 1 ft. high, covered with a few distant sheaths, and terminating in four to seven flowers which remind us somewhat of a Listera or Tway Blade amongst British Orchids. The sepals and petals are olive-green, but the lip is white with an elevated and violet centre, giving the flowers as a whole an elegant and pretty appearance. The wings of the column are very long, recurved, and remind one of the ribs of an animal. The discoverer, Mr. Ridley, could only find two plants upon a pathway in a clearing of the forest of Bukit Sadanen in Malacca.

The Diamond Back Moth.—Amongst entomologists this is well known under the name of Cerostoma Xylostella, or Plutella Xylostella according to some, and affords another instance of how an insect may be overlooked as of no importance till it has increased to such an extent that its ravages become quite a terror to the cultivators of certain districts. The little moth in question has been recorded from numerous districts all over England for many years past, as an insect whose feeding ground was the Honeysuckle, Cabbage, etc. This year it has been ravaging the Turnip fields along the east coast of England and Scotland, and anon a hue and cry is raised that it has come to plague us from the neighbouring shores of the continent. Numerous instances have been recorded from time to time of great havoc being committed by some insect, it may be in the larva or even the perfect form, in this country; but it has seldom if ever been proved satisfactorily that the enemies in question have been bred outside of the British Islands, and in most cases it is very improbable that they had been so.

A PLEA FOR UNLUCKY GARDENERS.

There can be no two opinions as to the craftsman with theoretical and practical knowledge having an infinite advantage over the craftsman who has practice only to recommend him, and so I cordially agree with all that has been written from time to time concerning the careful study of good books, of evening classes, and social gatherings, with a view to the encouragement of recording experiences and exchanging ideas. It is, however, rather rough on the poor gardener who is "out of collar" and "hard-up" (often through no fault of his own), to brand him as an ignoramus, and to say that his present unhappy position is due to his past neglect to read, mark, and learn. As an old traveller, I have again and again come in contact with those persons who perpetually complain of the lack of good gardeners, and all that sort of thing, and secretly know them to be exacting and merciless creatures whom no man could satisfy or please. I know some of them too, as individuals, who have risen in the world by leaps and bounds, and they, having escaped the woods, of course, can whistle.

We are all of us, I fear, apt to forget in prosperity the days of our adversity—and here I can lay it down as a fundamental fact, that it does not always follow that learned gardeners command all the best places. I can, and do speak with some authority on this point, because for many years I had charge of the gardeners' register, at the great Exeter Nursery, from whence eminent gardeners have been scattered far and wide, and I have often proved that an ordinary gardener, possessing tact and influence, generally did well. It is, of course, equally true that a gardener having tact and influence, together with theoretical and practical knowledge, would stand a chance of doing still better, apart from the old saw, that once a man has gained a reputation for early rising he may lie in bed all day; and so I quite expect that the "men of mark" mentioned by Mr. Burbidge owe their distinction in a large measure to tact and patronage. For instance, there would have been no Sir Joseph Paxton, had there not been also a Duke of Devonshire; and my late lamented friend John Dominy would probably have gone down to his grave, a poor obscure Devonshire gardener, instead of a wealthy Orchid specialist and hybridiser, but for the great house of Veitch.

If space permitted I could cite plenty of similar parallels—and also of the clever gardeners who, hrough a tangled skein of circumstances, have been driven out of the profession altogether, to seek refuge in petty husbandry, others as greengrocers or publicans, and not a few alas, into the poor houses. I am often grieved to see the intellectual men who haunt the London nurseries for berths, or even temporary employment as garden labourers, their position in some respects being analogous to that poor man at the Pool of Bethsaida, who cried:—"Sir, I have no man, when the water is troubled, to put me into the pool: but while I am coming another steppeth down before me."—*W. Napper, Chelsea.*

PLANTS FOR WINDOWS.

In reply to "Enquirer," who at p. 136 asks for information respecting the best plants for growing in windows in and near Manchester, I may say that, as a rule, plants are not generally done well in that city, and some of the most suitable for the purpose are seldom or never seen in the local markets. This cannot be wholly from ignorance, as I have several times written on the subject to the *Manchester City News* and other papers.

The silver-spotted Begonia argyrostigma is one of the best of all plants for town windows, as, being evergreen and having leaves of a thick, leathery texture, it stands washing well when dusty. As a basket plant or for trailing in any form there is nothing to equal Pelargonium peltatum, the Ivy-leaved Stork's Bill. Aspidistra lurida and its variegated variety both stand smoke well. Musk can easily be grown, and with a few plants in various stages of growth nice plants can be had nearly all the year round. This remark applies more particularly to the Common Musk, and its large-leaved variety, Harrison's Musk, is a good window plant, but I do not care a fraction for it, the two brown blotches on the flower in my opinion quite spoiling it. Mr. Richard Dean sent me a form two or three years ago which had no blotches—a decided improvement on Harrison's. Its odour, moreover, was equal to that of the Common Musk.

The Ivy appears to be a good town plant, for in Salford, just over Blackfriars Bridge, a splendid plant of the Irish form may be seen trained all about a window. Zonal Pelargoniums also grow and flower well, and several of the scented-leaved species are also useful. They used to be common in windows, but some of them I have not seen for years. As a rule they are not subject to be much troubled with insect pests, and consequently are easily managed. Formerly there was a plant much grown in towns under the common name of French Nettle (Plectranthus fruticosus). I have seen it growing in the dingiest places, but not of late years. The common Elderberry was also much grown at one time, but there are so many other good things now, that it is not worth the space it would require.

Marica Northiana is perhaps the most extensively grown of any plant in the neighbourhood. It is seen in every street, almost in every window, and in some windows half-a-dozen. It is seldom seen in flower, but when in bloom it is, of course, a gem. This remark refers also to all the Iris family. The leaves are sword-like, about 2 in. wide, and from 12 in. to 18 in. in length, arranged somewhat in the form of a fan, which gives it a noble appearance. My friend, Councillor James Wild, calls it the "Oldham Window Blind," not an unhappy designation.

Vallotta purpurea is extensively grown in this district, and flowers grandly in cottage windows. I hope "Inquirer" will not meddle with its specific name, purpurea, as it is all right. I saw lately a remark in a contemporary that the Editor did not understand why it was so called. Saxifraga sarmentosa, the Pedlar's Basket, also does grandly in baskets and reproduces itself by means of runners like Strawberries. It is also called Mother of Thousands, but of course there is another plant bearing this name, viz., Linaria Cymbalaria, which is equally as good as the Saxifraga, if not quite so handsome. Oxalis acetosella for damp, shady places has few equals, being evergreen. Oxalis violacea grows and flourishes magnificently, near the gas works at Middleton. It loves sunshine, Tradescantia zebrina for a basket is also excellent.—*James Percival, Smithy Bridge, near Rochdale.*

HONEST EXHIBITING.

It is rare that any horticultural society committee has the courage shown by that of Hull as reported in your columns last week. Probably there are few who have ever exhibited at flower shows whose hands are absolutely clean, or who can cast stones at others. None the less there is much that is unfair winked at because there is some fear lest exposure should bring harm to the society affected.

It would perhaps be difficult to find a man who has never under any circumstances either declined help in exhibits or has refused to help others. The morality of the proceedings has been governed by the fact that inability to accede to the full conditions of the schedule was rather a misfortune than a fault, or else that it was thought the filling of classes somehow, fair or unfair, would be for the general benefit of the show. But it would often happen that classes would be indifferently filled, did not small helps between one and another of exhibitors be given occasionally, there can be no doubt.

Assuming that schedules make no stipulation as to previous growth, or possession a certain time before the show is held, then no description of helping is proscribed. As a rule the conditions of competitions require possession of exhibits some time prior to the date of the show, to ensure that they be of the *bona fide* growth of the exhibitor. The rule is a salutary one, and in all cases where there is a gross attempt at deception should be rigidly enforced; whilst it is none the less very difficult to do so except when evidence is furnished of a very emphatic kind.

Probably few committees would trouble to animadvert on small peccadilloes because they harm no one. It is when outrageous attempts to deceive are made that they become little less than frauds, and demand punishment. Judging by the decision of the judge in the Hull case, the effort to deceive was a bad one, and merited all that followed. The publication of the report of the case cannot fail to do good, and will help to sustain those horticultural committees favourable to morality.—*A. D.*

CHRYSANTHEMUMS.

New Chrysanthemums at Camberwell.

Mr. Norman Davis, of the Lilford Nurseries, has some interesting novelties on view at the present moment as he usually has. His plants this year are all very dwarf compared with those we have seen there in times gone by, but they lose nothing by the change. Continental seedlings have always been a feature at Camberwell, but, considering the large number distributed this year, it is unsatisfactory to note that a very small proportion appear to have attained any degree of perfection, but this is by no means an exceptional experience.

The best of all is Viviand Morel, a splendid variety, largely grown at Camberwell, and in every instance justifying the high opinion that has already been formed of it. Comte Lurani is very promising, being a nicely formed Japanese flower of a distinct shade of pink, heavily flushed with rose. Marquise de Clapier is a globular reflexed flower, deep rose amaranth. Cardinal Toulon is a Japanese most brilliantly coloured with deep amaranth. Mme. Darquier, another striking flower of the same section, with whorl shaped florets, having a yellow centre and pointed petals rose and white. Alex Vogel, of the Hamlet type, is a delicate soft rose. M. Dupanloup, a new Japanese Anemone, deep lilac-mauve, is not unlike Souvenir de Mme. Blandinière.

Amongst new French incurves are Ann Hostè, very deep build, yellow flushed purple petals of good form; also Mme. Rowan, a dainty little incurve of purest white. Camille Flammarion at Camberwell runs rather coarse, having loose petals, and the colour rather dirty. There are several new sports and seedlings, besides the usual quantity of old established varieties.

Louis Bœhmer.

The variability of this new Japanese variety is already an established fact. Not only does the flower vary in colour but also in form. The colour depends greatly, no doubt, upon whether the crown or the terminal buds have been taken, just as in a large number of other Japanese varieties, and upon general treatment. The darkest variety may be described as purple, even on the reverse, while the florets are so strongly incurved that the plumy appearance, characteristic of the ostrich plume race, is seen to best advantage. The flowers of the lighter form are larger and more reflexed, especially the outer florets, apparently narrower, owing to their length, and lilac-pink, with a densely crowded centre of florets, which are yellowish or greenish-yellow for a long time before expansion. Individual blooms fade to a blush hue or almost white, and in a few years we should expect to get a pure white variety, which will be an acquisition provided the constitution of the plant is as good as that of Louis Bœhmer itself. Mrs. Alpheus Hardy may then be discarded unless its cultivation can be better understood. The usual height of Louis Bœhmer is 3 ft. to 3½ ft., and the leaves are but slightly divided, very leathery, and more or less tinted with a bronzy hue, which is generally charcteristic of robustness and vigour. In the course of another year mostly everybody must have it.

CHRYSANTHEMUM PRESIDENT RENE DE ST. FOIX.

We are now in a position to illustrate one of the many new and early flowering Japanese varieties, which have been raised on the Continent, and introduced to this country for the first time this year. The bloom is of large size, and, when taken from the crown bud, it expands during the first week of September on stems only 30 in. high. The florets are of a bright carmine-red, with a bright yellow reverse and tip. When the terminal bud is taken the plant attains a height of 44 in., and blooms during the first week of October, and we first made our acquaintance with it at that time. The half-expanded blooms were very conspicuous, owing to the amount of yellow seen in contrast to the carmine-red. The florets are not quite so broad as those of the crown bud, but they are variously splashed with yellow on the upper surface towards the tips. Our illustration was made from terminal blooms, kindly supplied us by Mr. H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham, who obtained 497 new sorts from the Continent this season. The new varieties give unmistakeable evidence of the possibility of holding a Chrysanthemum show during the first or second week of October, or even earlier for the matter of that; for

Mr. Jones had a fine display during the last week of September. The variety under notice was raised by M. Sautel, and is almost sure to become popular for early flowering.

FORCING HARDY PLANTS.

There are many hardy plants well adapted for forcing, and prove a valuable addition to the greenhouse and conservatory in the early months of the year, and together with a few pots of Hyacinths, Tulips, Lily of the Valley, etc., form a charming spring display. Of hardy plants for this purpose none are more useful or in greater demand in their blooming season than Spiræas. Whether they are used simply for the decoration of the greenhouse, or for the adornment of windows, tables, etc., they are an acquisition: their spikes of bloom being set off to advantage by a wealth of bright green foliage which makes them even more attractive.

Spiræas are very easily grown, and all they need is a house where they will obtain plenty of light and be abundantly supplied with water. Clumps may be potted on any time from November to Christmas for successional flowering, using a light loamy soil. After this operation has been performed they should be put away for a few weeks either in a cold frame or under a greenhouse stage, until the roots have commenced to grow; they may then be brought into a warm temperature and forced as required, care being taken to give them plenty of water right on until the time of flowering.

Spiræas are such moisture-loving plants, and if possible the pots should be placed in saucers of water, which will considerably reduce the trouble in this direction. Spiræa japonica is perhaps more largely grown than any other species as may be seen by a visit to any of our flower markets in spring. Spiræa palmata, though not nearly so much grown under glass, and does not force so readily as S. japonica, makes a handsome plant, and this also requires plenty of moisture. Indeed, when we remember that the old Meadow Sweet is allied to this family it is scarcely possible to err on the side of watering.

Deutzia gracilis is another of our hardy plants which forces easily, and when well grown is one of the prettiest of early spring bloomers, producing a profusion of its snow-white blossoms amid foliage of a delicate green. Like Spiræas, Deutzias when making their growth enjoy a liberal supply of water, but it is the treatment which the plants receive after flowering which determines another year's success. Too frequently they are turned out of doors and placed in some out of the way corner to give place to other plants coming into bloom. This is decidedly wrong, as, if possible, they should be kept in the greenhouse, or failing this be transferred to a coo frame, and encouraged in growth, gradually hardening them until the end of May, when they may with safety be planted out of doors until they are required again for forcing in the autumn. Treated in this way they will bloom each spring, and make large specimens.

Dielytra spectabilis, when brought on in a cool house, forms an attractive plant for a window. They should not be unduly forced, otherwise the flowers appear "washed out." Like the preceding plants Dielytras should be well supplied with water.

Chrysanthemum President Rene de St. Foix.

CHRISTMAS ROSES, of which the most popular is Helleborus niger, require very little protection to bring the flowers to perfection. A frame light placed over the roots is sufficient for this, but when a few blooms are wanted earlier a plant or two should be lifted and potted, placing them in a warm house. They amply repay any little trouble which may be given by their beautiful snow-white blossoms.—*Vesutrus.*

SCOTTISH NOTES.

CHRYSANTHEMUM AND FRUIT EXHIBITION AT EDINBURGH.—The winter exhibition of the Scottish Horticultural Association, which is now looked forward to as one of the most attractive events of the year in Edinburgh, will be held in the Waverley market from the 19th to the 21st inst., and promises to equal, if it does not surpass, all previous shows of Chrysanthemums. The fruit section will be a source of the greatest interest and attraction to our pomologists, as the government of the United States have intimated, through Mr. H. E. Van Deman, their intention of exhibiting a collection of the fruits of the United States. As this is believed to be the first occasion on which such an interesting exhibit has appeared at a horticultural exhibition in the north, it will, no doubt, be examined with great care and zest; and will be an object of much attraction to the multitude who consume fruit. Intimation has also been received from the government of Nova Scotia, through Dr. George Lawson, secretary for agriculture, that one of the splendid displays of the Apples for which that enterprising colony is so famed, and which of late years have been so well exhibited at the Edinburgh fruit shows, will be sent over. From the Channel Islands, also, considerable collections are expected.

SCOTTISH HORTICULTURAL ASSOCIATION.—Under the auspices of this association, Mr. John Methven delivered a lecture on "Reminiscences of Alpine Scenes," on the 4th inst., at 14, St. Andrew Street, Edinburgh. Mr. W. M. Welsh was in the chair. Mr. Methven dealt chiefly with the climate and vegetation of Switzerland, and pointed out what the Government there had done for forestry by establishing schools for the teaching of that science. The lecture was illustrated by limelight views. At the close, Mr. Methven received a hearty vote of thanks from a large audience. The subjects exhibited included a fine Seedling Lapageria rosea, and Asparagus plumosus cristata, from Mr. Mackenzie, gardener to Alex. Thomson, Esq., Trinity Grove; a new American seedling Chrysanthemum named L'Angelus, from Mr. Carruthers, gardener to Mrs. Fleming, Hillwood, Corstorphine; and fruits of Stephanotis floribunda, from Messrs. R. B. Laird & Sons.

THE GLASGOW AND WEST OF SCOTLAND HORTICULTURAL SOCIETY.—A Glasgow correspondent writes:—I regret to have to tell you that the report of the committee of this once flourishing society, read at the annual meeting held on the 4th inst., disclosed a state of affairs that is a positive disgrace to the second city of the Empire. Through nothing but bad management the society, which has been in existence nearly 100 years, has been brought to such a state of insolvency that steps will have to be taken at once either to end or mend it. The financial report disclosed the fact that there was a loss on the year's working of £109; and that neither the prizes, amounting to £205, nor the rent of St. Andrew's Hall had been paid. The committee resolved to do what they could in the way of raising money to meet their obligations, and the meeting was adjourned for a month to give an opportunity for considering what steps shall be taken to remedy matters.

THE PERUVIAN SWAN'S NECK.—A new form of Cycnoches has been introduced from Peru by Messrs. Linden, of Brussels, and a coloured plate is given of it in the *Lindenia*, pl. 301, under the name of C. peruvianum. The sportive nature of the flowers of this genus, no less than that of Catasetum, makes it difficult for one at first acquaintance to say whether it will remain constant and true to character, or whether at the next flowering it may produce flowers of a totally different character, it may be, identical with those of some species already described. Male flowers only of the Peruvian Swan's Neck have yet been seen.

GARDENING MISCELLANY.

THE PROPOSED FRUIT SHOW.

YOUR leader of last week apropo of the "dog-in-the-manger" policy of the Royal Horticultural Society is most refreshing. This self-esteemed but effete body has long lost touch with the general public as well as all provincial Horticulturists, and seems to exist now only for the glorification of a small clique in the council, who think themselves the light of the Horticultural world, and to whose authority and dictation all are expected to submit. As far as can be gathered from reports of their mysterious works they ring their own changes, by appointing themselves to their offices, making no efforts to introduce fresh blood of any value into the management, or seeking that assistance from outside which would bring in an infusion of new life. They ignore provincial Horticulturists, and in particular show no courtesy to gardeners. They display a kind of "stand off" sort of air whenever they venture within the sacred precincts of their meetings, and they quite lose sight of the fact that exhibitors are, after all, one of the principal mainstays of the whole. It is to be hoped Sir James Whitehead's supporters will pursue their own scheme independently, holding their first great show in London, and afterwards an annual migratory exhibition in such provincial towns as will guarantee support, similar to that accorded to the migratory sister Society of Agriculture, leaving the clique who govern the Royal Horticultural Society to their own fate. The scheme for holding a great show, independent of the R. H. S. will command the support of the country Horticulturists.—*C. M.*

MRS. PINCE'S BLACK MUSCAT GRAPE.

HAVING grown this Grape under various conditions may I be allowed to give my experience. I have never been able to give it a house to itself, though I have had the Muscat of Alexandria fill a house 25 ft. long, by 14 ft. wide, and so located it could be treated very different to a mixed house. These two varieties resemble each other in the shape and size of bunches and berries; they also both require a little help at fertilizing when in bloom, as the berries at the tips of the bunches in both kinds will testify if they have not had a little assistance. Mrs. Pince on its own roots must not be over cropped, as if it is they will not colour up well, but take on that nasty reddish tint, which is so very objectionable in Grapes. It requires to be started early in the year, and to be ripened up well, before the dull autumn months come in. After that the longer it is kept the better is its flavour. It is a good keeper, will keep longer in bottles of water, or suspended in a storeroom with the ends of the hard wood sealed better than any other kind I am acquainted with. Mrs. Pince is also a strong grower, and in a tolerably good border makes a gross growth, at least with me it did, but when worked on the Black Hamburgh it is not so rampant a grower. In a lean-to house, nearly 40 ft. long, and 11 ft. wide I had it so worked, and it used to fruit freely, and colour up much better than any I had growing on their own roots. This house was filled with a mixed collection, there were ten varieties which had to be humoured, but it was most interesting and enjoyable to make comparisons when the fruits were ripe.—*T. W., Yelverton, Norfolk.*

DISSOTIS PLUMOSA.

IT is unusual to find basket plants amongst the Melastomads, to which this subject belongs. Many of the dwarf kinds are grown in pans for the sake of their beautiful foliage, and are often covered with bell glasses to preserve the delicacy of the bright and lively markings. The plant under notice is a native of West Africa, and is notable for the length and slender character of its stems, which can only be seen to advantage when the plant is grown in a basket and suspended from the roof of a house. Stove treatment is necessary, but if suspended in an aquatic house where the atmosphere is kept continually moist by the vapour arising from the tank, then the stems develop to 6 ft. or 8 ft. in length, and continue to produce flowers singly from the apex of short, lateral branches so long as fresh growth is being developed. The flowers measure 1½ in. across, and are rosy-purple, with yellow filaments and violet anthers. The calyx is covered with bristly processes, having numerous short hairs at their apices, adding considerably to the interest of the plant, which is anything but common in cultivation. A fine specimen may be seen in the Lily house at Kew.

BEGONIA CANNELLIANA.

THE hybrids of the B. semperflorens type are now very numerous, and some of them are so different from that species that it hardly seems proper to use that name. The plant under notice is one of them, and has broadly and obliquely ovate, deep shining green leaves, and are both smaller and quite of a different appearance from those of B. semperflorens. The flowers are of a beautiful rosy-carmine and not very large, but so profusely and so continuously produced that they cannot fail to find admirers. They are produced on short axillary racemes, and continue to appear so long as the stems and branches continue to elongate. A large batch of the plant has been flowering profusely for the past three months in the nursery of Messrs. H. Cannell & Sons, at Swanley, and it seems only a question of removing the seed pods, which are produced in abundance, and repotting the plants, to get a succession of bloom for some considerable time. The habit of the plant is close, compact, and bushy, and only about 12 in. to 15 in. high, notwithstanding the amount of service it has already been. Further, it may be used as a pot plant for greenhouses, conservatories, cottage windows, and would doubtless prove serviceable in the flower garden during the summer months, where it would, no doubt, be mnch dwarfer than B. ascotensis and sturdier than B. Worthiana.

GESNERA ZEBRINA.

THE leaves of this autumn flowering plant are roundly heart-shaped and of a rich bronzy velvet, covered with purple hairs for a wide space on each side of the midrib and principal veins, while the interspaces are of a rich shade of green. The drooping inflated flowers are orange externally and yellow internally, closely spotted with crimson. The scape is long and loosely racemose, rising well above the foliage, and offering a rare illustration of a plant having both fine and highly ornamental flowers. We noted a batch of it in the nursery of Messrs. H. Cannell & Sons, Swanley, Kent. It should prove valuable to those who require something good to enliven the stove during some of the dullest months of the year.

PEAR HACON'S INCOMPARAELE.

THE usual ripening period of this Pear is given as the end of November, but curiously enough, and notwithstanding the late and bad season, it was fit for use by the end of October at least. The tree is usually a good bearer, and has upheld its character at Devonhurst, Chiswick, this year. The fruit is roundly obovate, and of medium to large size, with a slightly roughish, greenish-yellow skin more or less shaded and speckled with russet. The flesh is white, juicy, and moderately sweet, but only half melting, and breaks when eaten as if it were inclined to be mealy. The unusual amount of rain which occurred during the ripening period may be held accountable in part for the flavour and richness not being so good as it might otherwise be in favourable seasons; but, taking an average of summers, it cannot be considered otherwise than of second-rate quality. The fruit, however, continues in season till the end o January. The tree succeeds as a standard or large bush in the southern counties of Britain.

PEAR BEURRE SUPERFIN.

THE fruit of this variety is roundly obovate, often above the middle size, and tapering to an unusually stout stalk, which serves greatly to distinguish it at sight. The stalk is, moreover, often very obliquely inserted, causing the fruit to appear unsymmetrical. The clear yellow skin is somewhat roughish, finely speckled all over with russet, and often irregularly splashed with a dense russet, sometimes to the extent that the whole of the exposed side is covered. The appearance of the fruit on the whole is therefore neither gainly nor attractive, but the quality is excellent. The flesh is white, remarakably juicy, slightly aromatic, and before being dead ripe cuts with the firmness of butter during the cold season while not actually frosty. It is now in season, and in the south commenced to be usable in September, while in Scotland the month of October is the ripening period.

NATIONAL CHRYSANTHEMUM SOCIETY'S SHOW.

The National Society is again to be congratulated on the success of its great annual exhibition in bringing together a most remarkable display of all the leading types of Chrysanthemums, as represented by cut blooms, a grand lot of groups, as fine a lot of trained specimens as we have seen for some years, and a display of miscellaneous floral and vegetable products quite equal to what we have seen at the Westminster Aquarium before. But we are bound to say that it is a fine exhibition spoilt by the manner in which it has been cribbed, cabined, and confined by the Royal Aquarium authorities. The loss of St. Stephen's Hall, and the curtailment of space on the floor of the building and in the gallery, was severely felt, both by exhibitors and visitors, and although Mr. Dean and the society's officials did their best, we fear the scanty accommodation provided has left a sore place in the minds of many of the members. But we must stop the growl and get to the flowers.

The first prize—a challenge Trophy and £10—in the class open to the National Competition of Chrysanthemum and Horticultural Societies was awarded to the Havant Chrysanthemum Society, Havant, and the exhibit was certainly a highly meritorious one. Japanese varieties were well represented by Etoile de Lyon, Viviand Morel, Stanstead White, E. W. Clarke, Madame J. Laing, Lillian E. Bird, W. H. Lincoln, Violet Rose, W. W. Coles, Mrs. Thompson, Pelican and others. Good samples of incurved blooms were Lord Alcester, Queen of England, Lord Wolsey, Empress of India, Jeanne d'Arc, Emily Dale, Alfred Salter, &c. The second prize was taken by the St. Neots Amateur and Cottage Horticultural Society, St. Neots, Hunt. The Japanese blooms in this case were rather smaller, but there were fine samples of Mrs. C. H. Wheeler, Mrs. H. Cannell, Etoile de Lyon, Lillian E. Bird, Boule d'Or, &c.; and Princess of Wales, Golden Empress of India, and Alfred Salter were fine incurved blooms. The Wimbledon Horticultural Society took the third place, with a very even lot of blooms, and neat but smaller than those of the above exhibits.

The first award for forty-eight incurved blooms was taken by Messrs. W. & G. Drover, Fareham, Hants, who had fine blooms of Lord Alcester, John Lambert, Queen of England, Empress of India, Violet Tomlin, John Doughty and others. The second place was taken by Mr. John Doughty, gardener to Mrs. Tomlin, Angley Park, Cranbrook, whose flowers were considerably smaller, but showing greater variety. The third award went to Mr. R. Petfield, gardener to A. J. Thornhill, Esq, Diddington, Buckden, Huntingdon, some of his blooms being very neat. Mr. W. G. Ray, Teynham, Sittingbourne, was fourth; and Mr. J. Agate, Havant, took the fifth place.

The first prize for twenty-four incurved varieties went to Mr. C W. Knowles, gardener to Mrs. Chas. Egerton, Solna, Roehampton, whose blooms were even but not large; Mr. J. Myers, gardener to the Earl of Sandwich, Hinchingbrooke, Hunts, was second; and Mr. A. Ives, gardener to E. C. Jukes, Esq., Hadley Lodge, High Barnet, was third. Mr. H. Shoesmith, gardener to M. Hodgson, Esq., Shirley Cottage, Croydon, took the first award for twelve varieties with large and all-round good samples. Mr. J. Douglas, gardener to Mrs. Whitbourne, Great Gearies, Ilford, was second with somewhat smaller blooms; and Mr. W. H. Lees, gardener to the Duchess of Montrose, Sefton Lodge, Newmarket, was third. The competition was good. Mr. J. Myers took the first prize for six blooms of one incurved variety with Golden Empress of India; Mr. H. Shoesmith was second with Lord Alcester; and Mr. Matthew Russell, gardener to Dr. C. F. Lewis, Henfield, Sussex, was third with Violet Tomlin.

The exhibits of forty-eight Japanese blooms were numerous and so fine that they constituted a strong feature of attraction, and the tables were constantly crowded with visitors. The first award was taken by C. E. Shea, Esq., The Elms, Foots Cray, Kent, with fine blooms of Etoile de Lyon, Mons. Bernard, E. Molyneux, Mrs. C. Wheeler, Viviand Morel, Condor, Stanstead White, W. H. Lincoln, etc. The second prize was awarded to Messrs. W. & G. Drover, who had some fine blooms of W. H. Lincoln, Etoile de Lyon, and Mrs. Alpheus Hardy. The third place was taken by W. Herbert Fowler, Esq., Claremont, Taunton, who had fine samples of Florence Davis, Sarah Owen, Louis Bœhmer, Etoile de Lyon, etc. Mr. H. R. Brown, gardener to E. E. Barclay, Esq., Roydon, Essex, was fourth; and Mr. C. Cox, gardener to J. Trotter, Esq., Brickendon Grange, Herts, was fifth, with a good exhibit. The first place for twenty-four Japanese varieties was taken by Mr. J. Agate, with fine blooms of Lillian E. Bird, Etoile de Lyon, Carew Underwood, Stanstead White, etc. Mr. H. R. Brown was second with some grand blooms; and W. Herbert Fowler, Esq., was third. The first prize for six blooms of one white Japanese variety was taken by Mr. Jas. Shaw, gardener to Lord Clinton Hope, Deepdene, Dorking, with Avalanche in grand form; Mr. C. Cox was second with Stanstead White; and Mr. J. Hughes, gardener to H. F. de Paravicini, Esq., Bracknell, Bucks, was third with the last named variety. For six coloured Japanese blooms of one sort, C. E. Shea, Esq., was first with Etoile de Lyon; Mr. J. Douglas was second with Sunflower; and Mr. J. Hughes was third. Messrs. W. & G. Drover carried off the first award for six blooms of Louis Bœhmer, in a strong competition, and the heads were large and finely incurved; Mr. Geo. Foster, gardener to W. Hammond Spencer, Esq., Glendaragh, Teignmouth, was second; and W. Herbert Fowler, Esq., came in third Mr. Petfield, had the best twelve Japanese incurved blooms. The best twelve large Anemone blooms were those of Mr. Wm. Green, gardener to Miss Wyburn, Hadley Manor, Barnet. He also had the first prize for twenty-four large Anemone blooms, having fine samples of Jeanne Martz, Nelson, Miss A. Lowe, Georges Sand, &c. The first prize for twelve Japanese reflexed blooms went to Mr. R. C. Notcutt, Broughton Road, Ipswich. The first prize for twelve large flowered reflexed blooms was taken by Mr. J. Myers, who had very fine samples generally. Some prizes were offered by Messrs. Pitcher & Manda for six blooms of Louis Bœhmer, and the first was taken by Mr. Chas. Blick, gardener to Martin R. Smith, Esq., Hayes Common, Kent; Mr. J. Aplin, gardener to W. M. Baker, Esq., Hasfield Court, Gloucester, was second. Mr. J. Myers had the best twelve Anemone Pompons; and Mr. C. J. Salter, gardener to T. B. Haywood, Esq., Woodhatch Lodge, Reigate, was second. The prizes offered by Mr. H. J. Jones were taken by Mr. T. L. Turk, gardener to T. Boney, Esq., Cholmely Lodge, Highgate, and by Mr. E. Rowbottom, gardener to H. R. Williams, Esq., The Priory, Hornsey, in the order named.

The large groups of pot plants were a special feature of the exhibition and showed a considerable advance on those of previous shows. The first, honours were taken by Messrs. Reid & Bornemann, nurserymen, Sydenham, with a nearly circular group of finely arranged plants graduated to the front, while the blooms on the taller specimens were of a large size; Mr. Geo. Stevens, St. John's Nursery, Putney, was second with a very good group, but the front plants were much taller. Mr. Norman Davis, The Nurseries, Camberwell, was third, and had also a good group. Messrs. Reid & Bornemann were again first for a smaller group of Japanese varieties, and the same taste was here again displayed. Mr. D. Donald, gardener to J. G. Barclay, Esq., Leyton, Essex took the first award for six standard trained specimens and also for four trained specimens in 12-in. pots; Mr. W. Davy, gardener to C. C. Payne, Esq., Stamford Hill, was second in the latter class. Mr. J. Weston, gardener to D. Martineau, Esq., Clapham Park, had the best trained Pompons; and Mr. W. Davey was second. The finest six trained specimens were those of Mr. J. Brooks, gardener to W. Reynolds, Esq., J.P., The Grove, Highgate, who had fine specimens of Madame B. Rendatler, Madame Baco, Madame de Sevin, Margot, Dr. Sharpe, etc.; Mr. D. Donald was second, but took first for four standard trained specimens.

The first prize in the nurserymen's class for a table of bouquets, wreaths, sprays, buttonholes, etc., was taken by Messrs. Perkins & Sons, Coventry, who certainly made a fine display; Mr. Chas. Winstone, The Mall, Clifton, Bristol, took the second place with a fine exhibit; Mr. J. Chard, Stoke Newington, was third. In the Gardeners' class for a similar table, Mr E. Chadwick, gardener to E. M. Nelson, Esq., J.P., Hanger Hill House, Ealing, took the first hononrs with a varied display. In the class for a group of Chrysanthemums and foliage plants, the first prize was taken by Mr. E. Easey, gardener to J. W. Jones, Esq., 23, Highbury New Park, N. Mrs. W. Smith, Como Street, Romford, Essex, had the best vase or epergne; and Mr. Robt. Potter, gardener to Sir M. W. Collet, Bart., St. Clerc, Hamsing, Sevenoaks, had the best three vases or epergnes. Mr. W. Howe, gardener to H. Tate, Esq., Park Hill, Streatham Common, had the first prize for twelve Japanese blooms set up with Ferns.

Mr. H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham, had a very effective group of single Chrysanthemums in great variety. A very fine table of Carnations in pots was exhibited by Mr. T. Whillans, gardener to the Duke of Marlborough, Blenhiem, Woodstock. Messsrs. W. Cutbush & Son, Highgate, had another table of Heaths, Palms, Calanthe Veitchi, etc. Mr. H. J. Jones had also a table of a large number of new varieties of Chrysanthemums. Messrs. Pitcher & Manda, Hextable, Swanley, had also a table of Chrysanthemums, including many new kinds. Mr. R. Owen, Maidenhead, also showed a collection of many new Chrysanthemums. Messrs. Roberts Brothers, 21, Catherine Street, Strand, exhibited various devices set up with the new silver Lichen. Mr. T. S. Ware, Tottenham, exhibited some stands of Chrysanthemums; and Messrs. Cannell & Sons contributed a wonderful display of Zonal Pelargonium blooms.

The fruit and vegetable classes were quite up to the usual standard, with the exception of the classes for Grapes, which were not quite so good as usual. Mr. G. Goldsmith, gardener, Leonardslee, Horsham, secured the premier awards in the classes for dessert and culinary Apples and dessert Pears, having in the latter class fine examples of Duchess d'Angoulême, Pitmaston Duchess, Duchess de Mouchey, Beurré Diel, Beurré Alexander Lucas, and Doyenné du Comice. In the former he had beautifully coloured specimens of Blenheim Orange, Gascoigne's Seedling, Cox's Orange Pippin, King of the Pippins, Ribston Pippin, and Court Pendu Plât, among dessert sorts; and Sandringham, Peasgood's Nonsuch, Bismark, Emperor Alexander, The Queen, and Mere de Manage, of cooking varieties. Mr. Hannan, gardener at Newnham Paddocks, Lutterworth, had the best dish of white Grapes in a neat sample of Muscat of Alexandria; and in the corresponding class for Black Grapes, Mr. Griffin, gardener, Coombe Bank, Kingston, had the best in well finished Alicantes. The Gros Colmar class was much inferior to what we have seen here the best coming from Mr. Wilson, gardener, The Elms, Roehampton, Mr. Davies, Castle Bar, Ealing, and Mr. Craven, Osborn Park, Potters Bar, the samples from the last named being wonderfully coloured, but small. The Society's prizes for Potatos brought out the usually excellent Competition, and a fine lot of samples. The Champion Potato exhibitor of the occasion was undoubtedly Mr. E. S. Wiles, gardener to Col. Cartwright, Edgcote, Banbury, who secured most of the first prizes. In the two classes under notice, one for twelve dishes and another for six, he had perfect examples of Snowdrop, Pink-eyed Perfection, Sutton's Seedling, Edgcote Purple, Satisfaction, Advancer, Wonderful, Queen of the Valley, &c. Mr. Ridgewell, Cambridge, was second, and Mr. A. Miller, Rood Ashton, third in the former class; and Mr. James Simkins, Shillington, Hitchin, second; and Mr. E. Chopping, Milton, Sittingbourne, third in the latter.

Messrs. Sutton's prizes for twelve dishes of Potatos, went to Mr. Wiles, Mr. Howard, Canterbury, Mr. Ridgewell, Mr. J. Lye, Clyffe Hall, Market Lavington, and Mr. Pope, Highclerc, in the order named, Mr. Wiles having superb specimens of Reading Ruby, Windsor Castle, Purple Perfection, Nonsuch, Snowdrop, Pink Perfection, Satisfaction, Mottled Beauty, Edgcote Seedling, Reading Russet, Abundance and Edgcote Purple. For six dishes, the awards went to Mr. Simkins, Mr. Peckover, Banbury, Mr. A. Miller, and Mr. C. Osman, South Metropolitan District Schools, Sutton. For four dishes, Messrs. Simkins, Miller, and Osman secured the awards. Mr. Pope and Mr. Miller had the finest examples of Sutton's Reading Onion in a very good competition. The same firm's special prizes for a collection of vegetables brought out a fine lot of produce, and the competition resulted in that very able cultivator Mr. Lye, of Sydmonton, securing the premier award with grand, solid white Celery, autumn Mammoth Cauliflowers, Exhibition Brussel Sprouts, small and hard as they should be, Perfection

Tomatos, Satisfaction Potatos, etc. The other awards went to Mr. C. J. Waite, Glenhurst, Mr. S. Haines, Coleshill, and Mr. A. Miller.

Messrs. Webb & Son's special prizes for a collection of six dishes of vegetables went to Mr. A. Miller, Mr. Lye, Mr. Waite, and Mr. Ridgewell, the first-named having first-rate samples of Snowdrop Potatos, Perfection Tomatos, Rousham Park Hero Onions, Autumn Giant Cauliflowers, and Webb's Matchless Brussel Sprouts. This also was a capital class.

Mr. C. Fidler, of Reading, also offered special prizes in three classes for Potatos, and was rewarded with an excellent display of the special varieties identified with his name. Mr. Wiles secured the whole of the premier awards in these competitions, his twelve consisting of very superior samples of Marvel, Mr. Bresel, Satisfaction, Purple Perfection, Fidler's Seedling, white, Edgcote Purple, Fidler's Onwards, Pink Perfection, and Fidler's Alpha. Mr. Ridgewell was second in two of the classes, and Mr. Peckover in the third.

Mr. Whitehead Cousins also offered prizes for nine varieties of white skinned Potatos sent out within the last three years. The first also went to Mr. Wiles for Alpha, Holborn Reliance, Wonderful, Marvel, Purity, White Rose, Edgcote Early, Advancer, and Windsor Castle.

SOCIETIES.

Royal Horticultural, *November 10th*.—The counter attractions "over the way" brought about a thin meeting of the usual attendants, and a correspondingly attenuated display of exhibits at the Drill Hall on Tuesday. The special features were a most interesting group of Orchids, from Messrs. B. S. Williams & Son; one or two striking new Orchids, and a few Chrysanthemums. The successful winners of prizes for Chrysanthemums in pots were Mr. Vince, of the Highgate Cemetery, and Mr. J. Weston, gardener to D. Martineau, Esq., Clapham, but none of the exhibits call for special comment. Messrs. Cannell & Sons took a Bronze Banksian Medal for a box of forty-one cut blooms of Louis Bœhmer Chrysanthemum. From the Royal Gardens, Kew, came a small collection of single and Japanese Chrysanthemums in pots, conspicuous among which were well flowered bushes of the single variety, Mary Anderson, a sort of glorified Marguerite, worthy of extensive cultivation; and Miss Rose, another single variety, resembling a fully opened Rhodanthe nearer than anything else we can compare it to. Messrs. Paul & Son exhibited some nine or ten species and varieties of Cypripedium of the C. insigne type. Mr. Wythes, gardener, Syon House, received a Silver Banksian Medal for a fine group of well flowered Chrysanthemums. From Lord Rothschild, Tring Park (gardener, Mr. Hill), came a very fine photograph of a specimen of Vanda cœrulea, bearing fourteen spikes, and which measured 3 ft. 9 in. by 2 ft. 6 in., a very fine production. Several new plants were certificated, but descriptions of them we must hold over until next week.

At the meeting of the Fruit Committee there were exhibited from the Society's gardens, collections of Pears and Carrots. Mr. Myles, gardener at Appley Towers, Isle of Wight, received a Cultural Commendation for fine examples of his new late Grapes, Appley Towers, black, and Lady Hutt, white. Messrs. Dobbie & Co., Rothesay, received a Bronze Medal for twelve very fine examples of their Champion Leek, Curled Parsley, and striped French Marigolds. The former were especially fine, showing 15 in. of blanched stem, quite 2 in. in diameter.

ORCHID NOTES AND GLEANINGS.

Orchid Growers' Calendar.

The principal work amongst Orchids, at this season will be keeping the plants clean and paying attention to watering. The cool Odontoglossums require plenty of moisture all the year round, and the Sphagnum on the pots should be kept green and growing, decaying material being injurious to the plants. On bright days the plants should be syringed overhead, and the stages kept well damped down. I have adopted the plan for some years now of planting the stages on which the Orchids stand with some green foliage plant, but so far I have found Selaginella Kraussiana and the green Tradescantia the most suitable. The Tradescantia may be allowed to trail over the front edge of the stage, and hang down almost to the floor. I am aware that in recommending the stages to be covered in this way, that the objection is raised that it offers shelter for slugs and woodlice, but since I have adopted it I have found less injury to the plant than when the stages were covered with shingle. The inverted pots on which the Orchids stand form a good trap, as they seek shelter under them; they can be inspected periodically and so be kept from doing much damage. The stages when covered with a green groundwork in this way, and the plants kept in a healthy condition, retain and give off a more equal supply of moisture in close contact with the roots of the Orchids than could be obtained where the stages are simply covered with shell or shingle. The appearance of the house is also improved by being clothed in this way.

Continue to place a few plants of Dendrobiums which are showing their flower buds in the cool house in which they have been placed to rest, into heat, and supply them with more moisture. When the plants are treated in this way they seldom produce growths on the pseudo-bulbs, as they frequently do if left in heat and given too much water. Cattleyas will now require less water. Plants in flower should be kept free from damp. The temperature will now be reduced, the cool house to 50° at night, the Mexican or Cattleya house to 60°, and the hottest section to 65° at night with a rise of about 10° by day.—*A. W.*

The Violet Phalænopsis.

The figure of Phalænopsis violacea given in the *Lindenia*, pl. 303, would suggest that the name Violet Phalænopsis is inappropriate, but various importations of it have proved its variable nature. The coloured illustration in question shows the ground colour of the sepals and petals to be creamy white shaded with greenish-yellow at the tips, and with purple or violet-purple on the lower and contiguous sides of the lateral sepals. The lip here, as in all other varieties of the species, retains its dark colour while the base and lateral lobes are yellow. From this pale hue the flowers vary through different shades to a uniform violet shade, and in all cases probably they give off a strong but agreeable odour that pervades the atmosphere of the house in which the plant is grown. In its native habitat, the forests of Palembang in Sumatra, it grows on the trunks of trees overhanging the streams and watercourses, where it gets a continuous supply of moisture.

Cochlioda Noezliana.

As the importations of this new Orchid get established and flower, our estimate of its ornamental value increases. The first flowering specimen that made its appearance in public had very small, though fairly well-coloured flowers; but with the flowering of a number of specimens it becomes evident that the species is capable of variation to a much greater extent than C. sanguinea, M. rosea, or C. vulcanica, especially the two former. Some of the finer forms have relatively broad segments, the lateral sepals are lanceolate, and the upper one oval or almost obovate. The petals are broadly ovate. The terminal lobe of the lip is obversely heart-shaped, and much broader than in any other species. With exception of the four-lobed crest on the lip, which is yellow, and the purple apical portion of the column, all the rest of the flower is bright scarlet. Other flowers have narrower segments, which vary from orange through various shades of scarlet. A batch of plants recently appeared at the sale rooms from Messrs. Linden, of Brussels, showing all the above variations.

Renanthera coccinea.

After much study and care in the treatment of this lovely Renanthera, Mr. Tranter, gardener to Sir F. Mappin, Bt., Thornbury, Sheffield, has been rewarded for his industry and perseverance with a fine spike of thirty-two blooms; his treatment recently has been to grow it on a block and keep it close to the glass.—*J. McNab.*

Dendrobium formosum giganteum

Some particularly fine forms of this grand autumn flowering Dendrobe have been seen in various parts of the country this autumn, but amongst the finest that have come under my observation, were some plants in the collection of Orchids formed by C. Perkins, Esq., Gallow Hill, Belsay, Northumberland. The plants in question were growing in 5-in. baskets, their pseudo-bulbs had attained a measurement of 30 in., and each plant carried on an average twenty huge blooms, which measured individually 5 in. across. Great credit is due to Mr. Lamb for his skilful manipulation of this lovely Dendrobe.—*J. McNab.*

WHAT TO DO IN THE GARDEN.

Temperature of the Stove.—During mild weather the minimum night temperature of the stove should be kept as near 60° as possible, allowing it to drop 2° or so on cold windy or frosty nights. A considerable rise by sun heat during the day may be permitted, but should sunshine be bright a liberal amount of ventilation during the middle of the day would contribute materially to the ripening of the wood and keeping the plants at rest.

Poinsettias.—The earlier batches of this class of plants will now be making a display. They may be kept pretty warm till the bracts are fully developed, after which they may be placed in the conservatory or in an intermediate and well lighted house, where they will last in good condition for a long time, provided they are well attended to in the matter of watering and not subjected to cold draughts in ventilating. Late batches should be kept as near the light as possible to prevent them from getting drawn or turned to one side in quest of light.

Rivinas.—Of the three species of Rivina in cultivation, R. lævis with red, and R. flava with yellow berries are the best and certainly very distinct. A raceme or two of berries may be taken at once, the pulp removed from the seeds and the latter sown at once. The seedlings will have plenty of time to make good growth and take the place of the old plants next year. Some cultivators simply take up and pot those seedlings which germinate on the benches; but where two kinds are wanted, the more certain method of securing the requisite number of each is to sow the seeds in pots and label them.

Winter-flowering Plants.—Batches of Sericographis Ghiesbreghtii, Linum trigynum, Thyrsacanthus rutilans, Salvias, Eranthemum, and other subjects of a similar nature while developing their flower buds should receive frequent but weak supplies of liquid manure to keep them growing vigorously. Free exposure to light is necessary to a perfectly balanced growth and good foliage. Ventilate freely in fine weather.

Camellias.—For early flowering, plants should be selected which were started into growth, their wood ripened, and their buds well set early in the season. Such will be more inclined to come away freely than those still in a more backward condition. Only a slight rise of temperature should be given, for Camellias cannot bear forcing in the ordinary sense of the term. Plenty of atmospheric moisture must also be given, otherwise the buds are liable to drop.

Chrysanthemums. — Ventilate freely in mild weather, but more especially when dry. The main object should be to keep the plants as cool as possible, and when artificial heat becomes necessary no more should be given than will induce a gentle circulation of air, aided by a small crack of top ventilation to expel damp.

Cucumbers.—Fresh additions of soil will have to be made to the mounds on which the plants have been placed as soon as the roots show through the soil. This of course applies more especially to recently made plantations, the growth of which must be encouraged while the light remains fairly good. A mulching of well decayed cow manure would do much to prevent the escape of moisture from the soil, and also encourage root development by the substance of the manure getting washed down to them in the process of watering. The latter is best done by an experienced man at this season of the year so that the requisite degree of moisture may be maintained. A night temperature of 75° to 80° will be quite sufficient.

Fruit Trees.—Take advantage of the more suitable nature of the weather and the drier state of the soil than prevailed a short time ago. The advantages consist in the more workable condition of the soil and its not getting puddled in the operation. Every care should be taken to prevent the roots from becoming dried up by exposure while being transferred from one place to another. The new places should be fixed upon and the holes got out before the roots of any large trees are exposed to the drying influence of the atmosphere.

Tea Roses.—In order the more effectually to guard against injury to the more tender varieties during the coming winter, a good mulching of farmyard manure placed over the soil and close up to the stems would do much to prevent damage to that part of the stems where they enter the soil. Even should the upper and more exposed parts get killed by frost, new and vigorous shoots are generally thrown up from the base and flower freely during summer.

QUESTIONS AND ANSWERS.

GRUBS AT CARNATION ROOTS.—*Dianthus:* The grubs you send us are those of Daddy Long Legs (Tipula oleracea) and quite different from those of the so-called Carnation Maggot. Owing to the tough and leathery character of their skin they are often spoken of under the name of Leather Jackets. The eggs are laid about August, and the legless grubs are hatched out and commence feeding upon the roots and other parts of various plants coming within their reach. They often do extensive damage to grass upon lawns and meadows, especially in wet places, also to Cabbages and other garden plants, including Carnations, so that yours is not the first instance coming under our notice. No effective method of destroying them wholesale has yet been discovered; but their numbers can be reduced by trapping with slices of Turnip, Carrot, Potato, &c., laid amongst the affected plants. By pulling away the soil round the necks of your plants, you will also be able to find and destroy large numbers of them if they are plentiful.

PROPERTIES OF A GOOD SOIL.—*H. C. L.:* In selecting a position for your garden you should avoid that which is thin and gravelly, otherwise great expense will be incurred in manuring it to obtain anything like a satisfactory crop, and the cost in watering would also be great. The ground should, however, be naturally well drained, and as far from swampy land as possible, unless there is a good outlet for drainage. A loamy soil, even if inclined to clay, and containing a fair amount of humus, is not only naturally rich, but is retentive, not only of moisture but also of manurial constituents, even if applied in a liquid state or in a state of solution. If the soil is fairly workable, even if inclined to be heavy, good crops can be obtained from it at little cost for many years.

ORIGIN OF THE GARDEN PEARS.—*H. West:* There is no tangible reason for supposing that garden varieties of the Pear have originated from any other species than Pyrus communis, seeing that there is considerable variation both in the leaves and fruit of the wild tree as it occurs both in Britain and on the Continent. Besides the typical pyriform-shaped fruit there are other forms which are rounded at the base, and also obconic.

ORANGE AND BLUE FLOWER.—*J. M.:* The flower you sent us is that of Strelitzia Reginæ, popularly known as Bird's-tongue Flower or Bird of Paradise Flower. The cultivation of it is not attended with any difficulty provided you give attention to a few leading facts. A large pot or tub is necessary to ensure a vigorous growth to enable it to flower; drain this well with large pieces of potsherds, and cover the sherds with moss to prevent the soil from stopping up the drainage. A compost of two parts good loam, one part of peat, with some sharp sand will suit it well. When growing during the summer months give an abundance of water, and considerably less during winter. A stove temperature is generally accorded it, but it will succeed in an intermediate or warm greenhouse, and usually flowers best after it gets potbound.

NAMES OF FRUITS.—*D. W.:* 1, Autumn Bergamot 2, White Doyenné; 3, Duchesse d'Angoulême. *E. Kates:* Apple Colonel Vaughan.

VANDA.—*A.R.L.:* The raceme of bloom you send is that of a good variety of Vanda tricolor. The brownish crimson spotting is so dense that the yellow ground colour is almost hidden. Had the ground colour been paler, and the brown separated from the markings, the plant must have taken a high rank amongst the named varieties of Vanda tricolor.

NAMES OF PLANTS.—*Chas. Dixon:* The common Nipplewort, Lapsana communis.—*A. W:* 1, Pteris argyreia; 2, Adiantum formosum; 3, Habrothamnus elegans; 4, Fuchsia procumbens; 5, Peristrophe speciosa.—*R. Bond:* 1, Eupatorium odoratum; 2, Selaginella apus; 3, Selaginella Martensi variegata; 4, Nephrodium patens; 5, Davallia elegans.—*G. L.:* 1, Rhus typhina; 2, Liquidambar Styraciflua.

COMMUNICATIONS RECEIVED.—J. H.—A. W.—W. C.—W. P. R.—J. L. & S.—C. M. (next week).—E. H.—J. C. & Co.—Experience.— . 'L. (next week).—T. H. B.—T. F. R.—A. A. T.—A. W., Chetton.

TRADE CATALOGUES RECEIVED.

WILLIAM COOPER, 751, Old Kent Road, London, S.E.—Illustrated Price List of Conservatories, Greenhouses, Fruit Houses, Pits, Frames, &c.

PATRICK B. O'KELLY, Glenarra House, Ballyvaughan, Co. Clare.—Evergreen Ferns.

LEVENSHULME HORTICULTURAL CO., Levenshulme, Manchester.—Forest Trees, Conifers, Fruit Trees, Roses, &c.

THOMAS LAXTON, Seed Grower, Bedford.—Special trade offer of choice novelties in Seeds and Roots.

LONDON SEED TRADE.

November 9th, 1891.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report Red Clovers continue in demand at advancing rates. White Clover, Alsike, and Trefoil steady. Ryegrasses unchanged.

COVENT GARDEN MARKET.

November 11th.

FRUIT.—AVERAGE WHOLESALE PRICES

	s. d	s. d.		s. d.	s. d.
Apples... per ½-sieve	1 0	5 0	Pine apples.		
Cobbs... per 100 lbs.	35 0	37 6	—St. Michael's, each	2 6	8 0
Grapes .....per lb.	0 6	2 0	Peaches .....per doz.	1 0	6 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
ArtichokesGlobe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Beans, French, perlb.	0 4		Lettuces ...per dozen	1 0	1 6
Beet..... per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages ... per doz.	1 6	2 6	Onions.....per bunch	0 4	0 6
Carrots ... per bunch	0 6		Parsley ... per bunch	0 6	
Cauliflowers,English, per doz.	3 0	6 0	Radishes... per dozen	1 6	
Celery.....per bundle	2 6		Smallsalading,punnet	0 4	
Cucumbers .....each	0 6	0 9	Spinach, per strike ...	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	1 0
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Aralia Sieboldi ...doz.	6 0	12 0	Evergreens,invar.doz	6 0	24 0
Bouvardias...per doz.	8 0	12 0	Ferns, invar.,per doz.	4 0	18 0
Chrysanthemums,doz	6 0	12 0	Foliage Plants, doz.	12 0	60 0
— large .....per doz.	12 0	24 0	Heliotrope, per doz.	4 0	6 0
Coleus .....per doz.	3 0	6 0	Marguerites, per doz.	6 0	12 0
Cyperus .....per doz.	4 0	12 0	Mignonette, per doz.	4 0	6 0
Dracæna term., doz.	24 0	36 0	Palms in variety,each	2 6	21 0
Dracænaviridis,doz.	9 0	18 0	—scarlet .....per doz.	4 0	6 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Acacia or Mimosa French per bunch	1 0	1 6	Marguerites, 12 bun.	2 0	4 0
Arum Lilies, 12 blms.	4 0	6 0	Mignonette... 12 bun.	1 6	3 0
Bouvardias, per bun.	0 6	1 0	Myosotis..doz. bchs.	3 0	6 0
Carnations, 12 blooms	1 0	2 0	Parme Violets, French, per bun.	3 0	4 0
Chrysanthemums, doz. blooms	0 9	3 0	Dark " " "	1 0	2 0
Chrysanthemums, doz. bunches	3 0	9 0	Pelargoniums, 12 sps.	0 6	0 1
Eucharis ...per doz.	3 0	6 0	— scarlet.....12 bchs.	4 0	6 0
Gardenias 12 blooms	2 0	4 0	Primula, double, bun.	0 9	1 0
Heliotropes,12 sprays	0 3	0 6	Pyrethrum,doz. bchs.	2 0	4 0
Lapageria, 12 blooms	1 0	3 0	Roses, yellow, dozen	3 0	6 0
Lilac, French, per bunch	5 0	7 0	— mixed... doz. bchs.	4 0	6 0
Lilium Harrisii, doz. blooms	3 0	6 0	— Red..... doz. bchs.	6 0	12 0
Liliumsvar.,doz.blms.	1 6	3 0	— Saffrano...per doz.	1 0	1 6
MaidenhairFern,12bs.	4 0	9 0	— Tea ..... per dozen	1 0	3 0
			Stephanotis, dz. spys.	3 0	6 0
			Tuberoses, per doz.	0 4	0 6
			Violets, English per bunch	1 6	2 0

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4	Marguerites, white and yellow, named	1	6
6	Tuberous Begonias, excellent strain	2	6
6	Tree or winter-flowering Carnations...	3	0
6	Perennial mauve Michaelmas Daisy...	2	0
6	Sedums, in 6 var., named	2	0
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6	Coleus, 6 distinct and best named kinds	1	6
6	Ivy Geraniums, best named vars.	2	0
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6	Begonia Rex, handsomely marked leaves	2	0
6	Christmas Roses	2	0
12	Perennial Cornflowers, lovely blue	2	3
12	Perennial white Candytuft	2	0
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3	Scarlet Salvias, very free flowering	1	3
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6	Primula obconica, always in flower, strong... ...	2	0
6	Rudbeckia Newmanii, bright yellow, perennial ...	1	9
6	Spiræa, good clumps	2	3
6	Cyclamen persicum, good strain	1	9
12	Hollyhocks, mixed, from double flowers	2	6
12	Hollyhocks, double, white or yellow	3	0
40	Wallflowers, blood-red, purple, yellow, &c. ...	2	0
12	Double German Wallflowers, good strain	1	6
6	Perennial Oriental crimson Poppies	1	9
3	Pampas clumps, from pots	1	9
100	Strawberry-plants, 4 vars., best named	3	0
6	Carnations, Bride, Jupiter, Purity, Clove, &c. ...	3	0
6	Arum Lilies...	1	9
20	Foxgloves, white and spotted	1	6
20	Antirrhinums, splendid strain	1	6
3	Erica Cavendishii, strong, well-rooted	2	6
3	Erica hyemalis, strong, well-rooted	2	0
3	Deutzias, 3 Solanums	2	
6	Flowering shrubs, Ribes, Deutzia, &c., Lilac, Weigelia, Mock Orange	2	9

A lovely wreath or cross of natural flowers, 7s. 6*d.*, 10s. 6*d.*, or 15s.

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P.O. Orders and P. Notes payable at Clevedon.

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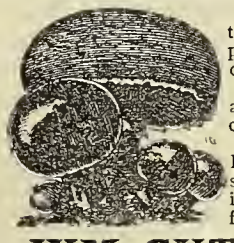

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FERNS & SELAGINELLAS
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Special Autumn List
ON APPLICATION.
W. & J. BIRKENHEAD,
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For Index to Contents see page 185.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Nov. 23.—Bulb Sales at Protheroe & Morris' and Stevens' Rooms.

TUESDAY, Nov. 24.—Bulb Sale at Protheroe & Morris' Rooms. Manchester Chrysanthemum Show (2 days).

WEDNESDAY, Nov. 25.—South Shields Chrysanthemum Show (2 days). Bulb Sales at Protheroe & Morris' and Stevens' Rooms.

THURSDAY, Nov. 26.—Bulb Sale at Protheroe & Morris Rooms.

FRIDAY, Nov. 27.—Orchid Sale at Protheroe & Morris' Rooms.

SATURDAY, Nov. 28.—Bulb Sales at Protheroe & Morris' and Stevens' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, NOVEMBER 21st, 1891.

FALLEN GIANTS.—The fierce hurricane—or, as our scientists now term these visitations, cyclone—which swept over the country on the 11th inst. left its impress in very many cases in a very effective way, so far as relates to noble trees. How many a grand old Elm, Oak, Beech, or other of our admired forest trees was laid low; how many a veteran whose leaves had yearly unfolded for one, two, or three hundred springs, was made to bite the dust at last, and become food for the devouring flame, or be put to some ignoble uses.

It takes a lifetime of even the most aged men to build up one of these giants, and it takes but a second, as it were, to lay it low. The wonder is, that with such terrible wind force exercised, one half the country was not depleted of its finest trees. How it happens that one here and two or three there are taken and all the rest left, can only be explained on the hypothesis that wind currents are unequal in force, and that sometimes that force is concentrated into narrow channels, with double or treble power. It must be a tremendous force indeed which takes a big tree, which has for a century raised its head to heaven, and has scores of times weathered terrible storms, yet finally uproots it as if it were a toy, and prostrates it low for ever.

Apart from all that is incomprehensible in this sense, we cannot help feeling some touch of sorrow when these giants of vege-

tation fall. We may plant others in their places, but these can never be to us what our old friends were, and only later generations of humanity will see the young ones of to-day what the old and now prostrate trees have been to us. Trees literally become to us old friends. They seem as if ever constant, ever reliable—we never fear to trust them fully. No wonder that when they fall, never to rise again, they leave behind, if pleasant memories, yet also pangs of regret, that their lives could not have outlived ours.

THE PREMIER JAPANESE CHRYSANTHEMUM.—There has already been a good deal of discussion in private circles of Chrysanthemum growers as to which is the best of the new Japanese varieties, for exhibition purposes, seen during the recent show season. Many of our readers might, perhaps, help to the elucidation of that knotty point, if they would send a postcard to our office, naming the three best of the newer sorts, placed by them respectively in what they regard as the order of merit. We do not wish to go back further than two years, as that period has seen almost a flood of new varieties placed in commerce. That a very interesting election may follow if the suggestion be adopted generally there can be no question.

Without doubt during the past few years many very fine varieties have been put into commerce, if even a far larger number has been found worthless. It is the growers for competition who generally have to eliminate the chaff from the corn. With the advance in quality seen in the really best varieties comes also a demand for higher average, therefore raisers have to set up higher standards. If the result should be the holding back of many new sorts until longer tried, or their early rejection before they have disappointed purchasers, so much the better, alike for those who buy and sell. We are constrained to believe that many years will elapse ere the demand for high-class novelties is exhausted, but the continuation of that demand will depend materially upon the nature of those novelties.

A swamping of the market with inferior sorts will soon breed disgust, whilst a very careful sifting of the good from the bad, and offering for sale only really standard varieties, will be productive of great good. It is better for any trader that he should have the reputation of having put one really first-class novelty in commerce than of having sent out a score of medium ones. Assuming that, in reference to our special suggestion above, our readers should have time, we should like to have also selections of the best three white, three yellow, three incurved, and three reflexed Japanese in order of merit, the latter two selections being independent of the whites and the yellows.

HIRSUTE CHRYSANTHEMUMS.—The comparative failure of Mrs. Alpheus Hardy has naturally led to some doubts in the minds of Chrysanthemum growers as to the usefulness as well as suitability of hirsute varieties for exhibition or other purposes. Louis Bœhmer has, on the other hand, proved to be a very robust grower and easy bloomer and carrying very fine flowers, yet it is not much fancied, not only because blooms, if they eventually fill up, take a month to do so, but all the time they are developing have such hard greenish-yellow centres as to militate largely against the beauty of the flowers.

Then there is much doubt as to the worth of a race of hairy petalled flowers. The hirsute appendages do not in any way add to the beauty of a flower, but they do materially detract from it. Mrs. Alpheus Hardy, even in its best form, compares indifferently with Stanstead White, and Louis Bœhmer with Madame C. Audiguier. It is certain that were the Chrysanthemum growers of the kingdom polled as to the merits or otherwise of hairy-petalled flowers, they would almost universally decide against them. In a general way what we have seen of these hairy Chrysanthemums they are good ones spoiled. There is the making of a fine variety in Louis Bœhmer, and, were it smooth petalled and opened its centre well, it might eventually become a standard flower. It will, however, never take a position like that occupied by Avalanche, Sunflower, Viviand Morel, or scores of others of our best smooth petalled varieties.

We do not think the trade is very wise in investing in these hairy Chrysanthemums largely. A couple of seasons' further experience may settle them effectually, or at least that is much more likely to result than that they will become popular.

The Proposed International Fruit Show in 1892.—We are pleased to be able to announce that the Queen has consented to become patron of the great International Fruit Show in 1892, now being promoted by an influential body of horticulturists, of whom Sir James Whitehead is chairman.

Manchester Royal Botanical and Horticultural Society.—The following dates have been fixed for the exhibitions of this society next year:—First Spring Show, in the Town Hall, Manchester, 15th and 16th of March. Second ditto, 26th of April. Special Exhibition of Orchids, Roses, and Rhododendrons, opens at the gardens 3rd of June. Orchid Conference, 4th of June. Rose Show, at the gardens 16th of July.

Chiswick Gardeners' Mutual Improvement Association.—The annual concert organised by this Association in aid of the Gardeners' Orphan Fund, was held on the 29th ult., and the proceeds have now been realised. After paying all expenses, the profit amounted to nearly £20, and it is the intention of the members to complete this sum.

Orange Groves at the Chicago Exhibition.—One acre of ground within the horticultural building has been reserved for an Orange grove from Florida, and the same amount for a grove from California. These trees will be taken to Chicago next year and planted, so that they will bear fruit while the Exposition is open. These two acres constitute two interior courts of the building.

The Preston and Fulwood Horticultural Society held its usual monthly meeting on the 7th inst., when the chair was taken by the new president, R. W. Hanbury, Esq., M.P., who delivered an interesting address on general gardening subjects. The paper read was on the subject of the Bouvardia, by Mr. W. P. Roberts, of the Cuerdon Hall Gardens, and a brief discussion followed. Mr. Roberts' paper will be found in another column. A considerable number of horticultural products were exhibited by members.

California is the first state to respond to the request that each state contribute the trunks of three of its most characteristic trees, to be used in constructing a rustic colonnade for the forestry building, at the World's Fair at Chicago, in 1893. California's contribution includes a Sugar-pine furnished by Towle Bros., Company, of Alta; a Redwood, by J. F. Cunningham, of Santa Cruz; and a Sequoia, by Smith Comstock, of Tulare.

Chrysanthemum Branching Etoile d'Or.—The yellow Marguerite is well known and much appreciated on account of its colour, but the habit of the plant as usually seen is less satisfactory than that of the white varieties. All the upper portion of the plant ends in flowers, and when these are over the plant has to be cut hard back in order to get eyes that will produce fresh growth. The plant under notice is more branching, more continuous in flowering, and therefore more generally useful. The flower heads are, however, somewhat paler than those of the old and well known sort. We noted a large batch of it in the nursery of Messrs. H. Cannell & Sons, Swanley, Kent.

The Glasgow Botanic Garden.—A Glasgow paper states that rather a nice point has arisen with the extension of the city and the merging of the Botanic Gardens into the Parks and Galleries Trust. The matter touches the right of the corporation to shut the gardens on Sundays. What the precise powers of the town council are is possibly unknown to most members, if not even to learned officials. The situation provoked by the acquisition of the gardens and the shutting of them on Sundays is novel. So far action on the part of ratepayers has been confined to inquiry at the town-clerk's office, but it is conceivable that steps may be taken to have the point authoritatively tested. The question is rather a nice one, and is not to be decided off-hand by the contention that, because the gardens are rate-supported, they consequently ought to be free to the public, like the other parks, at all times.

A Model Chrysanthemum Catalogue.—This is one just issued by Mr. H. J. Jones, of the Ryecroft Nurseries, Hither Green, Lewisham, and it is of much more than ordinary interest, and for several reasons. It is issued early, while the remembrance of novelties are fresh in the mind. It contains all the best new varieties seen this season; and therefore thoroughly up to date. The various sections are well classified, and it contains an excellent and complete practical paper on growing the Japanese Chrysanthemum, by Mr. C. E. Shea, a most successful grower. It also contains an excellent calendar, by Mr. H. Shoesmith, who is well qualified to write it. Besides this there is much information of a novel character, put in a very acceptable form for the use of Chrysanthemum cultivators. It is a pamphlet of seventy pages, and on the last page of the cover is given a series of five reasons why all lovers of the Chrysanthemnm should become members of the National Chrysanthemum Society. This is quite a new departure, and it shows on the part of Mr. Jones an interest in the National Chrysanthemum Society we should like to see exhibited by some other growers.

Cineraria maritima variegata.—The ordinary form of this plant comes in very useful for the edging of beds of large size, but particularly beds of sub-tropical plants, where the woolly-white character of the leaves serves as a foil and a contrast to dark foliaged subjects. The variety under notice differs from the type in the margins, being heavily variegated with clear yellow, and when in its best character is both distinct and striking. We noted it recently in the nursery of Messrs. H. Cannell & Sons, Swanley, Kent, where, of course it was grown in pots, in one of the hothouses. When used as an edging out of doors, the best results with regard to the variegation would probably be obtained by planting in soil that is on the dry side, rather than otherwise, because the whiteness of the leaves gets spoiled in wet weather, or when the plant is growing vigorously in rich and moist soil.

CHRYSANTHEMUM CUTTINGS.

THE King never dies, and in like manner the Chrysanthemum season has no ending. Almost before the Chrysanthemum bloom is on the wane—that is, the bloom of the main season varieties—the grower has to think of next year's stock, and to make provision for a supply. At this season of the year the leading trade growers put in cuttings by the thousand. Some in beds, in frames, with a gentle bottom heat to help the rooting process; some in propagating houses, with a brisker heat to ensure rapid rooting, and in order to be able to execute orders, which pour in as soon as the autumn shows are over.

Some cultivators commence to strike cuttings earlier than others; but the end of November is not too early to make preparation for this work. There are many methods of striking cuttings. One of the best is to take 5-in. pots, filled to the depth of one-third with crocks, over this being placed a little moss to prevent the soil falling down into it and choking the passages of water, and the pot then filled with a fine, light compost made up of leaf-mould, good loam, and sand in equal parts, all previously passed through a fine sieve. These should be sprinkled with a fine rose and stood aside for a time before the cuttings are inserted.

I do not advise anyone taking cuttings from plants that have produced exhibition blooms and been well fed. It is best to plant out for stock, in a spot where the plants can be sheltered when cut-

tings are required, or some plants be grown on in pots for that purpose. The propagator of Dahlias from cuttings rejects the first batch put forth by the roots after they have been placed in heat on the ground that they become soft and sappy, and the long soft shoots put up by the Chrysanthemum plants early are looked upon by some growers in much the same light. Stocky, wiry growths make the best cuttings; they should be about 2 in. or so in length, and be placed pretty thickly in the pots, and then freely sprinkled and the pots placed on a gentle bottom heat; or if this is not available, then in a greenhouse where they can be secure from frost, and covered with tall glasses or hand-lights. A great many cuttings were lost last year by placing them in cold frames, where the frost got at them. Growers should be careful a like experience does not fall to their lot. The cuttings should be lightly sprinkled once or twice a day; under such treatment they seldom flag, and root freely.

Propagation may go on all the winter according to the number required. Those put in in December and January will root in February or earlier: and when signs of growth show movement on the part of the plants, it may be fairly assumed the young plants are fit to pot off. They should be put singly in small pots, using a compost similar to that recommended for the cuttings, keeping them close for a time, sprinkling overhead, and as the plants become established, they can be hardened off in cold frames. Mr. H. J. Jones recommends that such early flowering varieties as Madame C. Desgranges and its sports be nursed as a delicate family, and have if possible a shelf near the glass in a vinery or similar structure. So much then for the present.—*R. D.*

AWARDS AT FLOWER SHOWS TO MISCELLANEOUS EXHIBITS.

Mr. Dean's remarks on this subject in your last issue are very much to the point, and my sympathies are entirely with the nursery firms of Birmingham in their endeavour to remedy the matter. Horticultural Societies, however, are fast becoming alive to the necessity of dealing with "exhibits not for competition" in a fair and liberal spirit. Keen competition in business compels nurserymen to exhibit their specialities at flower shows, and this is often done at very great expense. Societies are also glad of their assistance in thus helping to make their shows successful. I have exhibited at twelve shows this year, both in Scotland and England, and am bound to say that, but for nurserymen's exhibits, the bulk of these exhibitions would have been divested of their chief items of interest to the general public. On two occasions on which the shows were held on a Saturday, I proposed lifting my stuff early, so as to reach home that night, but they begged of me not to spoil the show, and said if I could not stay they would return my boxes on the Monday, carriage paid.

In view, then, of these facts, societies should do all in their power to encourage miscellaneous exhibits, both by suitable press notices and honorary awards, with something more substantial when they can afford it. The Shropshire Horticultural Society deserves credit for the way its managers acknowledge the value of special exhibits. There they award medals and extra prizes, and otherwise give every encouragement to the exhibitor. The Royal Caledonian Horticultural Society wakened up, when rather late, to the fact that the success of their International Exhibition, lately held, was largely due to the variety and extent of the magnificent exhibits, "not for competition," which formed such a marked feature of the show. I say rather late, as their medal awards, given so long after the show, were of no practical value to the recipients, and, with regard to the daily press notices of these exhibits, they were very imperfect.

The subject of press notices I consider of great importance, and all societies, both large and small, ought to make arrangements for having them under proper supervision. The Glasgow and West of Scotland Horticultural Society have the best method of controlling press reports that I know of. So far as I know they invite nurserymen to send in lists of what they intend to exhibit. These appear in the newspapers in paragraph form before the show. On the show day some qualified members of the committee are appointed to conduct the reporters round the exhibition, and, being furnished with the lists referred to, their labour is reduced to a minimum. Care is taken that the special features of each exhibit are duly noted, and the reporters, under the guidance of the committee, prepare reports doing full justice to each exhibit; thus all undue puffing, with its consequent heart-burning, is entirely prevented.

This system of regulating reports would, if generally adopted, cure the evil complained of, and I would strongly recommend it to the notice of all concerned.—*Justice.* [We may remind our delightfully innocent and unselfish correspondent that flower show committees have no control over what appears in any part of a newspaper except the advertising columns; and also that the system adopted at Glasgow has not brought prosperity to the Glasgow and West of Scotland Horticultural Society, however much it may have reduced heart-burning among the exhibitors. We agree with all that has been said on the subject of flower show committees properly rewarding exhibitors "not for competition," but why the exhibitors should expect other people—say the proprietors of newspapers—to reward them as well, and as a matter of course, is beyond our comprehension.—Ed.]

HARDY TREES & SHRUBS.

The Coluteas or Bladder Senna.

The species of Colutea in cultivation are by no means numerous, but their beauty, hardiness and accommodating nature should ensure a more extensive cultivation than they at present enjoy. The commonest species in gardens and shrubberies is Colutea arborescens, but some of the others are decidedly more showy and as easily cultivated. They will thrive in any soil or situation, and as they grow rapidly might be planted where they are wanted to screen unsightly objects and yet not exceed 6 ft. or 10 ft. in height. Of course they can be kept down to the size of bushes 3 ft. or 4 ft. high by pruning, and they will flower freely even under those conditions. They will grow in the richest or poorest of soils, and therefore prove useful in planting dry banks where few other shrubs will succeed for want of sufficient moisture. Some railway banks in the suburbs of London, and even in densely populated districts not far removed from the City boundary, may be seen clothed with flowering bushes of the common species, and heavily laden with their bladder-like fruits during the winter months. This must speak well for their smoke-resisting capabilities. Dry banks along the sides of drives and elsewhere are frequent on private estates, and might be planted to great advantage with Coluteas. Whenever the plants get too large for any given position their size may be reduced by pruning them back in winter. Propagation may readily be accomplished by inserting cuttings in sandy soil some time during the autumn months, or by sowing seeds, which ripen in abundance almost any year.

Colutea cruenta.

Colutea cruenta.—The pea-shaped flowers of this species are not blood-coloured as the name would suggest, but the upper petal or standard, which is the most conspicuous organ, is of a deep orange-red; The wing and keel petals are paler. The leaves are pinnate, with seven to thirteen broadly-ovate, deeply glaucous leaflets. The flowers are produced in short racemes from the axils of the leaves all along the young wood, and therefore keep up a succession all through the summer till late in autumn, according to the weather and the vigour of the plants. Our illustration accompanying this shows the tip of a shoot considerably reduced, with a single flower of the natural size. At the base of the spray are two fruits, also reduced in size. They are boat-shaped, greatly inflated, and bladdery, thus suggesting the popular name of Bladder Senna. The seeds are very small relatively to the size of the pod, and the latter, instead of bursting to scatter the seeds, dry up and hang on the plants for great part of the winter, and create a rustling noise when shaken by the wind. It was introduced from south-east Europe in 1731.

C. arborescens.—The flowering period of this species corresponds very much with that of C. cruenta, and the general appearance of the plant is in several respects similar, but the flowers are yellow. The plant is altogether larger, for whereas C. cruenta grows 4 ft. or 6 ft. high, species under notice attains a height of 6-ft. to 10-ft. The leaves are also larger, and the leaflets elliptic. It is a native of bushy places from the middle to the south of Europe, and is recorded as growing on the crater of Vesuvius, where scarcely any other vegetation will grow. It is also a very old plant in this country, having been introduced in 1568.

C. media.—This species is a native of the Orient and resembles C. cruenta, but has orange-yellow flowers. It attains a height of 6 ft., and has glaucous foliage.

C. haleppica.—The specific name here refers to Aleppo, a maritime town of Asia Minor bordering upon the Mediterranean. The shrub is dwarfer than the others above mentioned, varying from 3 ft. to 6 ft, according to the conditions under which it is grown The yellow flowers are however larger, and the glaucous leaves consist of a larger number of smaller leafless. It was introduced from the Levant in 1752.

ORCHIDS AT ST. ALBANS.

At present the most interesting feature at St. Albans is the Elephant Moth Dendrobe (Dendrobium Phalænopsis Schroderianum) of which a large number of plants are now in bloom, and others fast approaching that stage, in one of the long houses of Messrs. F. Sander & Co. Considering that the plants have been rooted up from their native haunts, have undergone a five months' journey, and that the old and leafless pseudo-bulbs are flowering a second time, the flowers now being produced are of wonderful size, and of all shades of colour from white to the richest crimson purple. The typical D. Phalænopsis has its petals somewhat connivent at the base, rising upwards so as to partly cover the upper sepal before spreading in a lateral direction, whereas those of D. P. Schroderianum spread at right angles to the upper sepal from the very base. The middle lobe of the lip is also relatively broad, squarish and cuspidate. With regard to colour no two are exactly alike, and the sight of the whole is such as to make the mouth of an Orchid lover to water.

A few pink lines in the throat was all the colouring we could detect in the white variety. Another had very large flowers and rosy-lilac sepals and petals on a white ground, while the side lobes and base of the lip were of an intense crimson purple How very different it is in those flowers where the side lobes and all the basal half of the lip are pure white. In another case the sepals and petals were soft purple, on a white ground, and the side lobes of the lip white, but the rest deep purple. The pale forms are certainly charming, particularly those with uniformly rosy-lilac sepals and petals netted with darker veins. A distinct type is that having the lower half of the sepals and petals pure white, and the upper half shaded with rose; while the lamina of the lip is deep rose, the rest being pure white.

Equally notable was another having white sepals and petals suffused and veined with purple on the

upper half, while the petals have a raised crimson line running along the centre. The typical D. P. Schroderianum has white sepals and petals passing into rose in the upper half. The darkest variety we noted was one having petals of a uniform rich dark purple, with the lamina of the lip of a similar hue, while all the lower portion was of an intense purple-crimson. Some of the plants showed a branching flower scape, giving rise to great expectations when they become established. The typical D. P. Statterianum, as figured in the *Reichenbachia*, has deep purple sepals and petals, and a darker lip, the side lobes being almost crimson. There is another form of this variety in commerce having smaller flowers of a nearly uniform dark purple.

The visitor to St. Albans will find much of interest besides the Elephant Móth Dendrobe, and many cultural points of importance in the extensive labyrinth of buildings devoted to Orchids and other subjects. There are some grand pieces of Vanda Lowii, one of which is over 6 ft. high, grown in a pot; and another in a huge basket, and consisting of three large stems, besides some smaller ones. In order to supply atmospheric moisture a brick wall like the gable end of a house, and capable of absorbing one hundred pails of water, has been built on purpose, and the Vandas stood in front of it. The greater number of houses are built on sloping ground, and at the lower end, and abutting on a long corridor, are many interesting pieces of rockwork built, of Derbyshire tufa and cemented together. Many large pieces of Orchids are planted or inserted in the pockets, and several of them, including Epidendrum Cooperianum, are nearly always in flower. This species has the sepals and petals deeply flushed with purple, and the lip rose-coloured. E. C. calloglossum has lighter coloured and more pleasing flowers. Both have pendulous, densely-flowered racemes of bloom. Alongside of them E. raniferum and others are also flowering freely. In another house Odontoglossum Reichenheimii may be seen with its long branching racemes of bloom. Cypripediums are largely represented, and the quantity of hybrid seedlings is simply extraordinary. Some were flowering and others just approaching that stage. C. Meynardi, a hybrid between C. Spicerianum and C. purpuratum, showed the dwarf habit of both parents, and intermediate characters as to colour. The upper sepal is white with a green patch at the base and purple veins upward. A fine variety ust opening was a hybrid between C. Spicerianum and C. Harrisianum. Amongst older sorts C. Arthurianum, C. Leeanum superbum, C. callosum, a yellow C. insigne, and C. i. violaceum-punctatum exhibited great variety in form and colouring. The huge flowers of C. grande were very striking. True to its season Cattleya Bowringiana serves to enliven the Cattleya house, in which a large assortment of others are now showing their flowering sheaths and looking happy.

To lovers of cool Orchids a most interesting feature may be seen in the shape of two houses, each 300 ft. long, planted out with many thousands of Odontoglossum crispum and O. Pescatorei, chiefly the former, in beds of sandy peat. The clean and healthy condition of the foliage, as well as the size of the young pseudo-bulbs, show that the plants like the treatment. The last made pseudo-bulbs are three times as long as that immediately preceding them; and the fleshy, vigorous roots are 12 in. to 15 in. long, clinging to the soil with smaller fibres in a surprising manner. Smaller lengths of staging are also planted out in the same way in other houses. Suspended in one of the cool houses is a beautiful rosy-flowered piece of Odontoglossum Rossii rosaceum, and on the opposite side of the house some rich, dark flowered pieces of Mesospinidium vulcanicum. The Masdevallias are grown in loam, peat and sphagnum, and their leathery, dark green leaves show that they appreciate the treatment. The stock of Epidendrum vitellinum majus is large, and the fine pieces of recently imported stuff are getting strongly established. The quantity of Odontoglossum vexillarium, both full grown stuff and young pieces, ranged on benches 250 ft. long, show that this species is a speciality at St. Albans. Pleiones, Lycaste Skinneri alba, and Cypripedium Schlimii are flowering beautifully; and Odontoglossum Roezlii and its white variety are also commencing to make a display. The fragrant little Oncidium cheirophorum is flowering in quantity. Lœlia anceps in baskets suspended over water and rockwork is bristling with flower scapes that must be grand in a short time. Very interesting, also, is the house with a large tank along the centre, and used for the culture of Water Lilies in summer. At present the tank is nearly dry, and the area over head occupied with hundreds of Dendrobiums in the resting stage, suspended in baskets with the closeness and regularity of an army on the march.

Stove Plants.

Although Orchids are the leading feature at St. Albans, yet various plants are grown in some of the houses for decorative effect in situations not adapted for Orchid culture. Prominent among them was Begonia corallina, Sander's var, raised by a gardener, and possessed of great decorative value The stems are 10 ft. to 12 ft. high, and have been flowering grandly for some time past, with large pendent cymes of bloom from the axils of every leaf on the upper portion of the shoots. The pedicels, ovaries, and broad wings of the latter are soft coral-pink, while the sepals are somewhat paler. When kept growing it flowers all the year round, and is highly serviceable at Christmas in the cut state. The leathery, half ovate leaves are 6 in. long. A house is devoted to the cultivation of new stove plants, and amongst them we noted some fine pieces of Maranta Sanderiana with oblong-ovate or elliptic leaves of large size, variegated with ascending pink or white bands regularly arranged on each side of the midrib on a deep, shining, olive-green ground. The under surface is of a uniform deep, reddish purple. A new Cyanophyllum has deep olive-green leaves, with five prominent ribs, of which the three central ones are silvery in the young state. It comes from Brazil. Here also was the rare Nepenthes Madagascarensis with bronzy-red pitchers and prominently fringed wings. A new Doryopteris was notable for the breadth of the segments of its fronds. A variegated Pandanus exhibited the peculiarity of being without spines either at the margins or midribs of its leaves. A Dracæna variegated with broad creamy white bands also gives good promise.

The Anthuriums and Alocasias in other houses show by the leathery character of their foliage and healthy condition, that other plants besides Orchids receive a due share of attention. The sheds and potting benches at either end of the long ranges of houses were occupied with workmen busily engaged in potting, staking, and packing plants.

SCOTTISH NOTES.

Potatos and their Culture.—Respecting field-grown produce in this district, the second early and late sorts are said to be abundant and of good quality, in consequence of which a fall in the prices is feared. The principal varieties grown are Sutton's Regent, Sutton's Abundance, and the Bruce. Garden crops, as far as I have heard, have also been very satisfactory, and on land under my charge, which has been regularly cropped with Potatos for many years, very gratifying results have been realised. Of course such a practice is not in accordance with the rotation theory, which in the management of farm and garden land alike is generally recommended. Necessity, however, compels us to disregard the rotation system, the inroads of rabbits preventing us from cropping a considerable extent of land outside the garden walls, otherwise than with Leeks, Turnips, Jerusalem and Globe Artichokes, and Potatos, the latter crop necessarily occupying by far the greatest space.

In wet seasons the average yield of sound tubers cannot be computed at more than one third of a crop, and the favourable exception this season was, I think, mainly attributable to the extremely dry condition of the soil at the beginning of August speedily absorbing the abundant moisture which followed shortly afterwards. Under such conditions a second growth of the tubers frequently results, but this does not seem to have been prevalent either with regard to farm or garden produce this autumn.

All the varieties I have grown and tested recently were of good quality, Puritan, as previously stated in your pages, being quite first-rate, either as a forcer or from the open border. Then follows Veitch's and Sharp's Kidneys, also very good but not so large, white, and mealy as the former. Duke of Albany is a second early sort, kidney shaped, and of superb quality. In second early round sorts, Imries' Early, Sutton's Regent, and Sutton's Abundance, were each of high table quality, and, according to reports from the culinary department, excelling field-grown produce, which was latterly supplied. Magnum Bonum and the Bruce are still two of the best late sorts; both are good croppers, and of fine quality when used in their proper season. The former is sometimes very good when just fresh from the soil, and from early made plantations. They, however, afterwards deteriorate in quality till well into May and onwards till the middle of July, at which period they are in the best condition; indeed, when supplying them one season at the period referred to, I was asked by my employer whether they were new Potatos.

Reverting to the cultivation of Potato land in gardens, such plots or borders as have necessarily to be cropped with Potatos year after year in succession, ought to be trenched or double dug as frequently as possible, in order to secure as deep a surface layer of fresh earth as will form a good bed for the roots to established themselves in. And where such is available a liberal dressing of well prepared material from the garden compost heap may with advantage be applied to land which may have been too heavily manured for a number of years, which is of itself calculated to aggravate the spread of disease in unfavourable seasons.

One of the best crops I ever lifted as regards good quality and average size was from a plot specially made up of road scrapings, a considerable part of which consisted of half-decayed leaves and horse droppings. In this compost the sets were planted in the usual way with the result indicated. The ground on which this plot was formed had previously been almost worthless for cropping purposes, and there was practically no other means of utilising it than by the method adopted. The fallacy of planting Potatos on low and flat situations has been often apparent to me. This was perhaps most strikingly illustrated in the year 1872, when living in Argyllshire in a district where the land frequently diverges into hill and dale within a comparatively small radius. The season referred to was about the worst on record for the ravages of the Potato disease, the results being that by far the greatest percentage of affected tubers was found in the lowest plantations.—*D. Mackie, Ayrshire.*

Howick Horticultural Association.—At the usual monthly meeting held on the 6th inst., Mr. J. Forbes presiding, Mr. William Craig, plant foreman at the Tweed Vineyard, Clovenfords, read a well-reasoned, practical paper on Soils, Potting and Watering, in which he dealt with the subjects in the order named, and carefully explained the minutiæ of the various operations upon which success in plant cultivation depended. As to failures he believed that more were attributable to careless watering than was generally admitted. A spirited discussion subsequently took place, and Mr. Craig was warmly thanked for his paper.

THE BOUVARDIA.*

So far as the neighbourhood of Preston is concerned I think I may safely preface my remarks with the somewhat hackneyed phrase that "this plant is not grown so much as it ought to be." Why, is perhaps better known to my hearers than to myself. Many years ago the few odd plants seen in gardens of some pretentions even, were huddled up with the occupants of the stove, and the idea may still prevail in some quarters that they require stove plant treatment, and those not possessed of a stove may have been deterred from growing them, while others having such a structure may have tried to grow them and failed, because the plants dislike such codling.

In the South I have planted the Bouvardia out in well-manured borders in June, and lifted and potted them in September. In some large establishments they are lifted and planted in disused Melon or Cucumber houses, and the quantity and quality of the flowers produced in this way are marvellous. I have potted plants with numbers of shoots two to three feet long on a plant, sent up sucker like from the base. Planted in a frame in May on a gentle hot-bed I have had them equally as good in Lancashire. Treated on the planting out system the plants after being lifted require to be kept close and shaded, also syringed once or twice daily according to the weather. The most suitable place I have found for them has been a sunk pit with a flow and return hot-

* A paper read by Mr. W.P. Roberts, Cuerdon Hall Gardens, at the November meeting of the Preston and Fulwood Horticultural Society.

water pipe to give a little warmth on dull days and cold nights, until thoroughly established.

Growers for market, who produce the plant by thousands annually, as far as I know have confined themselves entirely to the pot method of culture, which no doubt answers their purpose best. As we are now in the midst of its flowering season, it has been thought a fitting opportunity to furnish a few details of culture that may be carried out in the open air one third of the year in our Lancashire climate. To some of you the plants' requirements are pretty well known, and all of you I am sure must have admired its beauty, and recognised its utility for making button-holes, ladies' sprays, and other floral devices. I have said that we are in the midst of the flowering season of the Bouvardia, and probably more plants may be seen in flower at present than any other period of the year, but with plenty of labour and ample accommodation, plants may be had in flower every month in the year by propagating at different times, and attending to potting and stopping the shoots.

Growers holding such envious positions as to be able to carry out such a system of culture need no advice from me, nor is it my intention to offer any, but shall confine my remarks to a batch of plants likely to suit the convenience of the majority of my hearers, and requiring no more attention than a Fuchsia or a Pelargonium, and the only time that they need more heat than these common plants is from November until they finish flowering, which may be in January or February, much depending on the time they were last stopped.

Now, or when the plants are in flower, is a good time to make a start in their culture, as the varieties which take the purchaser's fancy may be selected. From this date (the first week in November) they will do in a temperature of 45° to 50° at night until February, when after they finish flowering, allow the soil in the pots to get moderately dry before turning them into the greenhouse. Ours are stored in the corner of a house where Calceolarias, Cinerarias, and other cold loving plants grow, but the Bouvardia through being kept on the dry side never suffers. If we wished the plants to flower in August or September, we would not move then into the cooler house, but prune them after a short rest and push them on, but as we avoid the use of pots exceeding 6 in., by starting the plants in March or April even the pots become full of roots early enough, and the plants persist in flowering, and to continue pinching after the food supply is exhausted in the pots means weakly growth and small flower heads.

At the end of March or during April the plants will be disposed to start into growth, and they must be pruned to two or three joints off the base. Arrange them where they will not catch a draught and sprinkle overhead once or twice daily with the syringe, or a can with a fine spreader on. They do not like the dry open staging at this period, and their wants would be better met if they could stand on an inch of ashes. To meet this arrangement the open stage for the time being might be covered with slates or boards to support the ashes, which should in the first instance be passed through a half-inch sieve, and after through a finer one, in order to get out the dust, the overhead damping of the plants will help to keep the ashes moist, and create a certain degree of atmospheric humidity which will prove most beneficial in a house that may be naturally dry, necessarily so for other subjects.

The fine silky young roots are so delicate and susceptible of injury from sudden extremes that I should like the pots to stand on ashes, or some moisture holding material at all times in preference to the open stage. After the plants are fairly broken, or have pushed young shoots half an inch or an inch long, turn them out of the pots they are in, shake the soil away from the roots and cut some of the strongest of these, then pot into as small pots as they can be conveniently got into, using a compost of three parts sandy loam and one leaf soil, or such a compost as has been found to suit Fuchsias or Pelargoniums, for surely a plant that will make willow like growth in an open border when forced by summer heat cannot want a complicated mixture.

After potting they may be returned into the house they were in, and if cautiously watered they will do well, but a closer atmosphere and a higher temperature would prove conducive to earlier root formation, with more vigorous growth. As a rule our plants receive none of these auxiliaries, but are located in a span roofed house with ends north and south until a frame on a gentle hot-bed can be got ready for them, and if circumstances always permitted the frame would be the place we would always select for them after being potted. Here they may remain until the end of September, and as they grow the frame must be raised to allow head room. From June to September, or when taken indoors, the lights are off the plants night and day except during a prolonged downfall of rain like what we have experienced this season, then they are used to throw off the wet. They should also be ready for use the latter part of September in case of frost occurring.

I find the plants do fairly well in a cool greenhouse during October, but such a structure with sides east and west, and the roof partly covered with creepers, is not the accommodation I should select. I prefer a house, if a lean-to, facing south with a temperature of 45° at night, not so freely ventilated, and with a more humid atmosphere than that of a cool greenhouse. In such a house or a span-roofed, one facing north and south, the plants will be quite at home until they have finished flowering, which may extend to the end of February.

Propagation is effected by cuttings, and for this purpose one or more plants of each variety should be introduced into a temperature of 60° to 65° in February, if the plants are expected to make decent flowering specimens the same year. As soon as the young growth is long enough to make cuttings, take them off with three or four joints and insert three or four in a thumb pot, and when rooted, pot either singly into small pots or later into larger ones without disturbing the plants, which of course will produce a much larger specimen. The following year the plants may be separated and potted singly. A close-fitting frame or case with bottom heat of about 75° to 80° is essential for propagating to prevent the cuttings flagging, as well as the young plants for a few days after they are potted, or until established. Root cuttings are easier managed than tops, and will grow under a handlight on the stage in the stove. If the stage be an open one, a board or a slate, the size of the handlight, covered with ashes or cocoa-nut fibre should be temporarily introduced for the pots to stand upon.

For root cuttings select the oldest plants, turn them out of the pots and shake the soil away from the roots, and cut the strongest of these into pieces 1½ in. long, cutting the upper end square and the other obliquely, for without some mark it is difficult to distinguish one end from the other as they lie on the potting table. Fill the requisite number of small pots with light sandy soil, and dibble the cuttings either thickly or three in a pot, and when rooted treat as advised for top cuttings. The general treatment of the cuttings need not be particularised. Suffice it to say that their requirements differ but little from a batch of Fuchsia cuttings at that season of the year, and the grower who can propagate and grow the one can do the other. The after-treatment will consist in potting as required, and pinching the points of the shoots every three or four joints in order to induce a bushy habit and the production of a greater number of flower heads. The latest date for potting will be July, and pinching must be discontinued in August.

Naturally the Bouvardia is a clean plant and is seldom infested with insect pests, but if introduced into the company of plants noted for their association with mealy-bug, then it becomes one of the most troublesome subjects to deal with, the bug soon finding its way into the points of the shoots and the flower heads. Except on one occasion, and that years ago, the Bouvardias under my care have been free from this pest, and rather than be bothered with them, I, in that instance, threw them away and procured cuttings from unaffected plants. Consequently I am not in a position to give advice as to its destruction without injuring the plants. It is always risky to apply powerful insecticides to soft, woolly-leaved plants like the majority of the Bouvardias. With the method of culture that I have detailed, I do not think the mealy-bug will give much trouble. Greenfly will sometimes make its appearance on the plants when in the warmest temperature, but it can be readily got rid of by fumigating in the usual way, and without injury to the flowers. Since the introduction of the Bouvardia from Mexico more than ninety years ago, hybridizers have given us several beautiful varieties, the following of which are my favourites:—Elegans, Hogarth and Dazzler, scarlets; The Bride, Vreelandii and the species Jasminiflora and Humboldtii Corymbiflora, all whites; the latter possessing a most pleasing fragrance. The double-white Alfred Neuner and the pink form of President Garfield should also be represented in the most limited collection.

THE VEGETABLE GARDEN.

Concerning Potatos.

The late varieties prove to be wonderfully good, and singularly free from disease. Two of the best sorts are The Gentleman and Sutton's Magnum Bonum. The Gentleman is a new kidney-shaped variety, which I had from Messrs. Veitch & Sons. It is very handsome, most prolific, and free from disease; flesh-white, and mealy when boiled, and of first-class quality. Magnum Bonum, I find, still resists the disease better than any other late Potato we grow in the fields. On our cold, clay soil, we have a splendid crop of fine tubers, free from disease, and of high-class quality.—*William Smythe, The Gardens, Basing Park, Alton.*

Two new Potatos.

Renown.—This kidney variety is oblong, slightly flattened, blunt at both ends, pale pink, and slightly rough on the surface, with very shallow eyes. Characteristic specimens measure 3½ in. to 4½ in. long, and about 2½ in. wide. The variety is a second early and has resisted disease as well as Magnum Bonum or King of Russets. It is a cross between Purple King and Lye's Perfection.

Advance.—The tubers in this case are round, slightly flattened, of good average size, white, slightly scurfy on the surface, and has very shallow eyes. It is very early, a good cropper, and a cross between Reading Russet and Schoolmaster. Both Potatos were shown by Mr. James Lye, Cliffe Hall Gardens, Market Lavington, Wilts, at the Aquarium Show last week, and received Certificates of Merit.

Gleanings from the World of Science.

Introduction of British Plants.—Through the post-glacial ages the vegetation of our islands became richer through the transport, by water and air-currents, and by birds of additional species. At no time can it be said that this influx has stopped. In a flora entirely derived from nearer or more remote lands we must include all plants which have reached our shores, whether early during the ice age, in the ages intervening, or quite recently in our own day, if such additions are independent of human agency. The existence of the American Eriocaulon septangulare, With., on the western coasts of Scotland and Ireland—the only member of an extra European order, which is found nowhere else in Europe—is no doubt due to the agency of some American bird. It is included in our native flora, as Anacharis Alsinastrum, Bab., should also be, though it has been added to our flora in our own day. This plant was first observed in County Down about 1836, and made its way to England in 1841. There is no evidence to show, and no reason to suppose, that its presence in Ireland was due in any way to the agency of man. —*W. Carruthers, F.R.S., in Proceedings of the Linnæan Society.*

Disease of the Plane Trees.—M. H. Moerman, inspector of plantations at Ghent, throws some doubt on the statements of M. de Nobele, as to the malady of the Planes on the Continent being caused by the fungus Gloesporium nervisequum, and says that nothing is yet less certain than the cause and nature of the malady; nor does he think that the spores have been conveyed from tree to tree by the clothes or bill-hooks of the pruners, but by the wind, seeing that the most widely separated trees are often those most severely attacked. M. H. de Bosschere, director of the public gardens at Antwerp, has noticed the disease ever since the memorable winter of 1879-80, and believes that severe cold has much to do with the rapid spread and intensity of the malady. Trees raised from seeds seem most liable to disease, the nearer that they approach in character to the typical Platanus orientalis. On the other hand, P. o. acerifolia, or the London Plane of this country, and there called P. occidentalis, is considered much hardier and more disease resisting. M. H. Moerman observes that seedling trees, especially those in the more exposed places at Ghent, have suffered in the same way as those at Antwerp. He therefore considers it advisable to abandon trees raised from seeds, and to plant only those raised from cuttings and layers taken from perfectly hardy subjects. He advocates judicious pruning, and ameliorating the conditions of growth generally in preference to spraying with sulphate of copper.

NEW EARLY FLOWERING CHRYSANTHEMUMS.

THE capital illustration of one of the new varieties belonging to the early section which appeared in last week's issue of THE GARDENING WORLD, reminds us that the contest for supremacy between French and American Chrysanthemum raisers is likely to become keener in succeeding years. After not a little conversation with friends specially interested in the early flowering section there seems to be no doubt that they anticipate a very brilliant future in store for these novelties, and that there is some probability of a complete revolution taking place in the annals of this popular flower.

Among the large number of Earlies distributed in the spring of the present year it is unquestionable that there is a fair average proportion of flowers of sterling merit, and that they only require a further season's treatment in the hands of competent English cultivators to do justice to their flowering capabilities either as pot plants or as subjects for the open border. For the past ten years Chrysanthemums of continental origin particularly have shown signs of continual advance in their time of flowering, and now we have the important addition of 125 varieties all reputedly early and beginning to bloom from about the end of June, and lasting far away into the ordinary Chrysanthemum season.

There only remains one more item in the programme to ensure this unqualified success, and it is a consignment from Japan, where we are told summer-flowering Chrysanthemums have been known and grown almost as long as the November-blooming kinds. Those of us who have stood aghast at the immense additions to the lists of all kinds in past years need indulge in no hope for smaller quantities. The exhibits at the Aquarium last week show quite plainly that the novelty-dealers are keenly alive to the interest the new flowers create, and notwithstanding that we are utterly unable to keep pace with the times, seem determined to inundate us with larger accessions.

There is one grain of satisfaction about the whole business. Nobody in particular seems to lose much by the "boom," but unquestionably there must be a somebody or somebodies who profit materially by the increase, and whose pockets must have been liberally and plentifully lined with that most attractive of metals, British gold. We do not grudge them their gains in these days of keen competition; the man who can discover a means of acquiring wealth is to be congratulated, and is deserving of full commendation when that means affords pleasure of so innocent a kind as growing Chrysanthemums.

Our friends who delight in Queen Mum need be under no apprehension that the charm of novelty will be allowed to wear away. From information of a private nature we venture to predict that there will be next year another substantial collection of early Chrysanthemums placed before the eyes of the admiring Chrysanthemum world.—*Chrysanth.*

THE AUTUMN TREATMENT OF VINE BORDERS.

FROM many years' experience and great success I can say that November is the best month for dressing Vine borders and applying manurial stimulants. My practice is to first examine the roots to see that they are in a healthy condition; then to look to the drainage; and subsequently to lightly fork over the surface of the border, and apply a dressing of manure made up as follows:—twenty bushels of wood ashes, six bushels of lime, four bushels of soot, one bushel of the best guano, and eighteen bushels of dry, old night soil. The materials are put into a dry, open shed, well mixed together, turned some six times, and allowed to stand for four or five days, before being sown on the border. This quantity will suffice for a border 40 ft. long, and if the Vines are planted inside I treat them in a similar way, only adding some fresh loam to make up for what is previously scraped off the top.

I find this mixture a first class manure, as it keeps the borders clean and sweet, and the Vines healthy and vigorous, so that they regularly give us good crops of well-coloured fruit. After applying the mixture I have the borders covered with long stable litter, about a foot deep, which protects the surface roots from frost, and this is left on until the end of May, when the greater part is removed, sufficient being left to mulch the border, and prevent too rapid evaporation in dry weather. The long litter removed from the Vine borders I find most useful for mulching Strawberries, as it is clean, and is available just at the time it is wanted. The best time to dress the inside borders is just after the Grapes are cut, or when the Vines are pruned. It is advisable to remove all other plants from the house, and throw it open for a few days after applying the dressing.—*William Smythe, The Gardens, Basing Park, Alton.*

THE CHRYSANTHEMUM IN HOLLAND.

THE culture of the Chrysanthemum is making rapid strides in Holland, and Dutch horticulturists are taking all possible measures to master its cultivation in the hope that in time they will attain the high standard of excellence which obtains in England. The great success of the first show held in Amsterdam, in November, 1890, has given an immense impetus to the movement, and the second show organised by the Dutch Horticultural Society was held on the 12th inst., when a *plebiscite* was taken on the following questions:—1. The ten most elegant and distinct varieties. 2. The six largest varieties. 3. The six most compact growing and free-flowering varieties. 4. The best six tall-growing varieties. 5. The six best Pompons. 6. The four best Anemone-flowered sorts. 7. The best white variety for cutting. 8. The best six yellow varieties for cutting. 9. The ten best coloured varieties for cutting.

The result is to be announced in *Sempervirens*, the Dutch Horticultural Journal, so ably edited by Mr. H. Witte, of the Botanical Gardens, Leyden, who is the most popular writer on flowers Holland has ever possessed.—*Haidentair.*

PLANTING YOUNG VINES.

AMATEURS are often at a loss to understand the cause of their recently planted Vines making a halt in their growth after starting with apparently a good promise. In most cases the young Vines are planted with their roots in an outside border, and their stems taken at once inside and forced into growth, with the result that their roots are in a damp cold soil, while their stems are receiving the temperature of a forcing house. Such treatment could not be worse if they were old-established Vines. The young canes start into a premature growth which they are not able to maintain, because there is no reciprocity of action going on between the leaves and the roots. And the consequence is that as soon as the young canes have used up the reserve store of sap in the stems and roots gathered from the previous year's growth, there is a sudden falling off in growth, and a struggle for life take place.

Early in March is a good time to plant young Vines, and the roots and stems should be kept as near as possible in the same temperature; and this is not a difficult matter if both the stems and roots are kept in a state of rest by the plants being kept cool, and in a moderately dry condition at the roots. When planted in outside borders, the stems ought not to be taken at once into the house, but be protected outside until the eyes are pushing out; they may then be put into their positions, and have all the air it is possible to give them in favourable weather. As the border becomes warmer, both stems and roots will be making equal progress, so that no check will be given as they advance in growth, but, as the leaves and young branches develop themselves the roots will increase in proportion. The following year, about the end of February, 2 ft. of hot fermenting manure should be laid all over the border, and the internal air of the house kept cool. This warming of the roots will throw them into an active state, so that they will be able to supply an abundance of nourishment by the time the young leaves begin to develop, and as each gains strength there will be signs of increased vigour.

With inside borders the case is different, as the Vines can be planted at any time. I would not, however, advise amateurs to have their borders entirely inside the house unless very early Grapes are required, but where it can be done, to have them part in the house and part outside. The front wall of the vinery should be supported on pillars or arches, so that the roots can pass inside or out as they like, the outside border being protected in the early part of the year with a covering of fermenting manure, as recommended above, and the inside border should be kept moist, or the unequal root action will cause the Grapes to shank, and so prove worthless.

I hope I have been able to make it sufficiently clear that the cause of recently-planted Vines ceasing to grow after starting so satisfactorily is, in my opinion, the result of the stems being in advance of the roots, which ought to be kept at a more uniform temperature, for who can expect young Vines to continue to thrive when there is a difference of twenty or more degrees of heat between the stems and their roots.—*A. W., Chetton.*

BULLACES.

ON the evening of the first day of the National Chrysanthemum Society's Great Show at the Royal Aquarium, on the 10th, 11th, and 12th inst., there came to me at the Royal Aquarium, from Mr. A. J. Harwood, fruit grower, Colchester, a basket of fruiting sprays of the Colchester Black Bullace—branchlets a foot or so in length, laden with dense clusters of large round shining black fruit, reminding one of the manner in which the Crittenden Damson fruits. Examples of this Bullace were sent to the Manchester Fruit Show last month, and no fruit grower who saw it recognised in it a variety already grown, and on account of its distinct appearances fine flavour, and great fruitfulness, it was awarded a Certificate of Merit. The fruit sent to the Royal Aquarium seemed to me to be even finer in appearance than that shown at Manchester, and I ventured to get together a scratch Fruit Committee in the absence of the judges of the show—a committee of men who knew their business, and the Bullace was unanimously awarded a Certificate of Merit. Its lateness is shown from the fact that the fruit was gathered from the trees on the 10th inst. So that not only is it late but it hangs well, and to be subjected to the action of frost is, according to Dr. Hogg, a means of adding tenderness to the flesh and sweetness to the flavour. I took home with me the fruit which had lain at the Aquarium for two days, and they were excellent in tarts as well as preserved; and uncooked much superior in flavour to a Damson. But perhaps this could be traced to being influenced by weather, though the fruit bore no appearance of being in any way over-ripe.

It is generally regarded that there are three types of the Plum, viz., P. spinosa, the Sloe or Black Thorn, which is found abundant in country hedgerows; the Bullace, P. insititia; and the garden Plum, P. domestica; but probably no one would venture to say they are absolutely distinct species, although they rank as such. The late Mr. George Bentham considered the Bullace and garden Plum to be simply varieties of the Sloe produced by long cultivation, and in reference to this statement Mr. Leo Grindon adds: "If so, the common Sloe will have been the parent of everything of the Plum kind. The Sloe, however, is not a plant that seems likely ever to have invited cultivation. It is also very different from the others in its root habits. The probability is that all our modern garden Plums began with the insititia and the domestica, and this either independently or by connection. The garden forms have in every case much larger leaves and stronger shoots."

The Damsons are classed with the Plums, but the Farleigh Prolific, or Kent Crittenden, appears so distinct from some others that I am disposed to regard it as an oval Bullace rather than a true Damson. The Bullace is a term supposed to have been given from its hard round fruit. In the "Grete Herball" it is rendered *bolays*; in the Spanish, *boldi*, bullets; in the Latin, *bullas*, bosses or bridles.

Of Bullaces now in cultivation there are three or four; the best known are the Black, very late, of which the Colchester Black is perhaps a superior variety; Shepherds, a large, greenish, round variety which makes excellent tarts in autumn; and the White Bullace, or White Damson, which is a profuse bearer, and is perhaps best known under the latter name.

Damsons and Bullaces can be planted round plantations of standard fruit trees for shelter, the Farleigh Damson especially: the close short growths of the branches make it very useful for this purpose.—*R. D.*

THE MAKING OF FLOWERS.

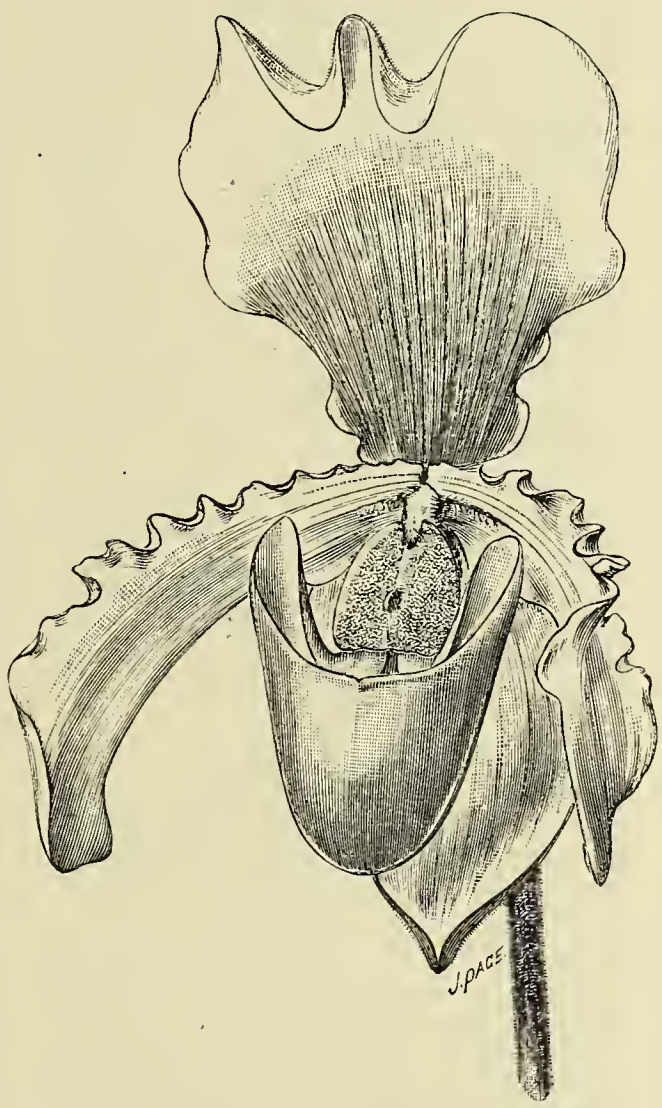
This was the subject of an address given at the last meeting of the Manchester Gardeners' Mutual Improvement Association, by Mr. Hicks, of Owens College. In introducing the lecturer to the meeting the President, Mr. Bruce Findlay, said the society had to deal exclusively with the vegetable kingdom, and he had no hesitation in saying that so far as things temporal were concerned they had to deal with the most important subject that could occupy the human mind. Taking the utilitarian view, it must be obvious to the most superficial observer that we are entirely and absolutely dependent upon the vegetable kingdom for our food and raiment. Every particle of food of which we partook came from the soil, and every article of clothing we wore came from the same source. The fire that gave us warmth was dependent upon plant life. Many present could remember the cotton famine, and would remember the misery caused by the non-supply of the produce of the cotton plant. Looking at the other side of life from whence did we get the highest type of beauty? Flowers were the most beautiful things in the world. Let people imagine, if they could, a world without trees and flowers. Many of them would not like to live in such a world. Artists and poets derived their inspiration from the trees and flowers which were distributed over the earth in such rich profusion.

For the necessities, conveniences, comforts, and elegances of life we are entirely dependent upon our vast system called the vegetable kingdom. That being so, he thought he was entitled to say that any organization which had for its object the increase and improvement of the floral production of our country is deserving of the support of an enlightened public. Seeing that things were so, it had been to him for many years matter for regret and surprise that our public representatives in Parliament, our local rulers in Town or County Councils, were so slow to acknowledge the importance of the matters he had named, and which he defied anyone to deny. If a sum of money should happen to fall into the hands of some of our governing bodies, he would venture to predict that if two propositions were submitted as to the distribution of the money, the one to buy a few pictures, the other to assist an association for the spreading abroad among the people a love for the pure joys of nature, or the spreading abroad a knowledge of the vegetable kingdom among the community, eight out of ten would support the picture proposal. That was an unaccountable fact, and the members of that society thought they could show such people a better way of spending the money.

Mr. Hicks said, he agreed with Mr. Findlay that a great deal might be done to educate the public taste, and train the observing powers of the people, for we had now greater facilities than used to be the case for growing, showing, and, to some extent, distributing the beauties which nature is ever ready to pour into our hands if we are only careful enough to give her the means, and show an interest in them. He had chosen his subject that night because he thought something wants saying about flowers in these days, and because the subject, treated from his point of view, might be of interest to men who were personally engaged in the practical work of growing and developing flowers the year round, and from year to year. The first question he had to ask himself in considering the subject was: What is a flower? A flower, he thought, would be well described as an object which consists of a series of organs to produce fertile seed. As to their origin flowers are simply modified vegetated shoots—which was shown by the doctrine that by suitable processes horticulturists know how to make a shrub, tree, or plant produce flowers, where it would not otherwise have produced anything but the ordinary foliage shoots. By pruning and other operations the plant could be made to burst into flower. It might be taken as a general rule that impaired nutrition of plants produces a condition favourable to the production of flowers.

The flowers to-day are only the outcome of the flowers of ages ago. We could form some idea of what the earliest flowers would be by comparison with the flowers that exist to-day. The earliest flowers would be flowers in which each of the parts was free and separate one from another. Probably the earlier flowers would be yellow, perhaps the next would be white, then all the shades of pinks and reds, and then all the shades of blue. That was an ascending scale of colour which probably represented the order of evolution in the matter of flowers, so wherever there was a yellow flower it was of the lower colour than a rose which is pink. Mr. Hicks proceeded to explain in a lucid and interesting way, assisted by diagrams, the way in which cross-fertilization of flowers is effected. Certain insects, he said, seemed specially adapted by nature for bringing about the cross-fertilization of certain flowers. Yellow flowers were usually fertilized by insects, chiefly by small beetles. White flowers were said to be chiefly fertilized by small flies, but pinks and blues were flowers which were only fertilized by the more highly specialized insects, and especially bees. The more highly specialized a flower was as regarded colour, the more highly specialized wonld be the insect which cross-fertilized it.

The point to be emphasized was that all the flowers we have to-day have simply risen from a modification of the flowers which existed ages ago. When people thought of the blues and the pinks and the whites which have come from the yellows, it could not for a moment be supposed that the resources of horticulturists are exhausted. It was worth enquiring whether, by more careful notice of various modifications, and attention to the cultivation of plants and flowers, it is not possible to get something a little different to what we already have had.



Cypripedium insigne Sanderæ.

CYPRIPEDIUM INSIGNE SANDERÆ.

One of the most distinct of all the varieties of C. insigne that have ever appeared was that shown by Baron Schroder (gardener Mr. H. Ballantine), The Dell, Egham, at the Drill Hall, Westminster, on the 10th inst. The brown colour, diffused more or less over all parts of the flower both in the type and its varieties hitherto in cultivation, has almost completely disappeared in C. i. Sanderæ, and all that we could detect of it was a few minute brown spots on each side of the midrib of the lower half of the upper sepal. The basal and central portion of the latter was of a soft greenish-yellow, while all the upper portion and the sides were pure white. The spathulate petals were undulated on both margins and of a soft greenish yellow. The lip was clear, soft lemon-yellow, shining and like the upper sepal, a conspicuous and charming feature of the flower. The staminode was of a deep lemon-yellow with a raised orange-coloured knob on the centre. The pale green pubescent scape was about 1 in. high, and the strap-shaped deep shining green leaves were 6 in. long. The plant is evidently of vigorous constitution as the piece, when received at The Dell two years ago, was very small, but grew away vigorously and bore two flowers when exhibited. It turned up in a large importation made by Messrs. F. Sander & Co. three years ago, and is a decided acquisition. A First-class Certificate was awarded it. The complete obliteration of the veins of the lip is a striking peculiarity of the variety, and the petals are nearly in the same condition.

HYDRANGEAS AND HARDY FUCHSIAS.

At p. 52 of your issue for September 26th the writer, in his notes on the former of these favourite denizens of the garden, refers to their hardiness and successful cultivation on the south and west coasts of England. It may not be generally known, however, that in the milder parts of Scotland, more particularly in some of the western isles, they in many instances grow into large specimens, and flower freely. In the Island of Islay on one occasion in December I counted about fifty perfectly developed trusses on a handsome plant growing in a cottage garden, and in a letter from a well known Scotch gardener about the same time, he informed me that many years previously, about thirty miles further north in the Island of Mull, they attained an immense size and flowered splendidly.

In these islands hardy Fuchsias, of which F. Riccartoni is the most popular, often reach gigantic proportions, one instance being known to me of a large farmer's garden being enclosed with a hedge of it, 8 ft. in height. These Fuchsias, being so easily propagated and of very free growth, when once rooted are especially suitable to those whose facilities for raising many decorative plants are limited. Two or three strong rooted cuttings, planted in good soil in a clump together, quickly form specimens in shrubbery borders or other positions, which are no mean ornaments in the pleasure grounds of either castle or villa.

When well established these Fuchsias require no protection from frost in winter. Several strong clumps, which occupy part of a bed near the mansion here. have stood the test of frequent long and severe frosts during the nine years I have had charge of them without injury. We remove the dead wood from them in the spring, and they afterwards grow and flower well. With recently made plantations, however, it may be well to err on the safe side by laying a few inches of coal ashes over the roots, or some rough stable manure, covering the latter neatly with fine soil, to give a finished appearance.—*D. M., Ayrshire.*

CHRYSANTHEMUMS.

THE LONDON NURSERY, MAIDA VALE.

As Chrysanthemums for exhibition purposes are no object here, Mr. P. McArthur, 4, Maida Vale, aims at getting flowers of moderate size and plenty of them for cut blooms and decorative purposes. The dwarfness of the plants is therefore a desirability, and in inducing this cutting back is resorted to with more signal success every year. Several of the newer kinds, such as Louis Bœhmer, Stanstead White and Ada Spaulding, have proved quite as amenable for this purpose as the old ones, being only from 18 ins. to 2 ft. high. Ada Spaulding is particularly dwarf, and under this treatment produces pure white slightly incurved florets, of peculiarly chaste appearance. The collection is arranged in a span-roofed conservatory close to the main thoroughfare, and is made to slope gradually from the door at either end to the centre. In doing so some of the plants have to be raised on pots to give them the necessary height. Madame C. Audiguier, about 4 ft. high, may be reckoned amongst the tallest. Other good sorts that have proved suitable for dwarfing are Mons. Astorg, Soleil Levant, Avalanche, Madame de Sevin, Dr. Sharp and Holborn Beauty. The latter is only 2½ ft. high, whereas it was 7 ft. last year. It is an incurved, yellow Japanese sort. Lady Talfourd under like conditions resembles a quilled Aster, and Prince of Wales is much darker in colour. Some of the blooms of Avalanche measured 9 in. in diameter, which is large enough for all practical purposes except exhibition perhaps. There are some new importations from Japan, including Mrs. Spence, dark maroon, Christine Gorton, straw yellow, and Miss Spence, blush pink and similar in type to Lady Selborne. All belong to the Japanese class. The bronzy orange of Mrs. F. Jameson, and the bronzy red of Mrs. H. Payne afford rich and pleasing bits of colour. Several of the popular market kinds, including Source d'Or and a semi-double white, as well as the magenta pink Justine, are dwarf, bushy, and floriferous.

THE ORANGE IN JAPAN.

THERE are many varieties of the Orange found in Japan, of which the most profitable are the Oonshin, Hira Mikan, Koji Kinkan, and Natsu-Mikan. In the prefecture of Osaka the location of the Orange trees is about three miles distant from the sea, at an elevation of 2,016 feet, and at Oritagun, in the province of Kü, they are located from half a mile to three miles from the sea, at an elevation of 610 ft. to 800 ft. A southerly exposure is the best for the tree, and the best soil a sandy loam, with gravel about 3 ft. from the surface. Hilly and undulating land is preferable for the Oonshin and Hira Mikan varieties. As regards the former, the United States Consul at Hiogo and Osaka says that, in every respect, this is the best variety. The tree, or, more properly speaking, the bush, grows to a height of 10 ft. or 12 ft., and covers a space of 22 ft. or 23 ft. in diameter. It branches close down to the ground, and, not being pruned, the weight of the fruit causes the branches to lie on the ground, completely covering the trunk. They are extremely prolific, and as the fruit is not thinned out when small, it does not often attain a size of over 3 in. or 3½ in. in diameter, and the majority are not over 2½ in. in diameter. Like all other fruits, they are packed by the Japanese when green and sour, as early as the 1st of October, and are gathered and packed by December, when they are stored, keeping so well as to be found in the market as late as the end of May.

The fruit of the Oonshin is flattened at the ends, the rind peels off very easily, and segments part as readily. When the Orange is cut horizontally, the juice is so abundant that it runs over freely. They are practically seedless. Out of 200 lately tested, only two were found to have seeds. Their flavour is very pleasant, sweet, and much liked by foreigners in Japan and China. The Hira-Mikan, sometimes called Kishin-Mikan, or Kino-Kuni-Mikan, is a smaller fruit than the Oonshin, and, though it has a few seeds, it enjoys a good reputation. The tree grows to a height of 30 ft., is a great bearer, and is as hardy as the Oonshin. The Kinkan, known in China as the Cumquot, or golden Orange, grows to the height of 16 ft., and is very prolific. There are two kinds, the marumi, or round fruit, and the nagami, or long fruit. It contains four or five seeds, and is very palatable, eaten, as it frequently is, with the rind on; but its chief use is as a preserve in syrup or crystallised. It has long been popular, both in China and Japan, when treated in this way.

The Orange tree is propagated in Japan by grafting on the stalk the Citrus trifoliata, or native wild Orange, which is so extremely hardy that it does not appear to suffer with cold. It grows to the height of 25 ft. to 30 ft. The fruit is perfectly round, somewhat larger than a billiard ball, and full of seeds. The stock for grafting are propagated from these seeds. The young plants are replanted each spring, and, after two years, are ready for grafting. The leaf is trifoliate, like the Clover. The tree is very thorny, and it is deciduous. The sap falls in the winter, and does not rise till late in the spring; and it is to this that the extreme hardiness of trees grafted in this stock may be attributed. The Japanese do not appear to give the same attention to the cultivation of Orange trees as cultivators in California and Florida do, allowing vegetables and Corn to grow between the trees, which are planted so closely together that the branches often interlock. The irrigation which takes place only in the dry seasons, is effected by pails, and the liquid manure is distributed with ladles. There are no regular Orange groves as in the United States, but irregular patches, and many trees are planted on the hill sides in terraces, the same way as Rice and other products. No attention is paid to insects beyond burning the cocoons of the chrysalis or beetles.

The principal nurseries where the young trees are propagated are about twelve miles from the sea, and are protected in winter till the third year with coarse straw matting roughly tied round, the idea being to preserve the young growth, and not because injury is feared to the matured branches. As the Japanese see no beauty in an upright tree, but rather prefer them crooked or dwarfed, the young trees are not staked or trained. One reason for preferring the low tree is that they can pick the fruit without the aid of ladders, and another reason is that the branches keep the ground cool and more moist than if exposed to the sun. Consul Smithers says that the market price of the Oonshin in Japan is from two to five silver *yen* (the silver *yen* is equivalent to about three shillings and ninepence) per thousand, according to size and quality, and large shipments are made to San Francisco, but owing to their being packed in light boxes, the Oranges often arrive in bad and damaged condititition.—*Society of Arts Journal.*

THE APIARY.

BEES AND BEE KEEPING was the subject of a lecture delivered by the Rev. Dr. Dangar at the meeting of the Devon and Exeter Gardeners' Mutual Improvement Association, on the 4th inst.

Dr. Dangar alluded in the first place to the structure of the bee. He said this may be considered under three divisions, viz., the head, the body, and its continuation. As to the head, one eye is on each side, and contained some 15,000 facets or lenses, so that if a bee's eye be mounted in Canada balsam and placed in a proper optical position in a microscope it will show a large number of pictures of a photograph placed at the focus; but besides these eyes there are three others on the top of the head, each with one lens, so that the bee can "keep an eye" all round when busy gathering pollen or honey. The tongue is contractile, and may be compared to a long bag with a spring inside, capable of being extended or withdrawn at pleasure; it is, moreover, hollow, so that the honey when sucked from the nectary of a flower is drawn through the tongue into the proper receptacle. The body proper or breast secretes wax on its under side, such as is used in the building of the comb. There are eight shields or plates, and between these the wax oozes out from the bee's body. The legs are six, as in all insects. The tail part of the creature, in twelve joints, all contractile, has, of course, a sting. That of the queen is curved, and practically useless, except when she fights another queen; that of the working bee is straight and barbed and double, so that when once inserted in hard flesh it cannot be withdrawn; hence the death of the bee. In this respect it differs from the sting of a wasp, which has no barb. The breathing apparatus is situated on the surface of the body, spiral tubes entering into the interior, which the bee can open or close at will. The wings are in two pairs, so arranged that their inner edges hook together to form one wing; both pairs are attached to the breast portion of the body; the hind legs carry the pollen, and are specially constructed for that purpose, being not straight but jagged.

A few words on the queen bees, or non-workers. They are the mothers of the families in which they live, one in each hive; in case the queen dies in winter, failing her replacement the hive perishes. But in the spring, if the queen be old (*i.e.*, say, over three years), it is better to remove her after she has begun to lay. The bees, when she is gone, will soon raise a queen cell, and hatch out another queen. This operation must not take place until there are drones, or male bees, about. As an illustration of the advantage of adopting this process, the lecturer quoted an instance last summer of a weak stock with an old queen; she was removed early in July, and by the end of the season the new queen had laid so well that the hive was strong and in a good wintering state. As to this queen-raising, the bees select a particular egg which suits their fancy; they destroy the egg in one of the adjacent compartments, cut down the partition between the two, and build up a large queen cell around the royal egg; as soon as the grub is hatched they feed it with royal jelly,—it grows very fast, and in 14 or 15 days a queen is hatched, as against 21 days for a working bee and 24 for a drone. The queen does not come to her full size, or if she be a Ligurian to her full colour, until the second year. If deprived, the bees will probably raise several queen cells in a hive, so as to be quite sure of hatching out from one; but the first out waits for the rest, and kills them off as they appear. The queen does no menial work, and the male bee or drone follows suit; but at the end of the season the toilers make short work of the drones, who in the autumn may be seen lying dead by the score outside a hive.

If it be desired to increase a stock artificially, provided that it be in a bar-frame hive, it can be done as follows:—Remove the bar frame on which the queen bee is seen, place it in another hive, also a second bar frame if it can be spared. Take away these two frames with the queen to a long distance. The bees remaining will at once raise a queen. Of course the operator must be sure that there are eggs and brood in the deprived hive, otherwise no queen can be raised therein. If it is desired to introduce a queen to a queenless hive this can be done by caging a new queen, in a wire cage, within the hive. In a few hours every bee in the hive will know of her majesty's arrival, and they will feed her through the bars of the cage. When it is seen that this is onward she may be released, and will be accepted right royally. Sometimes it happens, but very rarely, if these precautions be not taken, that they take a dislike to the stranger. This often occurs if she be introduced suddenly. They will then encase her, usually at the bottom of the hive, and sting her to death. The lecturer then exhibited one of the most approved forms of bar frame hives, and dwelt in detail on the various parts and appliances, viz., the mode of arrangement of frame, supering, side boxes, summer and winter arrangements, quilts, dummies, and packing for the winter season. He spoke of the difficulty of keeping bees in towns, and in certain mining and manufacturing districts. As to towns, they do not find enough food near their homes, flowers are scarce, and in some localities the atmosphere is unsuitable. The late Mr. Ralph Sanders could rarely keep his hives strong; the bees would be off to the vats of the Heavitree Brewery, and either perish in the beer, or else drink so much and became so intoxicated that they could not reach home. He had often told the lecturer that he had seen his bees returning evidently the worse for strong drink.

In localities where there are heaps of mundic, or where there are arsenic works, no bees will thrive; they have a keen sense of smell, and will go for miles to a mundic heap, where they gather the arsenic which is sweet, but which poisons them at once. In conclusion, the lecturer dwelt upon the value of spreading the knowledge of bee-keeping amongst the cottagers as a means of income, good honey in pound sections being always saleable. The one great danger to the apiary is foul brood, and if once that gets thoroughly into it one might almost as well burn it, bees, hives, and all, forthwith; foul brood can hardly be eradicated. Some years since there was a tainted apiary in the neighbourhood of Exeter; bees from other apiaries found their way thither, stole the honey from the weak stocks, carried it home with the germs of that terrible disease, and at the

end of the season there was not an apiary in the whole locality which was not more or less in a precarious state, many perishing during the following winter. As to produce, the lecturer stated that he had himself known one hive produce more than 1 cwt. of honey in one season—of course a very favourable one—still leaving enough to feed the bees until the following year.

GARDENING MISCELLANY.

THE SOUVENIR DE MALMAISON ROSE.

I HAVE been much surprised to read the remarks made by Mr. James Percival in your issue for November 7th, respecting the Souvenir de Malmaison Rose not flowering well in the neighbourhood of Manchester. My experience is very different. We have a large one in the greenhouse, which has flowered continuously for twelve years. It is planted out in the back border, and generally blooms all winter as well as summer; it is a great success. We likewise have a Malmaison flowering in the Rose bed in the open, from which I have gathered a quantity of blooms, and it is still in full bud. The Rose tree in the greenhouse is in full flower now, and has not been out of bloom for above eighteen months. Didsbury is much nearer Manchester than Rochdale.—*C. M., The Old Parsonage, Didsbury, Manchester.*

SALVIA SPLENDENS INGENEUR CLAVELLAND.

THERE are now several dwarf varieties of S. splendens, in cultivation, and that under notice is one of them. Those who know the old plant, with stems about 3 ft. high, will understand the nature of this variety when we state that it can be grown in the bush form only 12 in. high. Every shoot terminates in a dense spike of flowers, which, like the bracts, are of a bright scarlet, and last for a considerable length of time before dropping. Contrasted with the above, a very peculiar effect is produced by a number of plants of S. s. Mons. Issanchon. The latter has white flowers and the bracts of the same colour but variegated with scarlet. The effect is greater than if they had been wholly white. Those who prefer it may grow the plants separately or in mixture, according to the effects desired. Both may be seen in the nursery of Messrs. H. Cannell & Sons, at Swanley.

HEDYCHIUM FLAVESCENS.

THOSE who have a large tank, even if devoted to the culture of Water Lilies, would find room for a plant or two of Hedychium flavescens without interfering with the Lilies in the tank. The stems attain a height of 6 ft., but their presence serves to give the house a furnished appearance. The leaves are of a light green. Five out of the six segments are narrow and pale yellow, as the name indicates, but the sixth is large, obversely heart-shaped, and creamy-yellow with a darker blotch in the median line towards the base. The plant likes a large supply of water while making its growth, and indeed till the leaves commence to ripen. These conditions it finds in the moist atmosphere of the Lily house, and by standing the pot in which it is grown upon another inverted in the tank so that the roots may just dip into the water. After growth is completed the water in the tank may be lowered, or if that is not convenient the pot may be raised or removed altogether, so that the supply of water may be controlled till the stems are ready to cut down.

FRUIT NOTES.

THE CONFERENCE PEAR.

The fruit of this variety is above the middle size, and regularly pyriform, or is thick in the upper half, and suddenly tapers to a slender, elongated neck. The small eye is open and set in a very shallow basin. The skin is somewhat rough or scurfy, and completely covered with a clear, almost uniform russet, but often shows greenish-yellow blotches or splashes, particularly in the lower half. The flesh is white or slightly amber around the small central core, while just becoming fit for use; but in a few days when, kept in a dry and warm room, the whole of the flesh assumes a distinct amber tint, and is then remarkably juicy, sweet, very finely gritty, or imperceptibly so. We prefer it before it becomes dead ripe, for then, although not aromatic, the flesh is rich and sugary, and crisp, but very tender. A box of fruits sent us by Messrs. T. Rivers & Son, Sawbridgeworth, the raisers, enables us to describe the variety as a dessert Pear, fit for use in November and of the first quality. It is somewhat similar to Beurré Bosc, but neater in form, and slightly different in colour. When exhibited at the Apple and Pear Conference, held at Chiswick in 1888, it was awarded a First-class Certificate.

TWO NEW APPLES.

ATALANTA.—The fruit of this new variety is above the medium size, globular, or ovate, bluntly five angled, especially towards the top, with a closed eye in a shallow, irregularly plaited basin. The skin is clear yellow, shining and thinly dotted all over with small brown specks. This year, for the first time, the exposed side is slightly flushed with red with a few streaks and spots of a deeper red. The flesh is yellowish, crisp, very tender and sweet, with a slight but pleasant acidity. It may be classed amongst dessert Apples and is now in perfection. The tree is of strong healthy constitution, and has fruited well for the last three years. It was raised from Scarlet Nonpareil, and, when shown two years ago, the flavour was approved, but the Fruit Committee of the Royal Horticultural Society wished to know more about its fruiting qualities. A dish of fruits was exhibited by the raiser, Mr. C. Ross, gardener to Lt.-Col. Eyre, Welford Park, Newbury, at the meeting on the 10th inst, and a First-class Certificate was awarded the variety.

CHELMSFORD WONDER.—The fruits of this variety are large, somewhat conical, obtusely five angled, especially at the top, and the closed eye is set in a deep plaited basin. Like the last named it is very fragrant, yellow, and suffused with red and streaked with crimson on the exposed side. The flesh is yellow, crisp, and tender, with a pleasant flavour and delicate aroma. It is a culinary variety and is in use from early winter till spring. The original tree was raised by a cottager in the neighbourhood of Chelmsford, about 20 twenty years ago, and the variety is reputed to bear regularly and freely every year. Fruits were exhibited by Messrs. Saltmarsh and Son, Chelmsford (who sent out that fine variety the Queen), and were accorded a First-class Certificate.

CHRYSANTHEMUM SHOWS.

THE BIRMINGHAM SHOW—the thirty-third which has been carried out by the local society—was held on the 11th and 12th inst., and as usual was an unqualified success, the display being even finer than usual, while the attendance of visitors was very large. The committee, of which Mr. Latham is the chairman, and Mr. J. Hughes the indefatigable secretary, work hard to ensure the success of the exhibition, and they certainly do not lack encouragement from the Birmingham public. The principal competition, which was for forty-eight blooms—twenty-four Japanese and twenty-four incurved—brought out no less than sixteen competitors, a grand display in itself, and again proved the wisdom of giving good prizes. The first prize of £20 was well won by Mr. J. Parker, gardener to J. Corbet, Esq., M.P., Impney Hall, Droitwich, who was also successful in securing the premier awards, with twenty-four incurved and eighteen incurved, his nearest competitor being the gardener to W. H. Watts, Esq., Liverpool, who was second in the two largest classes and first for twelve anemone-flowered. In the classes for twenty-four and twelve Japanese incurved, the first prize went to the gardener to Sir Thomas Martineau.

Specimen plants we have seen better, but the groups not exceeding eighty square feet, of which there were five, were magnificent, especially that from Mrs. Marigold, which secured the highest award. The smaller groups were also excellent, and here Sir Thomas Martineau's gardener again came to the front. After the Chrysanthemums the Chinese Primulas claimed the greatest share of attention. Birmingham has always been noted for the high cultivation of these plants, but this year the exhibitors eclipsed all previous efforts, and especially the Messrs. Thomson & Co., who besides giving special prizes in two classes open to amateurs and gentlemen's gardeners only, secured the four first prizes in the open classes. There were also two good collections of Orchids, for which W. Bown, Esq., was first, and the Right Hon. J. Chamberlain second.

The fruit classes brought out some excellent Grapes, especially Muscats, and a grand lot of Apples; and the vegetable department proved quite a feature, the produce staged being exceedingly fine, The local Nurserymen—Messrs. Thomson & Co., Messrs. Hewitt & Co., Messrs. Pope & Sons, and Mr. F. Denning—all contributed most largely and well; and Messrs. R. Smith & Co., Worcester, and Messrs. Cutbush & Son, Highgate, exhibited meritorious collection of hardy fruits.

The SEVENOAKS AND WEST KENT CHRYSANTHEMUM SOCIETY held its seventh annual exhibition in the Club Hall, Sevenoaks, on Nov. 10th and 11th. The show was one of the best ever held in Sevenoaks, the quality of the exhibits all round being much in advance of former years, except the specimen or trained plants. Groups of Chrysanthemums for effect were numerous and good. In a close contest, Mr. E. Hughes, gardener to J. Dixon, Esq., Edenhurst, secured first honours with a well-arranged lot; second, Mr. S. Cook, gardener, Rose Bank, Sevenoaks; third, Mr. W. Searing; fourth, Mr. J. Smith; fifth, Mr. A. Gibson, whose plants were the best in the show, but the arrangement was bad or he must have been first. The National Society's Certificate was awarded to this exhibit for superior culture. There was a grand lot of miscellaneous groups arranged for effect, in which Mr. A. Hoadley, gardener to F. L. Bevan, Esq., Kippington, led with a very telling group of Palms, Ferns, Tuberoses, with a few Chrysanthemums; second, Mr. Searing; third, Mr. Heath; fourth, Mr. J. Smith. In the open class for twenty-four cut blooms, twelve Japanese and twelve incurved, Mr. W. Searing, gardener to R. Monckton, Esq., Oak Lodge, was easily first; his incurves being really fine; second, Mr. S. Cooke; third, Mr. J. Smith. For twelve incurved, Mr. Searing again led; second, Mr. E. Hughes; third, Mr. S. Cooke. For twelve Japanese, Mr. Searing was first, Mr. Gibson a good second, Mr. Hughes third. For twelve Japanese not less than eight varieties, Mr. A. Hoadley was first with a grand box of fresh blooms. Fruit was not largely shown, but vegetables were plentiful and good. The only drawback was the wretched weather, which made a great difference in the takings at the door, but fortunately the society does not solely depend upon this source of revenue.

The fifth exhibition of the ECCLES, PATRICROFT, PENDLETON & DISTRICT CHRYSANTHEMUM SOCIETY was held on the 13th and 14th inst., and showed a solid improvement on previous efforts, thanks to its efficient Committee, which has Mr. Larmuth as chairman, and Mr. H. Huber as secretary. The plant classes were very satisfactorily filled, notably those for the now popular groups, the first prizes for which went to Mr. Belshaw, gardener to G. H. Leigh, Esq., Swinton, and Mr. Elkin, gardener to Mrs. Thomas Agnew, Eccles. The cut bloom classes were also well-filled, and a grand lot of blooms in particular were staged in the class for twenty-four, the prizes for which went to Mr. J. Walker, Stockport Mr. J. Kirkman, Leyfand, and Mr. Hathaway, Lathom House, Ormskirk, who, with Mr. H. Huber, were also successful in several other classes. The bouquets and button-hole flowers were very good, as also were the table plants with which Mr. Huber secured first honours. The several classes open to amateurs in the district not employing gardeners were also exceedingly well contested. The leading Manchester nurserymen and seedsmen also contributed largely.

The LEICESTER SHOW, held on the 13th and 14th inst., was a decided success from an exhibition point of view, and included among the competitors some of the best growers of the kingdom, and, so far as the "open" blooms are concerned, such names as Mr. A. Coombes, Mr. P. Blair, Mr. R. Adams, Rev. J. Bird, etc., will answer for the quality, and the entries amounting to ninety-five dozen blooms should be for quantity. This year the open class has been altered; instead of forty-eight blooms—twenty-four incurved and twenty-four Japanese—the prize has been divided, and in class one for twenty-four incurves in eighteen varities no less than nine entries were received, the first prize falling

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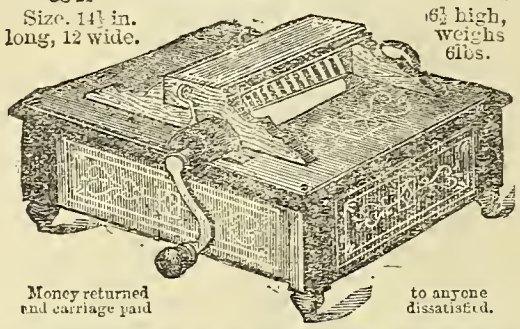

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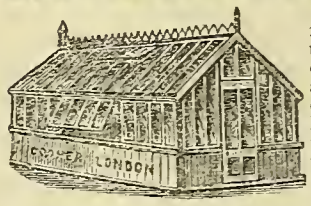

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10 ft.	7 ft.	7 ft. 6	4 ft. 6	to eaves	5 0 0	6 15 0
12 ft.	8 ft.	8 ft.	5 ft.	to eaves	6 0 0	8 0 0
15 ft.	10 ft.	8 ft. 6	6 ft.	to eaves	8 10 0	12 0 0
20 ft.	10 ft.	9 ft.	5 ft. 6	to eaves	12 0 0	16 0 0
25 ft.	10 ft.	9 ft.	5 ft. 6	to eaves	17 0 0	22 0 0
50 ft.	10 ft.	9 ft.	5 ft. 6	to eaves	30 0 0	40 0 0
100 ft.	10 ft.	7 ft.	5 ft. 6	to eaves	50 0 0	70 0 0

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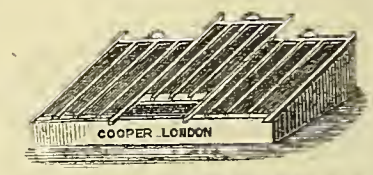

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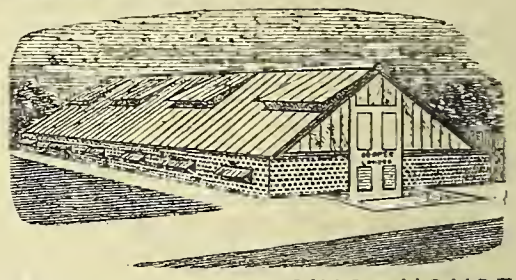

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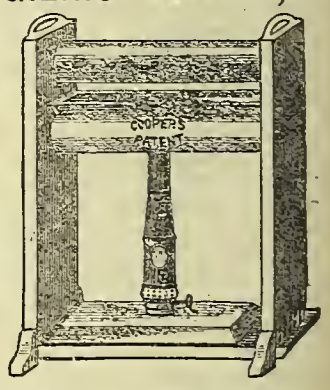

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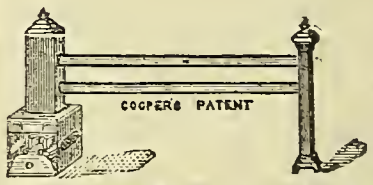

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It is a firm, handsome Apple, of large size, a good keeper, great bearer, and of superior flavour when cooked. It was favoured with a well-executed illustration, together with a faithful description, in the *Gardeners' Magazine* of April 11, copies of which may be had on application.

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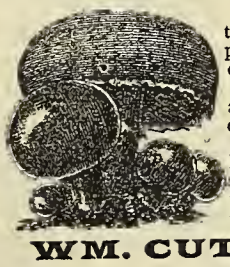

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For Index to Contents see page 201.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Nov. 30.—Bulb Sales at Protheroe & Morris' and Stevens' Rooms.

TUESDAY, Dec. 1.—National Chrysanthemum Society: Annual Dinner at 6.30 p.m.—Bulb Sale at Protheroe & Morris' Rooms.

WEDNESDAY, Dec. 2.—Bulb Sales, &c., at Protheroe & Morris' and Stevens' Rooms.

THURSDAY, Dec. 3.—Bulb Sale at Protheroe & Morris' Rooms.

FRIDAY, Dec. 4.—Orchid Sale at Protheroe & Morris' Rooms.

SATURDAY, Dec. 5.—Bulb Sales at Protheroe & Morris' and Stevens' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, NOVEMBER 28th, 1891.

THE NAMING OF CHRYSANTHEMUMS AT FLOWER SHOWS.—Probably most visitors to Chrysanthemum Shows, especially those who may desire to obtain the names of flowers which they particularly fancy and would like to grow, think that some more efficient method of naming than now obtains is very desirable. The matter is also not less important to those who have to report shows and find the naming so imperfectly done as to render deciphering almost impossible. Chrysanthemum blooms are now—the Japanese especially—so large that names cannot well be placed separately close to the flowers, as, if so, they could not be seen.

Some exhibitors do their best by following the plan almost univerally adopted by Dahlia exhibitors—that of appending the names of the flowers in the boxes on strips of paper gummed to the front of the boxes, or placing a loose slip in front, which often gets torn or swept away. But, howsoever placed, too often the names are either badly written or are still difficult to see. Here is an admirable opportunity for some of those experts in providing exhibition requirements to devise some contrivance which can be fixed to the front of the boxes, that shall not only stand out some two or three inches, firmly and securely, but shall have enduring slits into which

cards, with names written on them, can be placed as desired. What is so badly needed is some method which will enable anyone to see the name of any particular flower at a glance. That facility is not now in any case afforded so completely as is desired, especially with the spreading Japanese flowers.

It should not be at all difficult to fix to the front of the boxes some means to which these label holders could easily be attached. We hope next season to find that some one has registered or patented something of the nature suggested, and will submit it to public approval. Then if found satisfactory we may in time hope to see Committees of Chrysanthemum Shows making it a condition of competition that all boxes of flowers shall be so labelled, and then the present difficulty will be removed.

WINTER BLOOMING PELARGONIUMS.—If tuberous Begonias have somewhat ousted zonal Pelargoniums from the high place they once held as summer blooming plants, both in the greenhouse and in the flower garden, at least the zonals can hold their own in the winter. Occasionally we see plants of this section of the Pelargonium family very finely done in mid-winter, and when thus found in full bloom, they are indeed beautiful objects, lending glorious colour at a time of the year when bloom is usually scarce and dull in hue. Whenever these zonal Pelargoniums are seen in good condition at the November Shows they give life and vivacity such as cannot be too much admired.

We have all found out that because of the subdued natural light which the winter months afford, the colours of the flowers found on the numerous varieties of both single and double Pelargoniums are always rendered more vivid or richer, especially the pink and violet shades. Those who grow these plants specially for the production of winter cut blooms find them invaluable, the doubles especially, because they are so enduring. And yet the plants are easily grown, needing only ordinary culture, a little prior stopping, so that the early strength of the plant shall not be wasted in unseasonable bloom production, and so much of light as can be given with moderate warmth. These are, however, conditions which are easily found in ordinary gardens.

At Swanley, where Mr. Cannell does these plants so well, long low span-roofed houses, well lighted and gently heated, present in the dead of winter such masses of brilliant colouring as to rival all the Begonia can give in the summer. It is only to have a house specially suitable for Gloxinias, Begonias, &c., in the summer, and the best possible style of house is at hand for winter Pelargoniums. Start in March with cuttings, when rooted, grow them on in pits until well established; stand them out of doors for several weeks to harden them, shift into 6 or 7 in. pots, and finally house them at the end of September. A grand show of blooms all the winter is then easily attainable.

IMPORTED APPLES.—In spite of the fact that we have had at home a very abundant crop of Apples, we now see our grocers' and other provision shops almost everywhere supplied with Canadian Apples, and of excellent quality too. It was imagined only the other day that with such great abundance at home there would be but a poor chance for the imported sorts, so far at least as a paying price was concerned, and yet we see these Canadian Apples selling from the barrels at three halfpence and twopence per pound, and generally far more attractive samples than are those of home production, excepting, of course, the very best.

Unhappily, we have but to compare the sample fruits seen on the tables of our respective exhibitions with those of home or market productions seen in the shops, to note how very wide is the difference, and relatively how poor is the latter in comparison. It seems as if we never should learn that it will not pay to grow rubbish, and that we cannot hope to compete with imported Apples, well grown and properly sampled for market; and yet in spite of all our teaching we see the fruits roughly pulled from the trees, as roughly packed without any sorting, and also wanting generally in attractiveness. If the Canadians will take so much trouble to sample their fruits that out of a thousand barrels hardly a dozen fruits differ in size, surely our home growers can take some little trouble in the same direction also.

Why, too, cannot our fruits be sent to market in light barrels after the Canadian fashion, rather than in rough, uneven open baskets, in which the fruits suffer from friction? We cannot hope to get our fruits into the grocers' shops in such utensils, when neat, convenient barrels are to be had from elsewhere. After all, despite so much that has been done, our slowness to move in trade matters is as proverbial as it is deplorable. When we regard the fact that it is much more difficult for us to obtain good Apple crops than the Canadians, reasons surely are all the greater that we should use every effort to make our produce acceptable and profitable.

THE WINTER.—It is such an unusual experience for us to get nearly through November without some sharp frosts, that the nature of the early winter weather has very naturally set us surmising as to the probable character of that which is to follow later on. If we are to reason from analogy evidence points to the winter being a mild, open one rather than to a cold, hard one. Of course it is yet early for surmises of any sort, but we believe it to be the case that all previous hard winters have been heralded by some sharp frosts at an early period. It is really a long time since we had so mild a November as the passing month has been.

Generally it has been an exceedingly wet month, although now that the end is near and moisture has somewhat settled down we do not seem to have had any too much rain. Still if we should have a mild winter we can hardly hope to escape the addition of very much more of moisture yet. We should hail a long spell of dry weather now with pleasure as it would be productive of great good, but hardly desire that such a desideratum should be purchased at the expense of intense cold. Last winter was an unusually dry one and an intensely severe one. Even all the snow which fell did little towards making amends for the lack of rain, and we have had to suffer for it during the summer and autumn.

We are often told that a hard frosty winter is healthful, but last winter did so much towards the explosion of that delusion that we hope it will never be heard again. Very hard winters and very low temperatures kill off humanity rapidly. A mild winter allows them to have a yet longer lease of life. Probably on the whole a hot summer is our most healthful season, as it is so productive of conditions favourable to soth animal and vegetable life. However, we prognosticate nothing so far as the coming winter is concerned, but practically await its development.

The Annual Dinner of the National Chrysanthemum Society will take place at Anderton's Hotel, Fleet Street, on Tuesday next, December 1st, at 6.30 sharp, and we may remind those of our readers who intend to be present, that early application should be made for dinner tickets to Mr. R. Dean, Ranelagh Road, Ealing.

Mr. Joseph Broome, of Manchester, who for some years has been the treasurer, and an active and much esteemed member of the council of the Manchester Royal Botanical and Horticultural Society, has been appointed High Sheriff of Carnarvonshire for the ensuing year. Mr. Broome's charming estate is situated near to that of Mr. Samuel Barlow, J.P., at Llandudno.

The National Amateur Gardeners' Association.—Arrangements have been made for a dinner to take place on Thursday, December 15th, 1891, at 7.30 p.m. precisely, at the Guildhall Tavern, Gresham Street, E.C., to celebrate the successful working of this association since its inauguration.

Mr. J. Smith, for several years plant foreman in the Royal Horticultural Society's garden at Chiswick, has been engaged as gardener to James Livesey, Esq., Home Bank, Rotherfield, Sussex.

Birmingham Gardeners' Association.—A capital paper on the Melon and its cultivation was read by Mr. W. Comfort, gardener to F. A. Everett, Esq., Knowle Hall, at the last meeting of the Birmingham Gardeners' Association. He gave his own experience, and he is an acknowledged able cultivator of this fruit. A spirited discussion followed.

Chrysanthemums in December.—It is fully anticipated that at the exhibition to be held at the Royal Aquarium, Westminster, on December 9th and 10th, the show which the National Chrysanthemum Society has substituted for the one hitherto held early in January, there will be an extensive and attractive display, as the later blooms are keeping much better than was at one time expected.

Scandalous Outrage at Canford Manor.—A dastardly act was committed at Canford Manor, the Dorset seat of Lord Wimborne, on Saturday night. The grounds surrounding the house are amongst the most beautiful in the south of England, and contained, up to Saturday, some valuable pieces of statuary. Late on Saturday evening, however, twenty-seven of these were thrown down, together with eight valuable garden vases. Seventeen of the statues were literally battered to pieces, whilst the others were seriously damaged. The damage amounts to quite £2,000. Two persons have been arrested.

The late Mr. Shirley Hibberd's Books.—Messrs. Collingridge, of Aldersgate Street, E.C., have purchased of the receiver of the estate of Messrs. Groombridge & Son, Limited, the whole of the stock, copyright, engravings, &c., of the books brought out by the late Mr. Shirley Hibberd, and will in future supply the trade. Many of the books are at present out of print, but new editions of each are in preparation.

Chicago Exhibition, 1893.—The British Royal Commission are now prepared to receive applications from manufacturers and others desirous of taking part in the Exhibition. Such applications must be made upon forms to be obtained from the Secretary of the Commission at their offices, Society of Arts, John Street, Adelphi, London, W.C. They must be sent in, properly filled up, not later than February 29th, 1892, and addressed to the Secretary, as above.

Ealing and District Gardeners' Mutual Improvement Society.—On Tuesday evening, November 17th, at the weekly meeting of this society, Mr. George Wythes, Sion House Gardens, Brentford, read a paper on Vegetable culture and its importance to young gardeners. The subject was treated in a thoroughly practical manner, by Mr. Wythes, who impressed upon those who hoped to rise in their profession the importance of acquiring a sound practical knowledge of vegetable production and the management of the kitchen garden. Much kindly advice was given by Mr. Wythes, and his paper was highly appreciated. A capital discussion followed.

The Winner of the Edinburgh Association Challenge Cup at the Chrysanthemum show last week, Mr. Alexander Watt, gardener to J. Stewart, Esq., Black House, Skelmorlie, Ayrshire, is a young gardener who has made his mark at the Edinburgh and other shows during the last three years. Last week he secured, besides the cup above mentioned, two first, five

second, and three third prizes at Edinburgh, and the same week won a cup, a gold medal, and four first prizes at Stirling. Mr. Watt served his apprenticeship at Ormiston, near Edinburgh, and afterwards was foreman to Mr. Mair, at the Arboretum, Birmingham, to Mr. Smith at the Vice-Regal Lodge, Dublin, and to Mr. Hugh Crichton, at Bellaire near Greenock, with whom he stayed four years. He has been gardener at Black House some five years, and with many subjects has proved himself to be an able cultivator. Mr. Watt is a rising man, and we congratulate him on his recent well-deserved triumph.

The Woodbridge Horticultural Society will hold its next annual exhibition on July 7th, 1892. We understand that there will be an open competition at this show for twenty-four Roses, the first prize being a £25 Cup.

LATE-FLOWERING WATER LILIES.

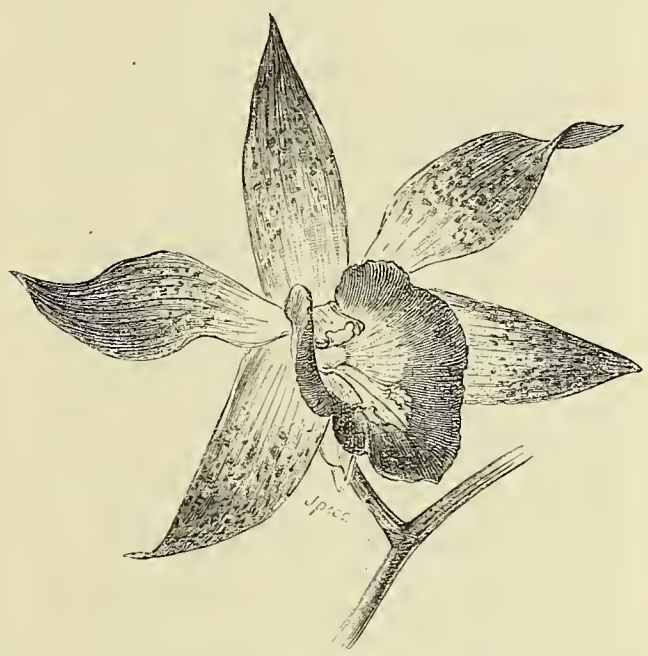
By repotting into fresh material annually in March, and keeping up the temperature of the house and the water of the tank to 65° or 70°, the stove species are capable of keeping up a display till late into the autumn months. The plants may be grown in large pots or tubs sunk about 8 in. or thereby beneath the surface of the water. The soil, or rather the compost, to be used should consist of good fibrous loam, well decayed cow manure, and sand, draining the bottom well so as to ensure intercommunication between the soil in the bottom of the pot and the water outside. Those who desire to see Nymphæas in their fully expanded and best state should visit the house in which they are grown some time before midday. The bulk of them partly close after that time, and remain in that condition for the rest of the afternoon. Nymphæa stella zanzibarensis is an exception, as the flowers remain open during the greater part of the afternoon, particularly in bright weather. It is, moreover, in other repects one of the finest of all Water Lilies, by reason of its rich colour. The sepals are green on the outer face but purple internally, while the petals are of an intense blue shaded with purple. The Berlin variety of N. stelleta is characterised by the petals being of a rich sky blue.

The forms of N. Lotus, or Egyptian Lotus, are also amongst the choicest and most ornamental on account of the size and rich colours of several of them. There are red and white-flowered varieties, and N. Lotus Devoniensis was raised as a cross between them. The flowers of this form are of a bright rosy-red, with the sepals of a bronzy-red externally. It is valuable for keeping up a display from early summer almost into winter provided the temperature is kept up. N. L. Ortgiesiana is another form of garden origin somewhat similar to N. L. Devoniensis, but paler in colour, as the petals are of a beautiful soft rose, and the sepals of a bronzy red externally. When in perfection the rosy hue of the large flowers is quite charming. As a contrast to the above N. L. dentata should always be grown where space can be afforded, even if one of the red varieties should have to be given up. The peltate leaves are toothed at the margin, and undulated to such an extent at the margin as to give them quite a wavy appearance as they lie upon the water; and when the plant is making vigorous growth they often attain a diameter of 2 ft. The flowers also attain similar gigantic proportions under favourable conditions, varying from 6 in. to 14 in. in diameter, with pure white petals; the sepals green externally and the mass of stamens in the centre of a bright or golden-yellow. The variety is even more floriferous in the autumn than the above named, with exception perhaps of N. stellata zanzibarensis; and both should be included even in the most select collections.

Should the autumn months prove very unfavourable to growth owing to the prevalence of fogs and the consequent absence of light, it may not be possible to keep the plants growing in a healthy condition, without which satisfactory flowering would be impossible. In such unfavourable seasons, the cultivator would have to allow his plants to go to rest earlier to avoid overtaxing the tubers or rhizomes of his plants as the case may be. The present autumn hitherto has been very mild, and the light unusually good for November, so that the Nymphæas above named have been able to prolong their period of flowering up till now. When they show signs of diminishing vigour, the temperature of the house should be gradually lowered, and the water of the tank at the same time partly drawn off. Some cultivators empty the tank completely and merely supply the plants in the pots with as much water as will keep the soil from absolutely getting dry. A more natural method of treatment however would be to have the pots standing in water up to the rim till the annual repotting in March, when of course the tank would have to be emptied, thoroughly cleaned out and refilled, at the same time gradually raising the temperature of the water and the atmosphere of the house to its former standard.

DENDROBIUM LEEANUM.

The stems of this new species vary from 2 ft. to 3½ ft. in length, and bear the flower scapes laterally near the apex while they are in a leafless condition. The scapes are 12 in. to 18 in. long, bearing a raceme of bloom on their upper portion. The upper sepal is lanceolate, white, and suffused with rosy-purple on the upper half; the lateral ones are connate at the base, forming a short spur, white, and suffused with purple on the upper three-fourths of their length, the colour deepening towards the apex. The petals are much smaller, spathulate, slightly twisted, deep purple on the upper portion and paler towards the narrow base. The lip is three-lobed, with the lateral lobes rounded, and the terminal lobe roundly ovate, cuspidate, and all deep purple, with a five-ridged crest developed into five shortly toothed, deep purple plates on the base of the middle lobe. The column is greenish-white, tinted with purple round the anther cap, and green on the face. It was introduced from New Guinea with the Elephant Moth Dendrobe, but unfortunately is the only specimen that has yet appeared of it. The plant is now flowering with Massrs. F. Sander & Co., St. Albans, who exhibited it at the Drill Hall, Westminster, on the 10th inst., and was awarded a First-class Certificate for it.



Dendrobium Leeanum.

SOUVENIR DE LA MALMAISON ROSE.

I am not in the least surprised at the success of "C. M." with this old Bourbon Rose, but he seems not to know that he writes from the very heart of the district which supplies flowers and vegetables to the Manchester and other markets, and I should like to know the Rose that would not grow and flower well with him or in his district. Perhaps "C.M." is not aware that a short time ago first prizes for hardy herbaceous and Alpine plants were won at the Whit-Week Exhibition by his almost next door neighbours, and two or three years ago the first prize for Roses was gained by a gentleman (for district-grown Roses) about the same distance from Manchester as "C.M." writes from.

Now if "C. M." would go from Victoria station in an easterly direction, he would alter his opinion about the Malmaison and other Roses, and would soon come to the conclusion that no Rose would grow—for I do not believe that there is a tree of any description of any size between Manchester and Smithy Bridge but what is in a state of decay. When I came to reside here about a dozen years ago, there were a few Oak trees, but they are all gone, the few Elms are fast going, the Sycamore and the Ash are stunted and just struggling for existence, the Hawthorn fences are all gappy, while, on looking round this afternoon, I could not help deploring the sad state of affairs, and if "C. M." were to see these he would wonder how the Bourbon Rose Reine Victoria grew like a Willow.

The Rose under glass seems to do very kindly with "C. M."; when I grew it under glass it generally had two periods of flowering during the summer season, and in the winter, like most other Rose trees, lost its leaves; but, by "C.M.'s" remarks, it must in his case be a thorough perpetual. Now I wonder what the florists of Sale and elsewhere have been doing all these years in not finding the merits of this Rose out before it was given to the world. They certainly have missed a golden opportunity which, perhaps, may never occur again. Is not this Rose a little cross-eyed?—*James Percival, Smithy Bridge, Rochdale.*

I consider this variety one of the very best Roses we have for suburban districts, its vigorous constitution usually withstanding onslaughts of smoke, smut, and sulphuric acid gases with impunity. It flowers outside with us until cut off by frost. The greatest objections to light coloured flowers near to towns is their liability to become dirty and soiled—these should always be used sparingly. This Rose, having strong glaucous wood and foliage, the slightest shower cleanses the leaves, and again opens the pores. I have invariably noted, as a matter of fact, that our very best town trees and shrubs are those having leaves of shiny leathery texture, as, for instance, Aucubas, common Laurels, Hollies, Privets, and Laburnums, &c. The thinner the membrane of the leaf the more unfit is the plant for town planting.—*B.L., Lindly, Huddersfield.*

THE NUT HARVEST.

The close of the nut harvest suggests the reflection that edible nuts, though largely used as table luxuries, are rarely regarded as staple articles of food. There is a popular idea, says the *Morning Post*, that they are indigestible, though this has had little or no adverse influence upon the popular custom of associating them with a glass of wine after dinner. The Filbert, the Cobnut, and the Walnut are usually employed for this purpose, though inferior to none of these is the Sweet Chestnut, or Spanish Chestnut as it is often termed. Like the Walnut, this Chestnut is not a native of Britain. Nevertheless, it thrives well in the southern counties, and, besides being a tree of large habit and handsome foliage, it produces, when of sufficient age, an abundance of fruit.

Amongst other places, Knole Park, in Kent, furnishes a big annual yield of Chestnuts, and in many of the "enclosures" of the New Forest the Sweet Chestnut contributes its share to the annual downfall of "mast," to which Acorns and Beech Nuts largely contribute, upon which swine fatten, and from which the squirrel draws its winter store of food. In Italy and the South of France the Sweet Chestnut has for centuries been cultivated as an article of human food, and Pliny states that in his day the Romans distinguished eight varieties. As regards digestibility, it is well known that whilst the raw nut is rather indi-

gestible and slightly astringent, the roasted, and especially the boiled nuts are readily digestible, and may be eaten in large quantities without ill effects. To schoolboys the practice of roasting Chestnuts upon the bars of the fire-grate has been handed down from forgotten generations, whilst the Chestnut-roasting braziers that may be seen at this season of the year in the streets of London would seem to indicate the existence of a small industry which cannot be without its lucrative side.

As regards their composition, Chestnuts, like Acorns, are starchy rather than oily nuts, such as Cocoanuts, Walnuts, Filberts, and Almonds, and are more digestible than the latter. Sweet Chestnuts, in fact, closely approach Wheat in composition, but contain less starch, and rather more substances of a sugarly nature. In Pennsylvania an effort is being made to extend the cultivation of the Chestnut as a branch of fruit culture. As the trees do not begin to bear fruit until they are ten or twelve years old, the practice of grafting is recommended. Slaty and sandy hills and mountain slopes not under cultivation will suit the Chestnut admirably, and, besides its fruit, few trees are of greater use in furnishing wood for posts and for many other purposes upon the farm. The wood is light and porous, but derives special value from its durability. There is plenty of poor land in the south and west of England which might bring in some return if planted with Sweet Chestnuts; for, besides yielding an annual crop, which undoubtedly has a value, it provides a wood which has its special uses.

NEW & RARE PLANTS.

THE undermentioned subjects were exhibited at the meeting of the Royal Horticultural Society held in the Drill Hall on the 10th inst., and received awards according to their character and value.

GERBERA JAMESONI.—Many of the South African composites are of a weedy character, while there are others highly deserving of cultivation. That under notice is one of the latter, and comes from the Transvaal. The leaves are 6 to 12 in. long, coarsely runcinate pinnatifid somewhat similarly to those of a Dandelion, but larger, of much thicker texture, with a larger terminal lobe, and of a duller green colour. The flower heads are large and borne singly on scapes about a foot long, arising from the radical tuft of leaves. The true stem apparently never elongates. The orange-scarlet rays are long, slender and spreading, but sufficiently numerous to form a close ray, and the head as exhibited by Mr. R. J. Lynch, of the Cambridge Botanic Garden, measured 3¾ in. across. The florets of the disc were edged with red, while the styles and stamens were yellow. A First-class Certificate was awarded it.

STAPELIA GIGANTEA.—The Giant Carrion Flower of South Africa is at once the finest, the largest flowered, and the most singularof the whole genus of 60 species. The stems are tetraquetrous with four deep obtusely crenate angles, and of a dull green, suffused with red. The five-rayed and star-like flowers are convex ,spreading, and vary from 9 in. to 14 in. in diameter. The surface of the corolla is wrinkled, pale yellow, curiously marked with transverse, wavy, reddish purple lines, and densely covered with woolly, violet or magenta hairs that are longest on the margin of the segments. The corona in the centre consists of fifteen brownish-purple or almost black processes, of which the five outer are spreading and the rest erect. A fine plant with two flowers was exhibited by Mr. C. Wood, gardener to the Right Hon. Lord Hylton, Merstham, when a First-class Certificate was awarded it.

RHOPALOBLASTE HEXANDRA.—A Palm of a showy and decorative character was shown under this name by Messrs. B. S. Williams & Son, Upper Holloway. It bore five leaves varying from 2 ft. to 3 ft. in length, and which were gracefully arching and pinnate. The width and beauty of the leaves may be imagined from the fact that the narrowly linear, closely arranged deep shining green pinnæ varied from 6 in. to 12 in. in length. The petioles were fluted or deeply channelled on the upper surface, scurfy and brown, while the midrib of the leaf was of a darker brown. Notwithstanding the size of the plant, it was grown in a 32 size pot. A First-class Certificate was awarded it.

ASTER GRANDIFLORUS.—The stems of this distinct looking Aster grow about 2 ft. or 2½ ft. high, and become considerably branched in the upper portion. The leaves are oblong-spathulate, recurved, and never very large, but those on the upper part of the stem and branches are both small and numerous, gradually passing into the bracts of the flower-heads. The latter are large, deep, purplish-blue, and produced singly at the apex of the stems as well as the numerous, short, lateral shoots or branches. A well flowered plant in a pot was exhibited by Messrs. Barr & Son, Covent Garden, and received an Award of Merit.

CHRYSANTHEMUM HOLBORN ROSE.—The heads of this reflexed Japanese variety are of large size, and when fully expanded, of a deep purple-rose. The florets are broad, evenly and regularly recurved, and silvery on the reverse, which is not shown.

CHRYSANTHEMUM MISS BELLA WILSON.—New incurved varieties are by no means common, and that shown under this name was very distinct, both in form and colouring, but will require a little dressing for exhibition purposes. The heads are large, globular, and deep, with moderately wide florets of a deep, rosy purple on the upper surface, and silvery rose on the reverse. Both this and the last named variety were exhibited by Messrs J. Carter & Co., receiving Awards of Merit. They were also shown at the Royal Aquarium on the 11th and 12th inst., oy the occasion of the National Chrysanthemum Society's show.

CHRYSANTHEMUM COL. W. B. SMITH.—The stems of this new incurved Japanese variety grow about 2½ ft. high, and are well furnished with deeply pinnatifid and bluntly lobed leaves of good character. The heads are somewhat similar in form to those of L'Automne, but they are larger and different in colour. The upper surface of the florets is of a deep terra-cotta, best seen in the half expanded state, and buff-yellow externally, as well as at the tips. Messrs. H. Cannell & Sons, Swanley, Kent, exhibited it, receiving an Award of Merit for it. They also showed it at the Royal Aquarium on the 10th and 12th inst.

A number of new Chrysanthemums and other subjects were exhibited at the Royal Aquarium, on the 10th, 11th and 12th inst., on the occasion of the National Chrysanthemum Society's show, and First-class Certificates were awarded to the undermentioned.

CHRYSANTHEMUM FLORENCE DAVIS.—This new, white, Japanese variety is of large size, and takes a long time to get fully expanded owing to the excessively numerous florets occupying the centre and which are at first green, but gradually become ivory white like the outer ones. The latter are long, recurved and variously twisted at the tips, which are concave. When fully developed, the head measures about 7 in. across, and 5 in. to 6 in. deep. The variety was raised by Mr. N. Davis, of Camberwell, and must become popular for exhibition purposes. It was exhibited on this occasion by W. Herbert Fowler, Esq., Claremont, Taunton, and also by Mr. C. Beckett, The Gardens, Aldenham House, Elstree, Herts.

CHRYSANTHEMUM KATE MURSELL.—The heads of this incurved Japanese variety are pure white and similar in type to those of Lady Lawrence, perhaps more regularly incurved. The florets are very broad, often turned both to the right and left, or sometimes slightly interlacing.

CHRYSANTHEMUM CORONET.—This also may be described as an incurved Japanese sort, with heads of moderate size. When the latter are about half expanded the florets are narrow, loosely arranged and clear yellow; but when in perfection the florets are much broader, closely incurved and sulphur yellow. Both varieties were exhibited by Mr. Mursell, Tower House, Streatham.

CHRYSANTHEMUM LOUIS BŒHMER.—The variability of this variety is something remarkable, even admitting the fact that most Chrysanthemums are so more or less. The blooms exhibited by Mr. Henry Loader, Kirkdale Lawn Nursery, Sydenham, S.E., were well incurved, of a dark pinkish-purple, paler on the back, plumy, and of medium size. Notwithstanding the numerous exhibits of the variety on this occasion, Mr. Loader's was the only one that was honoured with a First-class Certificate.

CHRYSANTHEMUM G. S. SCHWABE.—The stems of this new English raised variety grow to a height of 4 ft. It is a Japanese sort, with large spreading heads of a bronzy-red and old gold on the reverse. Many of the florets are more or less incurved at the tips showing the yellow reverse.

CHRYSANTHEMUM EXCELSIOR.—The heads of this reflexed Japanese sort are of medium to large size, deep magenta, and silvery on the reverse. The florets are concave at the tips and show the silvery reverse when young. The variety is an English seedling raised last year, and grows to a height of 6 ft. Both this and the last named were exhibited by Mr. R. Owen, Castlehill, Maidenhead.

CHRYSANTHEMUM DELAWARE.—The habit of this variety is dwarf, being only 3½ ft. high, yet it is a healthy and vigorous grower. It belongs to the large Anemone section, and has very numerous, slightly reflexed florets that are tubular, obliquely open or flat in the upper portion and pure white. The centre is very full, prominent and creamy white. On the whole the blooms are very distinct and fine.

CHRYSANTHEMUM LORD BROOKE.—In this we have an incurved Japanese bloom of a very distinct type. It is large, globular, very deep, with broad, bronzy-yellow florets, the bronze colour being mostly confined to the back or reverse side. The leaves are of great texture, three to five lobed, with broad blunt segments and bespeak a vigorous constitution.

CHRYSANTHEMUM MRS. LIBBIE ALLAN.—The heads of this incurved Japanese variety vary from medium to large size, and have broad, often slightly interlacing soft sulphur yellow florets. The constitution of the plant is good, and we may expect to hear more about it in future years. This and the previous two varieties were shown by Messrs. Pitcher & Manda, Hextable, Swanley, who had First-class Certificates for them. Mrs. Libbie Allan was also shown by Mr. H. J. Jones, Hither Green, Lewisham, whose blooms were recommended.

The following Chrysanthemums received First-class Certificates at the Crystal Palace, on the 6th and 7th inst.

HOLBORN DRAGON.—The heads of this Japanese sort are strongly incurved, with long more or less tortuous, pale or white florets, striped with pale rose. It is an imported variety, and very distinct in general aspect with moderate sized blooms.

HOLBORN ROSE.—For description of this variety see preceding column. It was raised from seed at the Forest Hill Nurseries of Messrs. J. Carter & Co.

HOLBORN TERRA-COTTA.—This was also raised from seeds at the same place as the above. It is a single variety, with long, brilliant terra-cotta red florets, a yellow disc, and is very useful for cut flower purposes.

HOLBORN SUNRAY.—Grown as a bush plant this is very floriferous, with single blooms of fair average size. The base of the florets is bright yellow, deepening to orange-buff towards the centre, with bronzy-nankeen tips. It was raised at the same place as the last two, and must prove serviceable for cut flower purposes. All the four were exhibited by Messrs. J. Carter & Co., High Holborn.

The three following Chrysanthemums were exhibited at the Floral Committee meeting of the National Chrysanthemum Society, on the 24th inst., and received First-class Certificates.

COUNTESS OF HAMBLEDON.—The heads of the variety shown under this name measured 7 in. to 7½ in. in diameter, irrespective of the loosely hanging florets; and we should describe them as amongst the largest of the incurved Japanese varieties. With exception of the few outermost florets, which were tubular almost to the tip, and rose coloured inside, all the rest were closely incurved, and of the most delicate and pleasing, shining, silvery, blush-pink which one could imagine in a Chrysanthemum. It is an English seedling raised from an American variety named Miss Anna Hartshorn, and was one of four from the same batch of seed.

LIZZIE CARTLEDGE.—In this we have an American variety belonging to the reflexed Japanese group. The heads are very large, with soft pinkish-purple florets having a silvery reverse, and slightly yellow at the very tip when young. The florets are, moreover, very closely imbricated and compactly arranged. Both this and the first named were exhibited by Mr. R. Owen, Castlehill, Maidenhead.

J. STANBOROUGH DIBBENS.—The heads of this incurved Japanese variety are large, globular, and of a bright yellow. The lower florets are reflexed and then incurved at the tips, while those in the middle of the head are reflexed; the upper and central ones are erect, quite filling or closing up the crown.

ORCHIDS AT MAIDA VALE.

THE collection of Mr. P. McArthur, at the London Nursery, Maida Vale, is being considerably augmented from time to time, so that the houses are always packed quite full. Plants in bloom are not yet very abundant, but those coming into season are showing their flower spikes plentifully, and Cattleyas sheathing up. Cypripediums flower more or less abundantly all the year round, and amongst those in flower at present are C. Spicerianum, the hybrid C. Seegerianum, C. insigne violaceum punctatum, C. callosum, C. calurum, and others. The last named has been flowering for the past four months and exhibited branching stems. All the leading Miltonias are kept in stock, and a very noticeable feature of them is that both the pseudo-bulbs and foliage exhibit a grass green colour such as are seldom if ever seen in other collections, the usual colour being quite of a yellow tint. Mr. McArthur attributes his success to the keeping of plenty of moisture in the ashes immediately beneath the wooden stages on which the plants are stood. The white-flowered Cymbidium Mastersi, as well as the fragrant Maxillaria picta, are now in bloom; and near by were the distinct Vanda Amesiana and V. Kimballiana, a pleasing variety of the latter being in bloom.

Amongst the smaller species of Angræcum, A. bilobum is a neat little thing with white flowers well adapted for suspending in small baskets. The flower spikes are showing abundantly upon almost every plant of a recent importation of A. sesquipedale. What appears a distinct Grammatophyllum and perhaps a new species has been imported with G. Ellisii. At all events only one piece of it was obtainable, and the pseudo-bulbs are much shorter, more acutely angled, and different in colour. Amongst autumn-flowering Lælias were L. anceps Barkeriana, and L. autumnalis. A quantity of Cœlogyne Gardneriana with its curious pseudo-bulbs is showing flower spikes freely. Amongst fragrant winter-flowering Orchids that may be grown in a cool house, Trichosma suavis can hardly be overlooked, as it makes its presence felt by the powerful but agreeable odour emanating from it. Other cool Orchids now in bloom are Odontoglossum Alexandræ, a fine form; O. Pescatorei, and O. vexillarium rubellum.

FRUIT GROWING IN IRELAND.

WE have been favoured with a transcript of the paper read by Mr. Richard Hartland, of Lough Nurseries, Cork, at the late fruit conference in Cork. As a text, Mr. Hartland propounded the following questions:—1st. Has this fruit growing been tried, or is it a new venture? 2nd. Have we a climate and a soil suitable? 3rd. Is it reasonable to expect a fair return for outlay and labour? 4th. Will the industry give healthy employment to families? 5th. Is there danger of overdoing with excessive supplies? 6th. How do you propose starting and carrying on this work?

For brevity, Mr. Hartland said, I think the first three questions may be answered together, and the replies confined to this country. In Smith's "County of Cork," published 1749, volume 1, page 358, we read:—"Some years ago the Blackwater cider made at Mr. Drew's lost the premium given by the Dublin Society. Being so excellent, the judges supposed it to have been mixed with foreign wine; but the following year, being undeceived, they granted this premium to a hogshead made at Macollop." Smith frequently refers to the Blackwater orchards, and to the large cider export trade carried on in this city 150 years ago. He further adds that it bore the very highest reputation throughout England.

Another reliable authority, Arthur Young—"Tour in Ireland," 1776, vol. 1, page 351—writing from Dromoland, says:—"The County Clare is famous for orchards. I never beheld trees so laden with Apples; it amazed me that they did not break under the immense loads which bowed down the branches, and Sir Lucius O'Brien assured me that he expects a hogshead a tree from several. The Coccagee, an Irish fruit, is especially fine, and I propose taking grafts to England."

In the early part of the present century Robertson of Kilkenny (see "Pomological Magazine," 1838) introduced many favourite varieties. One, to which he gave his name, is universally grown throughout that country, although the surname appears lost. About twenty years ago, passing through Lord Bessborough's gardens, I found an entire line of "Sam Young" laden with fruit, and to test the aged gardener who accompanied me, I said, "What do you call that Apple?" He looked surprised at my ignorance, and answered, "I thought everyone knew that; it is a Sammy. I have been gathering them for the past fifty years, and I never heard any other name given." The fruit is small, very prolific, and about Christmas is mellow and rich; and here I may tell you that we possess a rich store of true Irish Apples, and in my humble judgment quite unequalled in their respective seasons. With your permission I shall name a few in the order of ripening:—The Irish Eve, the Irish Peach, the Kerry Pippin, the Donoughmore, the Blackwater Pearmain, the Molly, Gibbon's Russet, the Ross Nonpareil, the Scarlet Cluster, and that grand Belfast Apple, the Echlinville. The two last are bakers, the remainder table fruits. This is an abridged list and by no means exhausts the number, for almost every Irish county has favourite varieties raised by local men, and it is a proud statement to say—if obliged to choose, I would prefer growing our own. I have disposed of the three first queries, and now proceed to the fourth and fifth, bracketed—Will this industry give employment to families, and is there any danger of excessive supplies? Twenty years ago a basket of choice fruit had to be hawked through the city and was often returned unsold. This is now all changed; several firms will buy by the ton.

Our soil and climate offer early and special advantages, and the greater portion of fruits find a ready and profitable sale in Dublin. One case came under my notice where £50 gross annually was received during years from half an acre of Strawberries, which were daily gathered, dispatched at night, and reached the Dublin market in the morning, weeks before any could be had there. As to the employment, children are nimble fresh fruit gatherers, and anyone who has visited the continent at summer time must have been delighted to see whole families thus healthily and profitably employed. Some may have seen this in our own country fifty years ago, when the autumn drive along the Blackwater was not soon forgotten. That most charming valley, thickly covered with splendid fruits, and its groups of joyous gatherers; the aged carried out of doors to drink the wine of a glorious sunshine, and gladden the old loving eyes that feasted on the scene around, the nimble climbers among the branches, the little pickers-up of showers of golden fruits, whose joyous songs and merry laughter made the valley ring; forcing the wayside traveller to tarry, for no matter what necessity for haste, spellbound he was, and became and another sharer of this rich, heaven-sent feast. May we have many such throughout our land! and waking from a long night's sleep and folly, may Ireland become rich and happy. Beautiful even in her poverty and nakedness, what may be her charms where her bare mountains and wastes are covered with valuable timber, with its numerous industries, and when every farmer has his orchard plot, ranges of bee hives, and trailing Roses covering his little home. Thus were charming Wicklow and Wexford counties in my early days.

I now come to my last question, No. 6. "How do you propose starting and carrying on this work?" Anyone who has observed our market gardeners, the humble men who have made Cork vegetables so famous, who may be seen early and late, moving among their Cabbages, &c., digging and manuring; these are precisely the class most suitable for grand fruit growers; and consider the amount of healthy employment for their children which would attend this industry. The day cannot be far distant when fruit will form a part of every meal. No American or Canadian house is without its supply, and during many months spent in both countries I lived on fruit. Surely, if our American and Australian brothers can deliver here from so great a distance, we should not be undersold in any British market. To our shame, bleak Ulster leads, is a long way foremost, and with your permission, I will read a letter from a northern grower; it is in answer to some inquiries I have been making: "It is difficult to say exact acreage under Apple orchards in the counties of Down and Armagh, probably 500 acres; three-fourths of this in the latter and one-fourth in the former. The average quality of the fruit is not good, being small, and fit only for boiling down. During recent years the most enterprising firms and fruit growers have renewed their orchards; in many instances laid down new ones, with the best and most useful fruits: many very fine young plantations are now to be seen all through the country, and those who took this matter up eight or ten years ago have found it to be a very profitable investment. The sorts most profitable in the north are Hawthornden, Echlinville, Pomona, Dumelows, Northern Greening, Warner's King, Cox's Orange, Elizabeth, Peasgood's Nonsuch, Lady Henniker, Lord Derby, Lord Suffield, Keswick Codlin, Alfreston, Lane's Prince Albert, Baron Hill, Jim Montgomery, and Gravenstein. About £8,000 represents the annual average value of Apples sold in these two counties. The per acre yield varies from one to four tons, average value £10; sometimes £15; often £20 and upwards is freely paid. Average life of an orchard is about forty years, if properly cared; after this trees begin to decline. Preserve manufacturers from England and Scotland purchase the great bulk of the fruit in the north. The Scotch buyers speculate and purchase the fruit on the trees; in fact, all the best is sold in this way, and they send over their own men to pull, select, and size for their various uses. This market (Portadown) is the largest and by far the most important in Ireland. In the season twenty to thirty tons of ripe fruit changes hands on market days. Considerably more attention is given to good fruit culture than formerly; either very early or very late varieties are most in demand, and we prefer planting only a few kinds found most suitable.

"The old orchards are not profitable, because of age, neglect, and the bulk of fruit coming all at one season. The bulk of our fruit goes to preserve manufacturers. Tree planters now prefer low stems 3 ft. to 3½ ft., and many find bushes still better, so that they are sheltered, and the best fruit can be ground hand-picked. In five or six years there is a good, profitable return for the outlay. We have still much to learn by careful work and close observation; for instance, Lord Suffield does badly on lime-stone, but splendidly in cool soil." Our men are poor. Government would, I am sure, assist with small loans, repayable during six years, and proper security could be given, as to our fishermen. Holders of, say, four acre plots, could begin fruit planting one acre, growing vegetables between until the trees would require more space. Have good instructors to teach; very few lessons will suffice; and this fine industry may be at once established, possibly in a small way at first, but rest assured the growth would be rapid, and a good slice of those millions sent to America, and to the continent, would find plenty of empty pockets at home. Should there be any doubters here, allow me for a moment to refer to a few leading pomologists, beginning nearest home. The late much-respected Mr. Thomas Rivers, of Sawbridgeworth, in conversation many years ago, said, "It is a wonder, considering that you are favoured with so fine a climate in the south of Ireland, that fruit growing should be so entirely neglected."

Further north, my old and valued friend, Mr. John Anderson, of Perth, said, when I showed him Beurré Superfin and Bartlet Pears laden with fruit in the open border: "Oh, if we had your climate, Scotland would be a fruit garden." Messrs. Elwanger and Barry, the great American growers, paid me a visit two years ago: "Wonder of wonders," they said, "that you are not growers instead of buyers of fruits!" Go a long way off to your brothers at the Antipodes, and see what the Chaffys are doing at Mildura—250,000 acres south of the Murray River being laid out in two years for fruit growing and 250,000 acres north of the river, taken from the New South Wales Government, is being operated on. England is the great market that these enterprising men are looking to. We are within a few hours of London; they are 8,000 miles away. Is it not really absurd to think how folly should permit our being beaten from a market at our very door? Oh, perhaps, some one will say, we can never grow such fruits as the Australians. No, I don't think we can, except in very favoured seasons, produce that splendid high colour; but here is my eldest son's opinion. Holding a forestry post under the Victoria Government, he has taken shares at Mildura; is a good judge of fruit; loves the grand, sunny land of his adoption:—"Splendid Apples, bright and shining; but give me the Irish Peach, the Kerry pippin, and the host of home Apples, with all their varied and special richness of flavour."—*Irish Farmers' Gazette.*

CHRYSANTHEMUM GROUPS AT EXHIBITIONS.

I was pleased to note at the recent show of the Twickenham Horticultural Society that the groups, and very fine ones too as groups go, were each, in accordance with the requirements of the schedule, edged with Ferns. The best group, one from Orleans House Gardens, had a dense edging of beautiful Maidenhair Fern. It is just possible that to get the fern edging into the prescribed chalk line, the blooms on the plants in the groups seemed to be unduly crowded, but still I have found the same grave defect plentiful elsewhere, and yet had the fronts of the groups as unsightly as possible.

One very objectionable element in closely packed groups is the introduction of too many late struck poor plants. I visited a garden at Twickenham, the gardener being being one of the plant group competitors. He showed me a quantity of late struck single bloom plants in 6-in. pots, provided expressly for the packing of groups, as when the large plants and pots are put close together these small dwarfer plants would stand in thickly on the larger pots, and fill up densely. That cannot be a desirable method of making prize Chrysanthemum groups, and yet the system you have objected to as existing specially encourages it.

If the groups be limited to a certain number of plants, the spaces being filled up with Ferns or other foliage plants, we should then see every effort made to produce strong robust well-grown plants, carrying each some three or four blooms. Thus we should have quality both in plants and blooms as well as good decorative effect.—*A. D.*

CHRYSANTHEMUM NOTES.

New Incurved Varieties.

Of these, I do not think either M. R. Bahaunt or Robert Cannell will take a high place as exhibition varieties, and for this reason; I think both have the Japanese blood in them, and the difficulty will be to have them sufficiently refined. They lack finish in the centre, and especially is this true of Robert Cannell. In these days, a good incurved flower needs to be perfectly finished; the florets should not cross each other in any way, and completely fold over and close in the centre. Given depth, refinement, and freshness, and there is a perfect incurved bloom. I have seen some fine blooms of M. R. Bahaunt, but not one I could say was perfectly finished; and though Robert Cannell has received certificates of merit, I have not seen a good bloom of it this season. But, as an old Chrysanthemum grower said to me a few days ago, three years' culture is necessary to show fully what a new variety of a Chrysanthemum is capable of. I think Matthew Russell, a rosy lilac and yellow sport from Princess of Wales, will make a good, useful and desirable exhibition variety, after another year or two's culture. Rivelyn, a rich golden bronze sport from the golden Mrs. Norman Davis, is highly spoken of, though I have not seen it in its best form. H. Shoesmith, a bronze sport from the yellow Mr. Bunn; John Doughty, a bronze sport from Queen of England; John Lambert, a light buff sport from the primrose Lord Alcester; Madame Gayral, white, heavily tipped with purple-lilac; Miss M. A. Haggas, a beautiful yellow sport from the rosy-tinted Mrs. Heale; and Violet Tomlin, the beautiful purple-violet sport from the blush Princess of Wales, are all very useful new varieties, the two last-named especially; it is impossible to speak too highly of the two last-named. Violet Tomlin gives us a tint of colour that was much needed among the incurved varieties. But, just think how much we owe to the inherent sportiveness of the Chrysanthemum, the why and wherefore of which no one knoweth; for the causes are hidden in the silent mystery of the flower's nature, and no botanist or florist has as yet succeeded in making them understood by us.

Miss Bella Wilson, a new incurved seedling raised at the Nurseries of Messrs. James Carter & Co., and introduced by them, were shown both at the Crystal Palace and Royal Aquarium Exhibitions. It is of good size, fine shape, and full substance, the colour pale-lilac and satin-grey. At the Crystal Palace, several blooms were shown, some from the crown-bud, which were rough in build and weak in colour, others from the terminal-bud, which were much more refined, deeper, and more pleasing in colour, and it was commended from the terminal-bud. The floral committee of the National Chrysanthemum Society did not take kindly to it at their meeting on Nov. 10th. The further appearance of this variety will be looked forward to with some interest.

At the meeting of the Floral Committee of the National Chrysanthemum Society, on the 10th inst., Mr. Robert Owen, nurseryman, Maidenhead, had a very fine new yellow incurved variety, named "Mrs. Robinson King." I am not sufficiently acquainted with its origin to be able to say whether it is a seedling or sport, but it is large in size, and exquisite in shape and colour. On the 13th inst. I was at the Nottingham Chysanthemum Show, where a very fine bloom of "Mrs. Robinson King" was shown by Mr. P. Blair, gardener to the Duke of Sutherland, at Trentham, and every grower was delighted with it. —*R.D.*

Naming Blooms at Exhibitions.

Now that your pages will be more at liberty, as the battle of the "Mums" is nearly over, I wish to draw attention to the advisability of a more uniform system of showing the names of the flowers on the stands, to the names being correctly and legibly written, and that every stand should be correctly named. At some of the exhibitions I have attended I have found names slovenly written and misspelt, and when the exhibitor is an illiterate, he should be compelled to get some capable person to fill in the names correctly for him, or the society provide a person to help the illiterate exhibitors on the morning of the day. I have also noticed that in some cases the names are written on cards dropped into little recesses on the front of the stands where visitors cannot see them. Others write the names on slips of paper laid loosely on the stand in front of the flowers, and are easily displaced, and not easily seen. The best plan I have seen adopted is that of a wire support to hold three narrow cards giving the names of the three flowers as they are placed in the row from front to back, and these supports are firmly fixed to the back of the stand, and judges and visitors can so easily see the names. As these name supports must be very cheap, why not make their use compulsory? It is a great advantage to the judges, who are often pressed for time to get their work done before the public are admitted, that the names of the flowers should be seen as quickly as possible, and it is also a great advantage to the visitors.—*Mum.*

Chrysanthemum Mrs. Robinson King.

This new variety was shown in grand form at the recent Leeds exhibition, and promises to become a constant flower on the exhibition boards of the future, for it is a veritable Queen in the incurved section. It is a valuable sport from Golden Empress of India, and originated in the garden of the lady in whose honour it has been named, at North Ferriby, Brough. Mr. Hotham, her gardener, was successful in propagating the sport, and fixing it. It is a rich, deep golden yellow in colour, with incurved florets of fine form. The flower is deep, massive and globular—a telling variety as shown at Leeds, where it was deservedly awarded a First-class Certificate. —*A Yorkshire Gardener.*

An Incurved Chrysanthemum Cullingfordi.

The normal form of this variety is reflexed as is well known to almost every grower of Chrysanthemums. A sport has occurred at Devonhurst, Chiswick, where the florets are incurved partly hiding the crimson upper surface. The reverse is thinly shaded with gold, and the short and fine pubescence characteristic of the type has become developed into well-marked, coarse bristles, though not so long as in the so-called plumy kinds. Whether it may be grown as a true incurved will have to be determined another season, as the plants now grown have been propagated late and are consequently small. It is named Amy Casey.

St. John's Nursery, Putney.

As far as exhibition purposes are concerned, Chrysanthemums are quite over in the southern districts of England, but the late varieties, and especially those grown for cut flower purposes, promise more remuneration for the growers than those grown to large size for exhibition. The explanation is that the wet weather that prevailed during October and the beginning of November caused an unusual amount of damping and destruction of the flowers. This is particularly the case at St. John's Nursery, Putney, where the situation is low and damp. Mr. G. Stevens, nevertheless, managed to secure the second prize in a good competition for the large group at the National Chrysanthemum Society's November show. The incurved varieties in his group, though really more valuable and difficult to grow, were less effective than the Japanese sorts so prevalent in other groups.

The chief display in one of his houses consists of Elaine, Golden Gem, Ethel, and Mrs. H. J. Jones. These were stopped once and allowed to grow into tall bushes with many branches, which being lightly disbudded are now very floriferous. The flowers of all are of a useful size, clean, and fresh. Golden Gem has naturally rather smaller flowers than the rest, and bronzy-orange fading ultimately to a paler and more golden hue. The white flowers of Ethel are cup-shaped, and very popular for late autumn and early winter work. Mrs. H. J. Jones is of a beautiful clear yellow, and often spoken of as the Yellow Ethel. All the four are of course Japanese sorts. Mrs. Geo. Stevens is another which has neither been stopped nor disbudded, and has golden-yellow flowers ultimately tinted with bronze. A useful variety for late work is Princess Blanche, a Japanese sort with medium sized blooms, pink in bud bnt pure white when expanded. Cuttings were struck in November and again in February, but there is no difference in the behaviour of the two batches, which were only in bud when we saw them last week. The plants are very bushy, about 2 ft. high, and were neither stopped nor disbudded. Mr. Stevens speaks highly of it for cut flowers late in the year.

Large blooms of Ada Spaulding showed them to be pink outside and white in the centre. The majority of growers can make nothing else of it than an incurved Japanese variety. A promising variety, if grown for exhibition purposes, is Sunbeam. The spreading florets are crimson, edged with yellow and often striped along the centre with yellow. The form of the flower may be compared to that of Hamlet, at least in the early stages, but the colour is quite different. Beauty of Castlewood is of the same type as Mrs. C. Wheeler, but has more incurved crimson florets and old gold on the reverse. A curious sort is Kioto with twisted yellow florets resembling those of Golden Dragon, but the plant varies from 4 ft. to 6½ ft. high. Besides the above Japanese varieties, a large number of Pompons are grown for cut flowers, and amongst them we noted the popular Mademoiselle Elise Dordan, flowering very freely, but the flowers were small owing to their not having been disbudded nor cut back.

In one of the low, span-roofed houses is a fine lot of Cœlygyne cristata in large pots and pans, already showing their flower spikes strongly in large numbers. That as well as Cypripedium insigne are grown for the sake of cut flowers. Clivia miniata, Azalea indica alba, and A. Deutsche Perle have already commenced to bloom, and will continue till early summer. Large batches of Nephrodium molle corymbiferum and Polypodium aureum are grown for filling ornamental vases. The spaces under the benches are utilised for the cultivation of Mushrooms which prove a profitable crop.

THE DESERT FLORA OF EGYPT.

In a lecture recently delivered at Ealing, the Rev. George Henslow, M.A., F.L.S., said the Desert Flora was perhaps the most interesting department of Egyptian botany, as the plants in that flora showed very remarkable adaptations to maintain their existence against conditions arising from the intense heat and drought which prevailed during ten months in the year in that country. The general appearance of Egyptian desert plants was that of stunted bushes and herbs of a blue-grey colour; this colour was due to the dense hairy covering so many of the plants in this class of Egyptian flora possessed on the foliage, or to the waxy secretion over the surface of the leaves which distinguished others. The roots of the desert plants were often of extraordinary length, this extreme length of root being one of the provisions with which nature had furnished the plant to seek for and obtain water below the sand; the surface of the latter was sometimes heated to a degree of 140° F. The desert plants obtained water from the sky in only two months of the year—in that period rain descended in a deluge—consequently they had to exist the remainder of the year without further rain. They had in those ten months in which

no rain fell to resist nine months of intense heat; they had to keep all the water they could get and prevent it being lost; and the methods by which they did that were very remarkable. First of all there was the peculiarity of an abnormal length of root, to which he had already referred; secondly, heavy dews fell at various times through the summer, and the plants absorbed those dews.

Many of the plants, again, developed tubers, and others little root-knobs, which acted as and were simply storehouses of water for the sustenance of the plant during the dry season. The stems were often spinescent, as the poverty of water would not allow cellular tissue to be formed: the absence of water compelled the plants to become hardy and spiny, and the leaves were, as a consequence of the same cause, reduced in size. Other contrivances by which the plants resisted the heat and retained water consisted of a water-storage in the tissue of the leaves. A thick cuticle, which prevented the water escaping, was a very common attribute in the foliage of these desert plants; and a hairy arrangement on the leaves—the hairs sometimes interlaced, and formed a kind of felt; the leaves of many of the plants were clothed with a dense felt-like hair; or the hairs might lie flat on the surface, forming a kind of fur—this hairy provision retained the dew, which did not evaporate so quickly as it would do on a smooth surface. A coating of wax on the leaves was also common. In short, the anatomical peculiarities of these desert plants (which peculiarities were used to aid the plant in sustaining its life against the adverse condition it had to encounter, enabling it to overcome those conditions by the retention of moisture during the dry season) consisted of densely hairy and waxy epidermis; "palisade" (green) tissue being on both sides of the leaves, instead of on the upper only, there was a water-storage tissue, which might be formed by the epidermis, the mesophyl, the cork, or the pith.

Some plants, especially Reaumuria hirtella, secreted calcium chloride, which acted as an absorbent, taking up at night the dew, which moisture the tissues then absorbed. The President, in his further remarks, alluded to the comparative absence of flowers on the desert plants, and to the self-fertilising properties of those plants; he then gave an exposition of the plants of the Nile Valley and of those grown in other cultivated parts of the country, making special reference to plants specimens of which are to be found flourishing alike in Egypt and England, and which plants he said had possibly been introduced with corn and other things; he pointed out, however, certain details in which Egyptian plants differed from those of the same species found in England—for instance, the Chickweed, which abounded in Egypt, was in that country without the little white flower with which we were familiar in England. Professor Henslow proceeded to again deny that a genuine instance of "true" mummy Wheat having germinated had been substantiated (this "mummy" Wheat, the lecturer explained, consisted of Wheat offered to their dead by the ancient Egyptians)—whatever his audience might hear about Wheat from the tombs of the Egyptians having germinated, he said, let them be assured that they would be quite safe in flatly denying any assertion that an effort to grow such Wheat had been successful.

There had often been cultivated in this country what was called the "mummy" Pea—a peculiar form of the Pea, a form which was, however, known perfectly well on the Continent some twenty or thirty years ago. The origin of that form of Pea was a little doubtful, but in regard to it people again declared that it was grown from a Pea taken from the hands of an Egyptian mummy, and which had been offered to the dead. When that assertion was investigated, it would be found that at the time the offerings to the dead in question (of which offerings this supposed mummy Pea was alleged to have formed a part) were made, the Egyptians had no Peas at all among their vegetable products; there was in the Egyptian language no word corresponding to our word "Pea;" the Pea was not known in ancient Egypt, and it had therefore never been offered to the dead there. The Egyptians now cultivated two kinds of Pea, and he suspected that the Pea which was represented as a "mummy" Pea was a hybrid between those two modern forms. He had taken steps to ascertain whether such was the case; at all events, his hearers might be quite sure that the ascribed "mummy" origin of this Pea was quite as false as the reputed "mummy" origin of the Egyptian wheat.

Cattleya Bowringiana. — We learn from *The American Florist* that a plant of this species in Mr. Gilmore's collection at North Easton, Mass., has a spike carrying twenty-one blooms. When we remember that seven and eight blooms is about the average, the spike in question is a wonder.

THE LAMPORT ROCKERY.

The presiding Lady of the Lamport Rockery, Mdlle. Terra Cotta, to whom allusion was made in our issue for October 24th last, page 116, is here reproduced from an exquisite photograph, in which the beautiful surroundings come out in a manner which has probably never been surpassed. The dress is primrose, the ribbon which ties the hair and is invariably supposed to be real, is turquoise blue. The hat is dark chocolate, stockings dark, shoes lawn-tennis colour.

The vegetation is chiefly Aubretia deltoides, as is the tuft beneath her seat. The plant emerging from it is but little known. A specimen from this Rockery was presented some years since to Colonel Trevor Clarke, of horticultural celebrity. He submitted it to the botanical lights at a meeting of the Royal Horticultural Society, but no one knew its name. It was discovered to be Purettia flexilis [?]. It is most accommodating in its nature, thriving equally well whether plunged into the miniature lake or planted in parts where it gets no moisture whatever. It remains intact in the caves throughout the winter. The Fern low down is Polypodium cambricum, where it is probably much more extensively grown than in any other locality. Being a barren variety, it has to be divided and the roots spread slowly. It has been established at Lamport forty-five years. The plant at the right corner is the Alpine Ladies' Mantle, Alchemilla alpina. The two minute stars on the lower edge are Campanula garganica.

Mdlle. Terra Cotta on the Rockery at Lamport.

The young lady has occupied her present position for three years, excepting the winter months, when butterfly-like she retires into hybernation. There are, as amongst most things, various opinions regarding the propriety of the location of Mdlle. Terra Cotta. Some either are, or appear to be, indifferent to her charms; others are greatly smitten. Some think her horrid in the extreme; others extremely beautiful. One lady of taste found her so prepossessing as to pronounce her the most fascinating creature she had ever beheld, far beyond any of her friends. Although her powers of fascination do not affect all, she has the power of deceiving all.

A person who happened to observe her from a window when she made her first debût, went hurriedly and gave notice: "There is a girl sitting on the rockery! She mustn't be there." Another on entering retired, fearing she was intruding on the privacy of the family. It may be added that should there be any who are fascinated with this representation they will find themselves more so, and to a much higher degree, if they will send six stamps to Mr. Garrett, 32, Wellingborough Road, Northampton, for a Woodburytype of this marvellous photograph, in all respects equal to the original, which can be obtained for one shilling. If there is any fault to be found with it, it is more beautiful than the original. This is on account of the lens giving more minute details, which can be seen under closer inspection than the eye is capable of, however perfect the sight, and for this reason an opera glass is of the greatest assistance in rendering the Lamport Rockery in every sense of the expression, A Complete Fairy Land.

SCOTTISH NOTES.

SCOTTISH HORTICULTURAL ASSOCIATION'S ANNUAL CHRYSANTHEMUM SHOW.

ALTHOUGH it is only two years since this Association pluckily embarked in the undertaking to hold in Edinburgh a Chrysanthemum show worthy of the capital of Scotland, its managers must be heartily congratulated on the soundness of their judgment, and the unqualified success which has crowned their efforts. The exhibition held in the Waverley Market last week showed a steady improvement on its predecessors, and as before attracted enormous crowds of visitors every day. The statistics of the exhibition show that the number of competitors was 157 as compared with 151, and the number of entries 871 as compared with 792. The advance, which is apparent from those figures, was also maintained in the leading exhibits, which were in quality in advance of any that have yet been shown at Edinburgh. Of course a winter exhibition, restricted mainly to a single class of flower, held in a place of such vast extent as the Waverley Market, loses something of decorative effect as compared with the summer shows, but, to make up for that in some degree, the show committee decorated the market by hanging the galleries with drapery of red, white, and blue, entwining the pillars which support the roof with wreaths of evergreen, and grouped collections of Palms and other foliage plants at convenient places upon the floor. They also lighted the market with electricity, and incandescent lamps were introduced among the greenery on the pillars, or suspended from the roof along the tables; and these, supplemented by a row of arc lamps at the back of the market, made the lighting arrangements very effective indeed, besides getting rid in some degree of the inconvenience arising from the overheating of the atmosphere by the burning of hundreds of gas jets.

The great prize of the show, for which there were about a dozen competitors, was the City of Edinburgh Cup, valued at £20, offered for the best forty-eight blooms of Japanese Chrysanthemums of not less than thirty-six varieties. This was secured by Mr. J. W. M'Hattie, of Newbattle Abbey Gardens, whose blooms were all splendidly grown, and shown in perfect condition. They included most of the well-known varieties, such as Edwin Molyneux, Boule d'Or, Avalanche, Etoile de Lyon, Elaine, Viviand Morel, Monsieur Bernard, William Holmes, Gloriosum, and W. H. Lincoln, &c. The second prize lot, which was exhibited by Mr. Parker, Impney, Droitwich, also contained some very choice blooms, but they lacked the evenness of quality of Mr. M'Hattie's. The next most coveted honour was the Scottish Challenge Cup, presented by the Association for the best twenty-four blooms of incurved Chrysanthemums, and open to Scottish gardeners and amateurs only. It was won by Mr. Alexander Watt, gardener to James Stewart, Esq., Black House, Skelmorlie, Ayrshire, with an exhibit of very even merit, which included Empress of India, Prince Alfred, Princess of Wales, Lord Wolseley, &c. In the competition for the best twenty-four Chrysanthemums, Japanese and incurved, Mr. Parker showed some blooms which were hardly surpassed in the show for delicacy of colour and excellent condition. The third prize in the first-named competition went to Dundee, the successful competitor being Mr. Machar, Carona, Broughty Ferry; while the second and third awards in the Association Cup competition went respectively to Mr. Peter Mathieson, Dhalling Mor, Kirn, and Mr. John Clark, Bannerfield, Kelso. Mr. John Kyles, Milburn Tower, Corstorphine, staged the best twenty-four Japs., and the premier award for twenty-four incurved was taken by Mr. Jellicoe, Camp Hill, Woolton, Liverpool. The best twelve blooms, six Japanese and six incurved, came from Mr. Geddes, Knock Castle, Largs. In the nurserymen's classes, Messrs. R. B Laird & Sons secured all the premier awards.

The pot plant classes were all well contested, as were also the various classes for fruits and vegetables. In the Grape competitions, Mr. Murray, Parkhall, Mr. Leslie, Pitcullen, Mr. Murray, Culzean, and Mr. Fairgieve, Dunkeld, scored frequently, and in other competitions Mr. McIntyre, The Glen, Mr. McIndoe, Hutton Hall, Mr. Day, Galloway House, and Mr. A. Wilson, Auchincruive, secured leading awards.

Among special exhibits there was nothing finer than a table of blooms shown by Mr. H. I. Jones, of Lewisham, and which included Miss Alice, a dainty little anemone, pink, with white heart. Lilian B. Bird, a light pink anemone, with the most hair-like of petals; Madame Darrier, a buff and yellow incurved Chrysanthemum; Needles, a beautiful soft Japanese of small size; James Western, a white-petalled anemone, with a yellow heart, are a few among many choice varieties which he exhibits. The Nova Scotian Government sent a notable exhibit of about eighty varieties of Apples; but this was eclipsed by Messrs. Dicksons & Co., who showed no fewer than 150 varieties, among them their two new certificated seedlings, Bailie Neilson and James Grieve. One of the Association's chief awards, their Gold Medal for a very fine collection of table fruit, has been conferred on Mr. Moore, Queen Street. The exhibition was opened by the Lord Provost, and the usual dinner took place in the afternoon of the first day, Mr. W. M. Welsh presiding, and Mr. Dunn and Mr. Robert Laird, Secretary, acting as croupiers.

AYR CHRYSANTHEMUM SHOW.—The fourth exhibition of these popular winter flowers held by the Ayrshire Horticultural Society took place in the Town Hall on the 18th and 19th inst. The display of pot plants which at previous shows was generally admitted to be of rare excellence, were above the usual standard. The two lines of plants which occupied the spaces allotted for them on each side of the central promenade presented a grand floral picture to visitors on entering the hall. These comprised the competition lots for the three and the two best specimens respectively. For both lots Mr. Halliday, Ayr, secured the first place, most of his plants as they stood in the pots being close on 6 ft. in height, and 3 ft. to 4 ft. through, and were in fact miniature banks of bloom. The most notable specimens were La Triomphante, Miss Gordon, Bouquet Fait, and Elaine. Pompons and incurved sorts were well represented by the same exhibitor, his two plants of the latter including a notable specimen of George Glenny. The second and third prize of Japanese sorts, reflexed and incurved lots also included highly meritorious specimens of Peter the Great, and La Triomphante. Mr. Stewart, Ayr, in his first prize stands of Japanese blooms exhibited fine examples of Avalanche, Etoile de Lyon, Eynsford White and W. H. Lincoln. Some very good flowers of Lord Alcester, Mrs. Geo. Rundle, and Lord Wolseley were noticed in the first prize stand of incurved varieties won by Mr. McLean, gardener to Sir D. Matheson, Bourtreshill, Irvine, who was also first for the best Japanese bloom with a fine specimen of Avalanche. The display of Amateurs' pot plants and cut blooms was also a most creditable one. In the latter section, Mr. McQueen, Mauchline, has opened a campaign, in which, considering that gentleman's capabilities we apprehend serious results to those who may venture to oppose him in future. On the present occasion at least, he secured the principal awards. Bouquets of Chrysanthemums and greenhouse cut flowers, together with a collection of clean and well-grown house plants, from Mr. Bryden, Dennison Nursery, Ayr, were also attractive features of the exhibition. All the arrangements of the show were admirably carried out by Mr. Burns, the courteous and painstaking secretary.—*Western.*

THE LION'S TAIL.

SUCH is the popular name applied figuratively to Leonitis Leonurus, and which is also an English rendering of the specific name. It is a very old inhabitant of British gardens, having been introduced from the Cape of Good Hope in 1712; but since that time has probably been lost and re-introduced several times. The plant belongs to the Labiata family, and is not unlike a Salvia till it comes into bloom. Seeing that it flowers in autumn and winter it might be grown for that purpose, so as to furnish some diversity amongst, or a change from, the Salvias. The leaves are lanceolate or oblong, and of a deep green, clothing sub-shrubby stems, 3 ft. to 3½ ft. high. The flowers are borne in dense clusters in the axils of the leaves, and are scarlet while yet in bud, but ultimately change to a buff orange. The stems and under side of the leaves are somewhat woolly, and the shape of the flowers also recall that of a Phlomis, and accordingly it was formerly described under the name of Phlomis Leonurus. A batch of plants grown in 24-size pots may be seen in the nursery of Messrs. H. Cannell & Sons, at Swanley.

FLORICULTURE.

Auriculas.

THERE is a kind of majesty in the slow and dignified manner in which the plants fall away to their winter's rest as if very reluctant indeed to do so. All that one can do is to maintain a good supply of air, remove decaying leaves, keep the surface stirred, and the surroundings as clean and comfortable as possible. Very little water will be required owing to the humidity in the atmosphere, but no plant should be allowed to flag. For the next two months the plants will exist, and that past the time of revival will be near.

Carnations and Picotees.

THE layers potted off, the pots should be in cold frames on a dry bottom, and protected from rain. Let them have all the air possible. The painstaking florist looks over them occasionally, removes decayed foliage, stirs the surface soil, and so lets his plants know they are cared for, and they are grateful, and show it in their way, though not by means of articulate speech.

Calceolarias and Cinerarias.

THESE two are best in a cold frame near the glass, where they can have the advantage of a hot water pipe when the weather is wet and misty as well as cold and dreary, as also when the frost is severe. In the advent of a few degrees of frost, it is much better to cover up the frames securely with mats than to put on fire heat; that should be applied only in extremities. The plants will take no harm if covered up for a few days when frost abounds. The great advantage of a little artificial heat is that there is no necessity for keeping the frames covered up by day and night both; there should be heat enough to keep the plants safe but not forced. When watering be careful not to wet the foliage. Look out for mildew, and apply a little sulphur to the affected parts. Give no quarter to green fly

Pelargoniums.

LIKE Cinerarias, these can be kept cool, and heat applied only to keep the plants healthy. Air can be given freely on mild days, but the plants so placed as to be out of the way of cold draughts. Plants intended for early flowering in May need to be kept a little warmer. Water sufficiently and carefully, and there should be no check for want of it.

Pinks

IN beds have done well, but as a precaution against a rapid and severe change—and at this season it may come without warning—a top dressing of decayed manure or burnt vegetable matter may be given to the depth of an inch or so; first cleaning the beds over, and slightly stirring the surface soil. In case of very severe frost, or cutting, cold, northerly winds, a little fern or some such material may be laid lightly over the plants as a protection.

Polyanthuses, Gold laced.

SUCH as are in pots require rather more moisture than do Auriculas. The plants should be kept as near the light as possible, but no rain allowed to fall upon the foliage. At all times, except when the frost is intense, plenty of air should be allowed to circulate among them. So far the plants are doing well. A sharp look-out needs to be kept for green fly. If not already done, seedling Polyanthuses and Primroses may be planted out in the open in dug and manured ground. Both will well repay liberal treatment. Plants of established Primroses are flowering freely as is usual in autumn, owing to the mild weather. Only to-day, the 24th, I have gathered a few very fine blooms indeed. All newly planted should have the soil firmly pressed about them.

Tulips.

WRITING on the 29th of October, Mr. Samuel Barlow said: "I have finished planting Tulips to-day, weather grand, and soil in fine condition." In moist localities it is customary to cover the bed with some material to ward off rain, the reason assigned being that the bulb being in a partially dormant state, excessive wet is likely to injure it. Because of this it is usual to raise the surface of the Tulip bed some six or nine inches above the ground level, and slope the surface from the centre on both sides so that rain may fall away from instead of entering the soil. The opinion generally held is that it is wet rather than cold or frost that kills Tulips.—*R. D.*

TEMPLETON HOUSE, ROEHAMPTON.

TEMPLETON HOUSE, the seat of H. L. Holland, Esq., although so near London, is quite secluded amongst tall old trees between East Sheen, Mortlake and Barnes on the one hand, and Wimbledon Common on the other. Oaks, Elms, Limes, Sycamores, Chestnuts, Cedars of Lebanon, and others scattered through the park and planted in belts, are of many years' standing, and serve to give the place an appearance of antiquity.

At this late season there is little of floral beauty out-of-doors, so that the houses offer the chief feature of attraction. The Chrysanthemums are still gay and are arranged in the vineries, the Japanese kinds being collected together in one house and the incurved in the other. Many of them are still in fine condition, especially amongst the Japanese sorts. Etoile de Lyon retains its beauty, as well as Sunflower, Raplh Brocklebank, Meg Merrilies, Thunberg, Japonaise (a curious bronzy-amber), Gloriosum, and Mr. H. Cannell. Moonlight with creamy white, incurved and much twisted florets, is a striking flower but seldom seen; and Golden Dragon is also a great curiosity. Eugéne Gait is a rich magenta-red with large flower heads. Madame Bacco, Cullingfordi, and Camille Flamerion are not to be overlooked even at this season of the year.

The incurved varieties are located by themselves and certainly associate better that way than when mixed with the Japanesc varieties, which always overpower them, especially when arranged in groups for effect. They have suffered more from damp than the Japanese sorts, but many were still in good condition when we saw them, and were notable for the change of colour which they undergo when past their prime. The orange colour of Barbara becomes yellow in the centre, Golden Queen becomes pink at the base, Golden George Glenny a bright purple at the base, and Miss M. A. Haggas slightly tinted with purple at the base of the yellow. None of them, however, show so great a change as Mrs. Heale, which changes to a deep purple with exception of the centre. Prince of Wales, Refulgens, Violet Tomlin, Beauty, Lord Wolseley, Lord Eversley, Lady Slade, and Empress of India, all as a rule retain their wonted hues. The Violet-scented Progne is still a good late reflexed variety with a rich amaranthe colour.

Florence Percy and Elaine are grown in quantity or the sake of cut flowers. Planted in the open border and allowed to form bushes, they are then lifted and placed in pits, where they are now flowering freely. Some Chrysanthemums may also be seen in the conservatory, but particularly noticeable are those which are specially grown for this purpose as untrained standards. Florence Percy is particularly attractive as a dwarf standard, while Etoile de Lyon and Madame Bacco stand 8 ft. high, with stout stems. The last named is the least suitable for the purpose owing to the drooping and untidy character of its blooms when treated in this way. Notable amongst other plants in this structure were the climbers on the roof, including Tacsonia Van Volxemii, Plumbago capensis, Cobæa scandens variegata, and Solanum jasminoides; the latter hanging down in festoons and still flowering freely.

In the Fern house some Begonias, including B. nitida and B. Scottiensis, will continue to flower for a long time to come; and plants of Rivina lævis with red berries serve to brighten up Adiantum cuneatum and A. macrophyllum, which are still in the freshest of leafage. Two divisions of a house used for growing Melons in summer are made to do duty as a stove for flowering and other plants in winter. In one of them is a batch of Poinsettias in full bloom, and another of Euphorbia fulgens (jacquineæflora) will commence flowering in the course of three weeks. A seedling Canna, with orange-scarlet and yellow edged segments, has been flowering continuously since July, and looks as if it would continue till the new year at least. Amongst Orchids, Calanthes and Phaius grandifolius are throwing up their flower spikes, while Cœlogyne speciosa is nearly always in flower. Some specimens of Musa Cavendishi are planted in a narrow border along the back of the house, and one carries a good bunch of fruit. The other division was bright with well grown plants of Eranthemum pulchellum and Centropogon Lucyanus. The bright blue flowers of the former make it a favourite with those who grow plants especially for winter work. Negro Largo and Donaldson's Fig in pots are still bearing, the latter, indeed, carrying a heavy crop of fruit in various stages of maturity.

A long supply of Azalea flowers will be obtained from now onwards till spring. One of the greenhouses is almost wholly occupied with specimens mostly neatly trained. Little or no forcing is employed, so that the flowers come on gradually. Deutsche Perle, Steven's White, and Amœna are already commencing to flower. All the leading or best varieties of Bouvardia are grown in another house close by, and, like the Azaleas, are kept very cool by an abundance of ventilation. Double varieties are represented by the white Alfred Neuner, the pink President Garfield and the scarlet Hogarthi flore pleno. More brilliant than the latter is Vulcan, a single variety with scarlet flowers. The double flowers may be more durable, and the cool treatment to which they are subjected is very conducive to hardiness and freedom from damping. The best of all the single scarlet varieties is President Cleveland, which has much larger flowers than those of Vulcan and equally bright. The large white flowers of Humboldti corymbiflora find admirers everywhere, notwithstanding the fact that fewer of them are produced. The crop of hardy fruit has been so heavy during the past season that fresh accommodation had to be found for it. Many of the best samples have been obtained from young trees, including Beurré Diel and Beurré Rance, the former of which were notable for their great size. Peasgood's Nonsuch, Blenheim Orange, King of Pippins, Adam's Pearmain, Cornish Aromatic, Betty Geeson, Annie Elizabeth, Lewis Incomparable, Northern Greening, and Court Pendu Plat were some of the finer samples of Apples. The crop is the heaviest that has occurred during the past ten years. Altogether, Mr. J. P. Kendall, the gardener, is to be credited for the keeping of the place and the order which prevails everywhere.

GARDENING MISCELLANY.

PODOCARPUS CHILINA.

ABOUT sixty species of Podocarpus have been described, but the bulk of them are stove or greenhouse subjects. Although belonging to the Conifer family, they are totally distinct from the bulk of the hardy Conifers, with which British gardens abound. There is a considerable range of variety amongst them, and that under notice forms a large shrub or small tree, quite unlike the bulk of hardy shrubs in general. In its hardiness it differs from the bulk of its congeners, and should give no uneasiness in this respect, provided it is grown in a position sheltered from side winds, but well exposed to light, for upon this depends the hardening of its leaves, which are evergreen, lanceolate or linear, 1½ in. to 3 in. long, of a deep shining green above and paler beneath. It is a native of Chili and Peru. A pyramidal, densely branched specimen of it, about 6 ft. to 8 ft. high and nearly as broad at the base, may be seen in the collection at Kew, where it withstood the past severe winter and several others quite unprotected. Although to a considerable extent allied to the Yew its general aspect is altogether distinct from that tree.

EFFECTS OF FOG ON PLANTS.

LAST winter and spring, when setting forth the difficulties of growing gold-laced Polyanthuses and Auriculas on the west side of London, owing to the injurious influences of the fog, I was somewhat sharply taken to task, and the effects I mentioned were attributed to other causes. But a report issued by the authorities of Kew Gardens shows the serious effects of fogs, even the fog on Sept. 8th, upon vegetable life. Not only was there a serious dropping of leaves in the conservatories, but the leaves were also found to be covered with a substance like brown paint, which could only be scraped off with a knife. This substance was of a tarry nature and contained a large quantity of hydrocarbons. The effects of metropolitan fogs, even in a place so far removed from the centre of London as Kew, has become very serious, and it is to be feared that the most beautiful garden in the kingdom is in danger of being spoiled from this cause. Similar effects are seen on my Auriculas, Polyanthus and other plants. The brown deposit appears to burn as if it contained some fiery acids. So far the absence of fog in November is marked. The worst effects are experienced in spring when the wind is in the east, and drives dense volumes of fog westward.—*R. D.*

A LESSON FROM NATURE.

I WAS very pleased to see, on p. 146, the footnote under the above heading, in favour of the lovely Winter Aconite. To my mind it stands pre-eminent amongst spring flowering bulbs. It commences flowering before the Snowdrop, and it will grow and flourish in shrubberies and under trees. I have seen nothing prettier I think in early spring than dense masses of its golden flowers growing in a shrubbery, through a dense groundwork of Ivy, forming with their own peculiar foliage a pleasing contrast. I believe it is rather uncommon, as I only remember seeing it at my home (in Essex), where it flourished, not only in the shrubberies, but in the churchyard and meadow adjoining, flowering freely every year, and often might have been gathered when the ground was covered with snow. It thrives best, however, when left entirely alone. I often, when at home, tried to transplant it; but, if disturbed and removed, they invariably dwindled away. But if it could be induced to establish itself, I know of no prettier picture than that formed by this lovely harbinger of spring.—*A. F.*

RUELLIA MACRANTHA.

ABOUT 150 species of Ruellia are known to science, but only a small proportion of them are in cultivation, and the latter are mostly grown for winter-flowering. The species under notice was introduced in 1883, and though not an old inhabitant of our hot houses, yet has had sufficient time to get more widely disseminated than we now find it. Those growers who have taken it in hand are highly satisfied with it, and it is certainly a showy plant when in bloom on account of the size and warm colouring of the flowers, which are of a bright or warm rose, paler in the throat, and striated with purple lines. They are trumpet-shaped, and produced from the axils of the leaves on the upper part of the shoots. The most satisfactory results are obtained by raising a fresh lot of plants from cuttings every year in the same way as Sericographis, Eranthemum, and Poinsettia. Mr. J. P. Kendall, The Gardens, Templeton House, Roehampton, grows it under the same treatment as his Poinsettias, and finds that some amount of shading is beneficial during the summer months, but that full exposure is necessary from early autumn onwards. His plants seldom exceed 1 ft. in height, and the flowers are cut singly when wanted and put in water for indoor decoration. Treated in this way they last a week in good condition.

VARIABILITY OF BRUSSELS SPROUTS.

THE same varieties in the same garden and apparently under the same conditions, do not always give the same satisfactory results. It is difficult to account for this, except on the assumption of their inherent variability from seeds and the effect of different climatic conditions in succeeding years. Mr. J. P. Kendall, gardener to H. L. Holland, Esq., Templeton House, Roehampton, grows a number of kinds every year, and notes their relative value according to the quantity of sprouts produced, their firmness and quality. Last year Sutton's Exhibition came first on the list, but this year it is third. The best three in their order of merit at present are President Carnot, Veitch's Exhibition, and Sutton's Exhibition. There is not a great difference between either, as all are about the same height and bear well, with sprouts very similar in size. The first-named has rich dark green much-wrinkled leaves, reminding one of a Savoy. The rows stand 4 ft. apart, as they were originally planted between early Potatos which stood at the same distance. After they were dug, the Sprouts had the whole of the ground to themselves, and grew strongly on account of the free play of light and air about them, as well as an abundance of moisture. The space originally occupied by the Potatos is now planted with Spring Cabbages.

VIOLET FROM NAPLES.

SOME years ago, a double Violet was brought from Naples by the Duchess of Edinburgh, and planted in a garden in the neighbourhood of East Sheen. From thence it got distributed amongst the neighbouring gardens, and has been cultivated more or less ever since in that district. Mr. J. P. Kendall, The Gardens, Templeton House Roehampton, has

grown it for the last 19 years, and still considers it a good variety. The flowers are somewhat similar to those of Marie Louise, but the petals are of a darker blue, and apparently fewer in number. The flowers are also larger, very sweet scented, and produced with the same freedom as those of Marie Louise. The plants are grown in a cold frame, and have been flowering for a long time past.

CHRYSANTHEMUM SHOWS.

LIVERPOOL.—This annual exhibition, which was held in St. George's Hall on Tuesday and Wednesday of last week, was, as noted in our last, a most gratifying success in every respect, and we have now the pleasure to give further details. With Chrysanthemums in pots, three large flowering, Mr. T. Wilson, gardener to O. H. Williams, Esq., Aigburth, took the lead with fair specimens, and for the best single plant the same exhibitor was first with a well-flowered Fleur de Marie. For three Pompons, distinct, Mr. Thomas Robinson, Mossley Hill, was first with fine unnamed specimens. The best Single Pompon was a fine Marie Stuart, shown by Mr. Thomas Wilson. The first prize for six untrained specimens went to Mr. J. Lowndes, gardener to S. S. Parker, Esq., for splendidly flowered plants. An extra first prize was awarded to Mr. T. Govern for six magnificent plants, one of which, however, was slightly trained and consequently disqualified, as also was a splendid Mrs. Dixon.

For a group occupying a space of sixty square feet Mr. W. Winkworth, gardener to R. Brocklebank, Esq., was first with a grand bank chiefly of Japanese; second, Mr. J. Harrison, gardener to Mrs. W. G. Bateson, with a pleasing arrangement. For six stove and greenhouse plants, three in flower and three fine foliaged, Mr. J. Jellicoe, gardener to F. H. Gossage, Esq., was to the fore; Mr. A. R. Cox, gardener to W. H. Watts, Esq., being second. Four stove or greenhouse Ferns: Mr. T. Govern staged a grand lot; Dicksonia antartica, 10 ft. in diameter, D. squarrosa, 8 ft., etc. Three Orchids, distinct: Mr. C. Osborne had the premier collection, comprising Cypripedium Harrisianum, Odontoglossum grande with sixteen flowers, and Dendrobium Wardianum. One Orchid: Mr. T. Foster secured the leading honour in this class with Vanda suavis. One Cypripedium: first, Mr. J. Harrison with a C. insigne, carrying nearly forty flowers.

The entry for cut blooms was by far the largest the society has ever received. In the sixteen classes the entries numbered 123 or 1884 blooms. The premier collection of forty-eight varieties, twenty-four Japs. and twenty-four incurved, in not less than thirty-six varieties, was staged by Mr. G. Burden, gardener to G. Cockburn, Esq., Oxton, Cheshire, his finest flowers being, incurved: Queen of England, Alfred Salter, John Lambert, Empress of India, Violet Tomlin, Mr. N. Davis; Japs.: Viviand Morel, Puritan, Etoile de Lyon, Pelican, Boule d'Or, Stanstead White, Mrs. F. Jameson, Mons. Bernard, W. W. Coles and Edwin Molyneux. Second, Mr. R. Townsend, gardener to J. R. Greatorex, Esq., Shrewsbury, with smaller but firm flowers; third, Mr. John Gauld, gardener to R. M. Dale, Esq.; fourth, Mr. Osborne, gardener to Lieut.-Col. Robinson. For twelve Japs., twelve incurved and twelve reflexed, the first prize consisted of a very handsome Challenge Vase, presented by Messrs. R. P. Ker & Sons, with ten guineas for each year's winner, the vase to be won twice in succession or three times in all. Mr. A. R. Cox staged the premier lot, very fine flowers of great substance and fresh, the finest including Etoile de Lyon, Sunflower, Boule d'Or, Empress of India, Mons. R. Bahaunt, Golden Empress, Violet Tomlin, etc.; reflexed, Cullingfordii, Mons. Feston, Cloth of Gold, etc. Eighteen incurved: first, Mr. John Haynes, gardener to B. C. Nicholson, Esq., with fresh, good flowers. Twelve incurved; first, Mr. J. Edwards, gardener to H. Tate, Esq.

The fruit section was grandly represented, in fact, considerably ahead of previous seasons, which is saying a great deal. For six dishes, Mr. T. Elsworthy, gardener to A. R. Gladstone, Esq., Broad Green, was accorded the post of honour, with fine Alicante and Muscat of Alexandria Grapes, Melon, Hero of Lockinge, Pears and Apples. Second, Mr. J. Bennett, gardener to the Hon. C. H. Wynn, Rhug, Corwen. For two bunches of Black Alicante, Mr. T. Elsworthy again scored out of eleven entries. Two bunches of black Grapes: Mr. W. Severs, gardener to S. Smith, Esq., M.P., had the best out of eleven lots, Gros Guillaume. Two bunches of Muscats: Mr. G. Middleton took the lead with model bunches of Muscat of Alexandria. For four bunches, Mr. T. Elsworthy secured the premier honours, with fine bunches of Alnwick Seedling, Golden Queen, Black Alicante, and Muscat of Alexandria. With six dishes of dessert Pears, Mr. J. H. Goodacre, Elvaston, was first with immense fruits; and with six dishes of dessert Apples, the Rev. L. Garnet was to the fore with fine coloured samples.

Messrs. R. P. Ker & Sons staged a magnificent group of Cyclamen of great substance, the whites especially being remarkable for size and purity. The Liverpool Horticultural Co. (John Cowan), Limited, made a brilliant display of Orchids, Bouvardias, etc. At the entrance they set up a most pleasing arrangement of Palms, Callas, Bouvardias, etc. Messrs. Dickson, Limited, Chester, sent some fifty dishes of Apples, of fine size and rich colour. Fishlock Bros. had a highly interesting arrangement of wreaths, bouquets, sprays, etc. The staging and arrangements were ably carried out by Mr. E. Bridge, Secretary, Mr. G. Blackmore, Treasurer, and an efficient Committee.

NATIONAL CHRYSANTHEMUM SOCIETY.

AT a meeting of the Floral Committee on the 24th inst., a considerable number of new varieties of Chrysanthemums were shown. The largest exhibit was that of Mr. R. Owen, Maidenhead, who showed Countess of Hambledon, Madame Darquier, Lizzie Cartledge, Richard Nisbet, Mrs. Bruce Findlay, and other good Japanese sorts. Primrose League, creamy white, and E. D. Adams, blush pink, were Japanese varieties shown by Messrs. Pitcher & Manda, Hextable, Swanley. Mr. R. Cox, Brickendon, Herts, also showed Lizzie Cartledge and Mrs. J. S. Fogg. Mr. A. Wright, Devonhurst, Chiswick, had an incurved Cullingfordi named Amy Casey. Some Japanese varieties were shown by Mr. Calvert. Mr. Lane, King's Ride, Ascot, exhibited Lizzie Cartledge. An incurved yellow Japanese variety named J. Stanborough Dibbens was shown by Mr. J. Dibbens, Breakspeare Road, Brockley, S.E. Geo. Atkinson and Mrs. L. S. Morton, two varieties belonging to the same class as the last, were shown by Mr. Beckett, Aldenham House, Elstree. C. E. Shea, Esq., The Elms, Foots Cray, Kent, had a large incurved Japanese sort named Violet Rose, also Lionel Humphrey, deep purple with lilac reverse, E. G. Hill, yellow, and others. Mr. J. Dinsmore, The Gardens, The Cedars, Harrow Weald, had a fine bloom of the yellow incurved Japanese sort named Kioto, as well as a single bloom each of Thos. Cartledge and Leon Frache; but as two blooms are necessary for the Committee, the exhibit was not eligible for an award. Brookleigh Gem, a lilac sport from Jeanne d'Arc, was exhibited by Mr. R. Cawte, Hare Lane, Esher.

ORCHID NOTES AND GLEANINGS.

Orchid Growers' Calendar.

ODONTOGLOSSUM crispum, O. Pescatorei, O. gloriosum, and O. Insleayii and its varieties are now pushing up their flower spikes plentifully, and will require careful watching to guard against the ravages of slugs. A piece of dry cotton wool, twisted round the base of the leaf and flower spike, is one of the best methods to prevent them getting at the flower spikes. Constant watch should be kept, and trapping with Potatos cut in two, each piece hollowed out and placed on the surface of the compost, and by Cabbage leaves laid on the stages amongst the plants and examined every morning, will help to get rid of these troublesome pests. Thrips and greenfly are especially active at this time of the year, and will require to be kept under, as, if neglected, they soon cause more damage both to the plants and flowers. If fumigating is resorted to to get rid of them, it should be done on two or three alternate evenings, and not too strong. For Odontoglossums avoid the use of tobacco paper or rag, as it causes a great many of the leaves to turn yellow and drop. For some time I have used Mc Dougal's fumigating sheets with very good results, especially in the destruction of yellow thrip, and without damaging plants or flowers.

Plants pushing up their flower spikes should be kept near the glass, so as to take advantage of all the light possible. Sophronitis grandiflora has been flowering for some time past, and is one of those plants that require to be well supplied with water all the year round. The plant should be grown in pans or baskets, in a mixture of peat and sphagnum, suspended from the roof and kept shaded from the sun, and during the spring and summer months freely syringed overhead. It does not occupy much room during its period of growth, and its bright orange-scarlet flowers add a charm to the Orchid house at this season of the year.—*A. W.*

Arachnanthe Clarkei.

OF the half-dozen species of Arachnanthe known, all are natives of the Malayan Archipelago, with exception of A. Clarkei, which comes from the Eastern Himalayas, and was introduced in 1886. The sepals are spathulate, or oblong, and heavily barred transversely with bronzy-brown on a yellow ground that is almost covered. The petals are narrower, but otherwise similar. The three-lobed lip is different in form and colour, the terminal lobe being the largest and most conspicuous. The general hue is a bronzy-buff, striated longitudinally with seven to nine whitish ridges. The spur is short and the mouth of it is covered with two crests. The large, fleshy, yellow column occupies the centre of the flat flower, and is very prominent. The flowers of this species are all of one shape and colour and apparently never dimorphic as in A. Lowii and A. Rohaniana. It was named Esmeralda Clarkei by Reichenbach, and in gardening books and nursery catalogues generally appears under the name of Vanda Clarkei, but the correct name is that given above. A flowering specimen may be seen in the warm division of the Orchid house at Kew. The stems are about 2 ft. high, and the flower scape appears opposite to a leaf, The latter is strap-shaped, bifid, and of a bright shining green.

Vanda cærulea Sander's var.

THERE is generally a considerable amount of variation, both in the size and colour of the flowers in an importation of this species. The flowers of the more typical forms are white, more or less shaded with blue, and are generally almost white when they first expand. The larger and more brightly coloured flowers are the most appreciated, but even in the best forms hitherto appearing the blue colour has been distributed along the veins. Sander's var. now flowering in the collection of Messrs. F. Sander & Co., St. Alban's, is the darkest form we have seen, the whole surface being of a rich dark blue, with exception of some small pale areas between the principal veins. Both the upper and under surface of the sepals and petals are coloured alike; and the lip is very dark.

Oncidium prætextum.

THE originally described form of this Oncid was characterised by having flowers about an inch across or thereby, with light brown sepals and petals, barred transversely and edged with yellow. The lip was yellow, with a margin of brown variously interrupted and broken with yellow blotches. The flowers were also fragrant at certain stages of their growth, and produced in large and graceful panicles. A fine specimen has been flowering for some time past in the collection of A. Dixon, Esq. (gardener Mr. Greggs), Ealing. The much branched panicle bears 100 blooms, unusually rich in colour. The sepals are barred, but the petals are of a uniform dark brown, while the lip is of a similar hue, with exception of a clearyellow blotch at the base of the middle lobe. Some object to the small size of the flowers, but taking their number into consideration, and the graceful manner in which they are arranged, this Oncid ought to be received with more favour by gardeners.

WHAT TO DO IN THE GARDEN.

Stove Climbers.—It is the usual custom when climbers in pots have done flowering to remove them to another house with a lower temperature and drier atmosphere. This cannot be done with those climbers which are planted out permanently. Such, however, can be induced to go to rest by withholding water and keeping them quite dry, but not to such an extent as to reduce the soil to a state of dust, otherwise many of the roots will get killed. Another point of importance is that heat-loving subjects like Allamandas and Dipladenias must not be kept in too low a temperature, otherwise it will be found that

many of the roots and also shoots will be dead in spring. Evergreen climbers require less water in winter than when growing, but it would be injurious to most of them to keep them as dry as the deciduous kinds.

Winter-flowering Stove Plants.—Many plants can be kept for a longer time in good condition if removed to an intermediate house when in bloom, or even to a greenhouse or conservatory where the night temperature is kept at 50°, with a rise of 10° by day, or even 15° with sun heat. Of course, in ventilating they must be kept from cold draughts, and always as near the light as possible, particularly in the case of Poinsettias. Other subjects coming under this heading are Sericographis, Libonias, Epiphyllums, Euphorbias, Begonias of the winter-flowering type, Centropogon Lucyanus, and others.

Plants for the Conservatory.—The display from Chrysanthemums will last for some time yet, particularly where they have been grown in bush form. They can, however, be supplemented and varied by the use of Paper-white Narcissus, Solanums, Salvias, Chinese Primulas, Roman Hyacinths, Richardias, Bouvardias, Carnations, Eupatorium riparium, and several of the autumn and winter-flowering Heaths. The night temperature of a house in which such flowering plants as the above are kept should be maintained at 50°, giving ventilation during the day to guard against damp and the consequent spotting or damping of the flowers.

Bedding Plants.—Coleus, Alternantheras, and other tender subjects will have to be kept in a warm house, otherwise they will soon lose their leaves. Those of hardier types, such as Lobelias, Pelargoniums, Gazanias, and Verbenas, should be kept as cool as possible, compatible with a healthy condition and freedom from damping. During wet weather the stock should be gone over in order to remove all damping and decaying stems or leaves. This is more particularly necessary in the case of Pelargoniums. Lobelias must be kept as near the glass as possible, and with this in view no better position could be got for them than a shelf. Nothing tells sooner upon them than when kept in dark or heavily shaded positions. Echeverias and Pachyphytons, together with other succulent subjects, must be sparingly watered or many of them will damp off.

Late Vineries.—If properly managed late Grapes will now keep best in the Grape-room, and their removal to such a place is necessary if large quantities of bedding plants are kept in the vineries. Before commencing the storage of them the fruit room should be thoroughly cleaned and warmed, at the same time giving ventilation to dispel damp. Fill the bottles with clean, soft water, placing a few lumps of charcoal in each to keep the water sweet. There should be a means of heating the place artificially so as to dispel damp occasionally and maintain the temperature at 45° in severe weather.

Forcing Vegetables.—Rhubarb and Sea Kale may be forced upon the ground by the use of a bed of fermenting materials placed around and over the pots to some 3 ft. or 4 ft. in depth. Leaves raked off the lawns, paths, and woods are very suitable for this purpose. Less trouble is, however, incurred and the results are more certain if the roots can be taken to a proper forcing pit or mushroom house where they may be taken in batches from time to time according to requirements. Asparagus may be treated in the same way, keeping all in the dark to make them crisp and tender. A supply of good loam should always be kept on hand for potting and top-dressing such things as are grown in pots.

QUESTIONS AND ANSWERS.

NAMES OF PLANTS.—*T. S.*: 1, The variegated Roast Beef Plant (Iris fœtidissima variegata); 2, Saxifraga (or Megasea) crassifolia; 3, Acer palmatum atropurpureum; 4, Euonymus japonicus latifolius aureus. *E. W. M.*: 1, Ruellia Portellæ; 2, Mimulus glutinosus, usually called Diplacus glutinosus; 3, Bambusa Fortunei variegata; 4, Epiphyllum truncatum. *F. R. S.*: Oncidium cœsium. *Gifford*: 1, Selaginella uncinata, often but erroneously called Lycopodium cœsium in gardens. *E. B.*; 1, Cypripedium callosum; 2, Cœlogyne speciosa; 3, Dendrobium bigibbum; 4, Cymbidium Mastersi. *H. Tate*: 1, Pernettya mucronata; 2, Arbutus Unedo; 3, Jasminum nudiflorum; 4, Cratægus Pyracantha.

NAMES OF FRUITS.—*T. S.*: 1, Winter Crassane; 2, too much decayed; 3, not recognised.

REFLEXED CHRYSANTHEMUMS.—*C. H.*: The varieties you name being all "Japanese Reflexed" are not admissible in a class for "Reflexed," which is an entirely different section.

BOOKS.—*Omega*: We do not know that it is the best, but you might try *Garden Management*, published by Ward & Lock.

LOPPING FOREST TREES.—*Omega*: The removal of large branches from forest trees would certainly reduce their vigour, in proportion to the size of the limbs removed. So long as the remainder of the tree is healthy, its constitution, however, cannot be said to be weakened; what is left will grow with equal vigour as before, but the trunk cannot increase in thickness at the same rate as it did before the branches were removed, for the simple reason, that there are not so many leaves left to perform the work. To guard against moisture getting into the wounds made in cutting off branches, you must smooth them over with some sharp cutting instrument, and then paint or tar them over. The roots cannot extend so rapidly after the removal of large branches, simply because the leaves which contributed to their extension have been removed. Then again the act of cutting off branches without an equivalent amount of roots, disturbs the balance between the two, and the roots would continue their action, at least for a time in an attempt to produce new branches to take the place of those that were removed. The result on the whole would mean a reduction of increase over the whole of the tree beneath the lopped branches, though that would not necessarily imply ill-health or disease.

MEALY-BUG ON VINES.—*G. K.*: No doubt the bug got to the Vines from some of the plants named, and where miscellaneous plants are constantly being introduced into vineries, it is next to impossible to keep the Vines clean. In careful hands the tar dressing you describe will do good if put on of the consistency of paint, after you have washed the rods with soft soap and water. For inexperienced hands Gishurst Compound, sold by all seedsmen, is a safe and good wash.

CROTON DISEASED.—*Gifford*: Some of the older leaves of the specimen you sent us had been attacked by thrips, but not in sufficient numbers to do any material harm. The dropping of the leaves at the top of the stem must have been due to the attack of a small, white, and almost invisible mite, which often attacks Crotons while the young shoots and leaves are developing. We have been acquainted with this evil for some years, and have seen the effects of it in different places and on different plants. The most effective remedies which have been tried have been syringing with soot water, or some insecticide containing sulphur. Syringing with a solution of soft soap and flour of sulphur, or Gishurst compound, and afterwards with clean water in the course of half an hour, would kill the mite, and prevent the dropping of the leaves, if done as soon as the commencement of the mischief is perceived.

ROSES NOT FLOWERING.—*J. W.*: There must be something wrong in the treatment you give your Roses, otherwise both of the kinds you name should flower freely. Her Majesty is a vigorous grower, and although it was raised as recently as 1886, yet it is a great favourite for exhibition purposes, and appears very frequently in the stands. Vigorous growing Roses should not be so hard pruned back as the weak growers. Another point worthy of due consideration is whether your Roses are grown in a properly exposed position, as far as light is concerned. The position should be sheltered, yet the bushes must not be overhung or shaded by trees or other objects. Full exposure to the sun is conducive to the ripening of the wood, and consequently to free flowering. Bouquet d'Or is a vigorous growing climber, belonging to the Noisette class, and would do best on a south or west aspect wall; but in any case should be well exposed to the sun. The soil may be poor, and if so, the plants might be lifted, the soil deeply dug or trenched, working in a good quantity of cow manure with it, or what is even better for Roses, pig manure. The shoots of Bouquet d'Or should be thinned out if too numerous, but in no case hard pruned back.

STORING DAHLIA TUBERS.—*A. Ridley*: About 6 in. of the old stem should be left attached to the tubers, and this being hollow, the roots should be turned upside down for some days to make sure that no water is lodging in the hollow. All the soil should be carefully removed from the root with a blunt pointed stick, and the roots kept in a dry place for a week or so to get rid of the superfluous moisture, after which they may be removed to a dry and cool cellar from which frost is excluded. Examine them from time to time to remove any portions of the tubers which may be damping.

COMMUNICATIONS RECEIVED.—G. H.—A Subscriber.—W. T.—W. F.—H. C.—C. T.—J. L.—G. P.—E. A. L.—F. R. S.—J. W.

LONDON SEED TRADE.

November 23rd, 1891.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a slow trade in Clover seeds, owing to fog. Red and White Clovers are again dearer. Alsike and Trefoil unchanged; Ryegrasses steady.

COVENT GARDEN MARKET.

November 25th.

FRUIT.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.		s. d.	s. d.
Apples... per ½-sieve	1 0	5 0	Grapes .....per lb.	0 6	2 6
Canadian and Nova Scotian Apples per barrel	12 0	18 0	Pine apples. —St. Michael's, each	2 6	8 0
Cobbs... per 100 lbs.	30 0	35 0	Peaches .....per doz.	0 0	0 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
ArtichokesGlobe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Beans, French, perlb.	0 9		Lettuces ...per dozen	1 0	1 6
Beet..... per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages ... per doz.	1 6	2 6	Onions.....per bunch	0 4	0 6
Carrots ... per bunch	0 6		Parsley ... per bunch	0 6	
Cauliflowers, English, per doz.	3 0	6 0	Radishes... per dozen	1 6	
Celery.....per bundle	2 6		Smallsalading, punnet	0 4	
Cucumbers .....each	0 6	0 9	Seakale ...per basket	3 0	3 6
Endive, French, doz.	2 6	3 0	Spinach, per strike ...	1 6	
Herbs .....per bunch	0 2	0 6	Tomatos..... per lb.	0 9	1 3
			Turnips .....per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Aralia Sieboldi ...doz.	6 0	12 0	Evergreens, invar. doz	6 0	24 0
Bouvardias...per doz.	8 0	12 0	Ferns, invar..per doz.	4 0	18 0
Chrysanthemums, doz	6 0	12 0	Foliage Plants, doz.	12 0	60 0
— large .....per doz.	12 0	24 0	Heliotrope, per doz.	4 0	6 0
Coleus.....per doz.	3 0	6 0	Marguerites, per doz.	6 0	12 0
Cyperus .....per doz.	4 0	12 0	Mignonette, per doz.	4 0	6 0
Dracæna term., doz.	24 0	36 0	Palms in variety, each	2 6	21 0
Dracænaviridis, doz.	9 0	18 0	—scarlet .....per doz.	4 0	6 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Acacia or Mimosa French per bunch	1 0	1 6	Marguerites, 12 bun.	2 0	4 0
Arum Lilies, 12 blms.	4 0	6 0	Mignonette... 12 bun.	1 6	3 0
Bouvardias, per bun.	0 6	1 0	Narciss, Paper White doz. sprays	1 0	1 6
Carnations, 12 blooms	1 0	2 0	Narciss, French, doz. bunches	4 0	8 0
Chrysanthemums, doz. blooms	0 9	3 0	Parme Violets, French, per bun.	3 6	4 0
Chrysanthemums, doz. bunches	3 0	9 0	Dark " " "	1 0	2 0
Eucharis ...per doz.	4 0	8 0	Pelargoniums, 12 sps.	0 6	0 1
Gardenias 12 blooms	2 0	4 0	— scarlet.....12 bchs.	4 0	6 0
Heliotropes, 12 sprays	0 3	0 6	Primula, double, bun.	0 9	1 0
Hyacinths, Roman, doz. sprays	9	1 0	Pyrethrum, doz. bchs.	2 0	4 0
Lapageria, 12 blooms	1 0	3 0	Roses, yellow, dozen	3 0	6 0
Lilac, French, per bunch	6 6	7 0	— Red..... doz. blms.	1 0	2 0
Lilium Harrisii, doz. blooms	6 0	8 0	— Saffrano...per doz.	2 6	3 0
Liliumsvar., doz. blms.	1 6	3 0	— Tea ..... per dozen	1 0	3 0
MaidenhairFern, 12bs.	4 0	9 0	Stephanotis, dz. spys.	3 0	6 0
			Tuberoses, per doz.	0 4	0 6
			Violets, English per bunch	1 6	2 0

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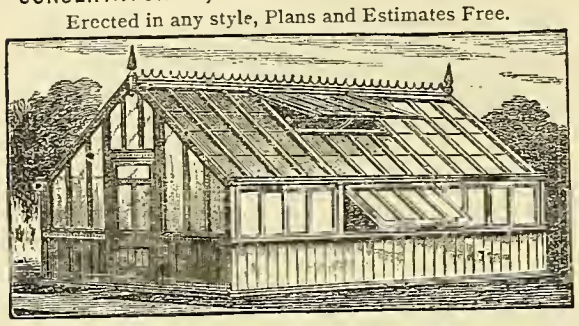

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No. 88. Size 15 ft. by 10 ft., as made. These pretty Hothouses are made to build on 2 ft. 6 in. of brickwork, or as a tenant's fixture as shown; they are Portable, easily put up or removed. The wood is best seasoned red deal. Iron gutters and pipes, two ends, one with a door; brass bolt lock, side and top ventilators, handsome iron brackets inside the roof. Painted in two colours three times, glazed with 21 oz. English glass.

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If made as a Tenant's Fixture	24 5 0

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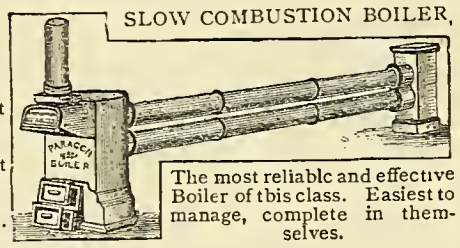

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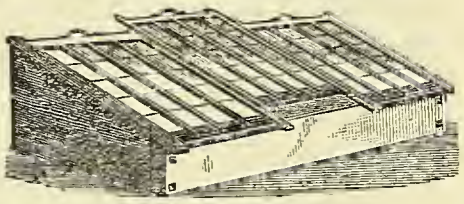

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6 ft. × 4 ft. 2 lights	£2 0 0	12 ft. × 6 ft. 3 lights	£4 2 6
8 ft. × 5 ft. "	2 15 0	16 ft. × 6 ft. 4 "	5 5 0
8 ft. × 6 ft. "	3 0 0	20 ft. × 6 ft. 5 "	6 7 6

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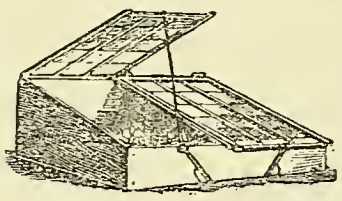

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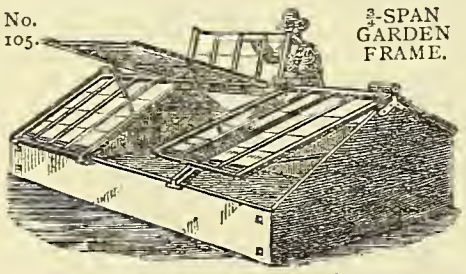

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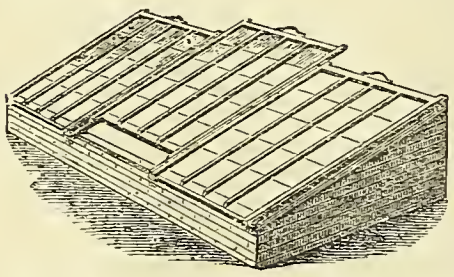

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		s.	d
18	Greenhouse Ferns, assorted and named	2	6
12	Greenhouse Ferns, 6 var., including Maiden-hair	1	9
12	Maiden-hair Ferns, 12 var., most lovely kinds ...	5	0
6	Maiden-hair Ferns, 4 distinct var., named	2	0
3	Adiantum Farleyense, most handsome Maiden-hair	2	6
100	Assorted Maiden-hair Ferns, my selection, well assorted	10	0
50	Ditto	5	9
3	Greenhouse Asparagus plants, strong, well rooted	1	9
6	Aralia Sieboldi, handsome foliage plant, strong ...	2	6
6	Palms, 3 var., healthy plants (12 for 4s.)	2	6
3	Palms, from 4-in. pots, 4 to 5 leaves, Latania borbonica, &c.	2	6
3	Gardenias, healthy plants, well rooted, from pots	2	0
6	Gardenias, larger, well rooted, from 4-in. pots ...	4	6
3	Lygodium scandens, the pretty climbing Fern ...	1	9
6	Greenhouse Selaginellas or Mosses, including golden	1	6
3	Hydrangea Dr. Hogg, best var. (12 for 4s. 6d.) ...	1	6
2	Assorted Ferns for cool greenhouse without heat ...	2	6
6	Clematis montana and 2 C. Flammula, 1½ to 3 ft. ...	2	0
6	Climbing Roses, own roots, 6 var., 1½ to 3 ft. ...	2	3
6	China or Monthly Roses, own roots, 6 var.... ...	2	3
13	Large-flowering Clematis, purple, &c. named ...	2	6
12	Tea Roses on own roots, best kinds, named ...	5	0
6	Mrs. Sinkins, new white Pink (12 for 1s. 10d.) ...	1	4
12	Small-leaved Ivies, pretty for rockeries or walls ...	1	3
6	Variegated Gold and Silver Ivies (12 for 4s.) ...	2	3
6	Ampelopsis Veitchii, small-leaved, self-clinging ...	2	0
12	Irish Ivies, strong plants, 2 to 3 ft. high	1	9
12	Pansies and Violas, best named kinds	2	3
12	Alpine Auriculas, lovely strain (25 for 2s. 6d.) ...	1	6
6	Named perennial Phlox, 6 var....	1	6
4	Honeysuckles, evergreen, Dutch, &c., named ...	1	6
6	Perennial Michaelmas Daisies, white, very large...	2	0
12	Assorted plants, suitable for rockeries	1	6
100	Assorted hardy herbaceous and perennial plants ...	5	0
12	Iceland Poppies, pretty perennials	2	0
3	Dracæna indivisa, about 1 ft. high	2	0
6	Heliotropes, best kinds, well rooted	2	0
6	Large choice Greenhouse Ferns, A. Farleyense, tenerum, concinnum, latum, &c., 1 ft. high ...	3	0
12	Chrysanthemums, best named var. (25 for 3s. 6d.)	2	0
6	Ficus repens, strong, well-rooted plants	1	6
6	Perennial Pyrethrums (12 for 3s.)	1	9
6	Heliotropes, 6 distinct named	2	3
3	Double Tropæolums, Hermine Grassbott	1	9
6	Nicotiana affinis (sweet scented Tobacco-plant) ...	2	0
6	Fuchsias, 6 var., named	1	6
6	Delphiniums, mixed colours, light and dark ...	1	9
6	Pinks, alba fimbriata or Anne Boleyn (pink) ...	1	6
6	Saxifrages, 3 distinct kinds	1	9
4	Marguerites, white and yellow, named	1	9
6	Tuberous Begonias, excellent strain	2	9
6	Tree or winter-flowering Carnations...	3	0
6	Perennial mauve Michaelmas Daisy	2	0
6	Sedums, in 6 var., named	2	0
6	Saxifrages, in 6 var., named	2	0
6	Coleus, 6 distinct and best named kinds	1	6
6	Ivy Geraniums, best named vars.	2	0
6	Lavender or Southernwood, strong plants	1	6
6	Begonia Rex, handsomely marked leaves	2	0
6	Christmas Roses	2	0
12	Perennial white Candytuft	2	0
12	Seedling Carnations, from double flowers	2	3
3	Passion-flowers, 3 vars., named	1	6
6	Lobelia cardinalis, intense red flowers, perennial	2	0
3	Ampelopsis variegata (variegated Virginian Creeper)	1	6
3	Scarlet Salvias, very free flowering	1	3
1	Tacsonia, 1 Hoya, 1 Solanum jasminoides	2	0
12	Perennial Gaillardias, assorted colours	2	0
3	Sensitive-plants, from single pots	1	6
6	Primula obconica, always in flower, strong... ...	2	0
6	Rudbeckia Newmanii, bright yellow, perennial ...	1	9
6	Spiræa, good clumps	2	3
6	Cyclamen persicum, good strain	1	9
12	Hollyhocks, mixed, from double flowers	2	6
12	Hollyhocks, double, white or yellow	3	0
40	Wallflowers, blood-red, purple, yellow, &c. ...	2	0
12	Double German Wallflowers, good strain	1	6
6	Perennial Oriental crimson Poppies	1	9
3	Pampas clumps, from pots	1	9
100	Strawberry plants, 4 vars., best named	3	0
6	Carnations, Bride, Jupiter, Purity, Clove, &c. ...	3	0
6	Arum Lilies...	1	9
20	Foxgloves, white and spotted	1	6
20	Antirrhinums, splendid strain	1	6
3	Erica Cavendishii, strong, well-rooted	2	6
3	Erica hyemalis, strong, well-rooted	2	0
3	Deutzias, 3 Solanums	2	0
6	Flowering shrubs, Ribes, Deutzia, &c., Lilac, Weigelia, Mock Orange	2	9
12	Sweetbriars, strong plants	2	3
12	Lily of Valley Berlin flowering crowns (25 for 2s. 6d.)	1	6

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CHOICE CUT FLOWERS and Maiden-hair Ferns, Chrysanthemums, Roses, Narcissus, Hyacinths, Tuberoses, &c., 2s. 6d., 3s. 6d., and 5s. per box, liberal value, post free.—H. ENGLISH, Clevedon Nurseries, Clevedon.

CHEAP BULBS, CARRIAGE PAID.—12 White Gladioli, The Bride, 1s. 6d.; 25 Pheasant-eye Narcissus, 1s. 3d.; 50, 2s.; 12 Narcissus, double white, 1s. 3d.; 25, 1s. 9d.; 12 Daffodils, 1s. 3d.; 25 Tulips, 1s. 6d.; 100 assorted Crocus, 2s.; 12 Roman Hyacinths, white, 2s.; 12 Paper-white Narcissus, 1s. 9d.; 6 Lilium Harrisi, fine bulbs, 4s. 6d.; 12, 8s.; carriage paid.—H. ENGLISH, Clevedon and Clapton Nurseries, Clevedon.

DWARF or BUSH ROSES, 1½ to 2½ ft. high, 200 varieties—Abel Carrière, Duke of Connaught, La France, Crimson Bedder, Prince C. de Rohan, Anna Diebach, Marie Beaumann, Boule de Neige, Malmaison, &c., &c. 6 for 3s.; 12 for 5s. 6d., my selection. Tea and Noisette Roses, Maréchal Niel, Gloire de Dijon, Mad. Berard, White Gloire, Isabella Sprunt, &c., &c., 6 for 4s.; 7s. per doz., my selection, carriage paid. Catalogue gratis—H. ENGLISH, Clevedon and Clapton Nurseries, Clevedon.

GREENHOUSES.

These Greenhouses are made especially for Amateurs at a cheap rate, so that everybody can have one that any handyman or gardener can put together in a few hours, as the framework is made so complete. All the framework is of good, sound, well-seasoned red deal. The bottom part filled in with good, sound match boards, tongued, grooved, and beaded, and well seasoned. Ventilation given according to size of each House. The glass is good 16-oz. English, cut and packed (no charge for packing cases). The House is painted one coat of good oil colour, lock for door, all necessary iron-work for ventilation, stages on each side for plants. All parts carefully marked, securely packed and put on rail, or delivered, erected and glazed complete, within 20 miles of London Bridge, at the following respective Prices:—

(Proportionable Prices for other size, and for erecting in any part of the country.)

Long	Wide	High		On Rail.	Delivered & Erected Complete.
7 ft.	5 ft.	7 ft.	4 ft. to eaves	£ 2 16 0	£4 5 0
8 ft.	5 ft.	7 ft.	4 ft. to eaves	3 10 0	5 0 0
9 ft.	6 ft.	7 ft. 3	4 ft. to eaves	4 0 0	5 10 0
10 ft.	7 ft.	7 ft. 6	4 ft. 6 to eaves	5 0 0	6 15 0
12 ft.	8 ft.	8 ft.	5 ft. to eaves	6 0 0	8 0 0
15 ft.	10 ft.	8 ft. 6	6 ft. to eaves	8 10 0	12 0 0
20 ft.	10 ft.	9 ft.	5 ft. 6 to eaves	12 0 0	16 0 0
25 ft.	10 ft.	9 ft.	5 ft. 6 to eaves	17 0 0	22 0 0
50 ft.	10 ft.	9 ft.	5 ft. 6 to eaves	30 0 0	40 0 0
100 ft.	10 ft.	7 ft.	5 ft. 6 to eaves	50 0 0	70 0 0

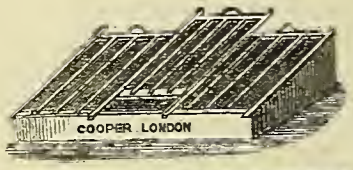
¾-Span-roofs, this quality, can be had at same price.

Estimates given for any size on application. Deduct 10 per cent. if required for brickwork.

STRONG GARDEN LIGHTS.

Painted and glazed, 3 by 4 ft., 6s. 6d.; 6 by 4 ft., 9s. each.

CUCUMBER FRAMES.



Complete from 18/-

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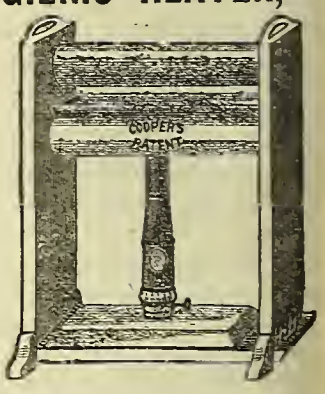
SPAN-ROOF FORCING HOUSE.

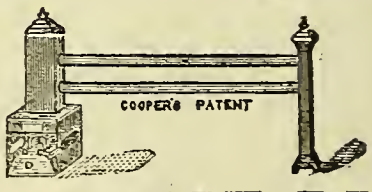
Built for brickwork 3 ft. high, of well-seasoned red deal; roof ventilation according to size; all 21-oz. glass. Suitable for Nurserymen, Market Gardeners, and all those who require a cheap, strong house for forcing or growing Cucumbers, Tomatoes, Melons, &c., &c. Delivered to any station in England carriage free. 20 ft. by 9 ft., £9. For Illustrations and Prices of other sizes see Illustrated Price List, free.

COOPER'S HYGIENIC HEATER,

Burning Paraffin or Gas without Smoke or Smell.

Complete from **20/-** See List.





AMATEUR'S ASSISTANT HOT-WATER APPARATUS. From 21/- See List, Post Free.

SASH-BARS.

Free on rail in London, packages included.

	15-oz., 100ft.	21-oz., 100ft.	15-oz., 200ft.	21-oz., 200ft.
4th.	9s. 6d.	13s. 0d.	18s. 6d.	25s. 0d.
3rd.	11s. 0d.	14s. 6d.	20s. 6d.	27s. 6d.

The following is a List of sizes always in stock:—
10 by 8, 12 by 9, 12 by 10, 14 by 10, 13 by 11, 18 by 11, 16 by 12, 18 by 12, 20 by 12, 17 by 13, 20 by 13, 18 by 14, 20 by 14, 22 by 14, 20 by 15, 20 by 16, 24 by 16, 20 by 18, 24 by 18.

Glass cut to any size required: 15-oz., 1½d. per ft.; 21-oz., 2½d. per ft. Large sizes for cutting up, 15-oz., per case, 3000 ft., 26s.; 21-oz., per case, 200 ft., 26s. All glass is cut and packed in own warehouses and put on rail free of charge; quality of glass and careful packing guaranteed. Special quotations for large quantities. Have cash estimates from me before ordering elsewhere.

Putty prepared especially for greenhouse work, 7s. 6d. per cwt. Every description of prepared Horticultural Timber; for prices see List, post free.

WILLIAM COOPER, Glass Importer, 751, Old Kent-road, S.E.

Send for COMPLETE ILLUSTRATED LIST, post free, containing specifications of Greenhouses from 41s. to £220.

Good, sound, well-seasoned materials only used. Estimates for every description of Horticultural Buildings, Plans, &c., free. All orders carefully packed and put on rail.

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For PLEASURE and PROFIT.

FRUIT. Nothing so Profitable and Easy to Grow. *74 ACRES IN STOCK.*

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ROSES. Hundreds of Thousands.

BUSHES. 8s. per dozen, 60s. per 100. *Packing and Carriage Free for Cash with Order.*

ROSES in Pots, from 15s. per dozen.
ORNAMENTAL TREES, 91 ACRES.
4 ACRES of GLASS.
CLEMATIS (80,000), from 15s. per dozen.
N.B.—Single Plants are sold at slightly increased prices.

SEEDS & BULBS { VEGETABLE, FLOWER, and FARM.

DESCRIPTIVE LIST, FREE.

RICHARD SMITH & CO., WORCESTER.

New Apple, Chelmsford Wonder.

SALTMARSH & SON, The Nurseries, Chelmsford, are now sending out this splendid NEW KITCHEN APPLE, which, after receiving an Award of Merit in March last, has had an additional award of a First-class Certificate at the meeting of the Fruit Committee of the Royal Horticultural Society on November 10.

It is a firm, handsome Apple, of large size, a good keeper, great bearer, and of superior flavour when cooked. It was favoured with a well-executed illustration, together with a faithful description, in the *Gardeners' Magazine* of April 11, copies of which may be had on application.

Strong Maiden Trees are now ready at 5s. each, with the usual discount to the Trade.

To those about to Plant.

A Descriptive Catalogue

of ROSES, FRUIT TREES, CONIFERS, EVERGREEN and FLOWERING SHRUBS, RHODODENDRONS, ORNAMENTAL and FOREST TREES, CLEMATIS and other CLIMBING PLANTS, in large variety, sent free on application to

GEO. JACKMAN & SON, Woking Nursery, WOKING.

ESTABLISHED 1810. AREA 150 ACRES.

TRADE OFFER OF LARGE PALMS.

W. ICETON has a large Stock of the leading kinds of Decorative PALMS, from 6ft. to 25ft. high, fit for Conservatory and house decorations Dracænas, Bamboos, and other foliage plants.

Lowest Prices quoted on application.

W. ICETON, Putney.

GARDEN.

BULBS, ROSES, &c.

FOR whatever is wanted, mentioned or not in these columns, please to write immediately to H. CANNELL & SONS, whose Seed and Nursery Stock is very complete and extensive, and where nearly everything for the garden is grown and supplied in large quantities in the finest possible condition, at the lowest prices, consistent with correctness and superior character. Never has there been such a complete Autumn Catalogue issued of everything required for the garden as the one we are now sending post free. Neither has there ever been such a splendid stock of best varieties of the many families of plants necessary to keep the garden in the highest state of perfection as we are now soliciting orders for. Our climate, soil, and facilities give us and purchasers many advantages, and we ask all to send for a Catalogue.

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For
BULBS,
SEEDS,
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FRUIT TREES, &c.,
SHRUBS,
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Everything of FIRST QUALITY, GENUINE, and RELIABLE.

Our Autumn Catalogue has been posted to our Customers—and a copy will be sent to any address on application.

JARMAN & CO., Seedsmen & Nurserymen, CHARD, SOMERSETSHIRE.

CARTER'S LIST OF THE BEST CHRYSANTHEMUMS for 1892 Now Ready, gratis, and post free on application to the QUEEN'S SEEDSMEN, 237 & 238, High Holborn, London, W.C.

CARTERS'

Special Cash Clearance Sale of

CHEAP HARDY BULBS

For massing in large quantities in Parks, Promenades, Pleasure Grounds, Carriage Drives, Plantations, &c.

AT GREATLY REDUCED PRICES.

Carriage and Packing Free for Cash with Order.

		s.	d.	
DOUBLE DAFFODILS	price	50	0	per 1000
SINGLE DAFFODILS	"	12	6	"
DOUBLE WHITE NARCISS ... ... (Gardenia-like—very sweet scented.)	"	35	0	"
PHEASANT'S EYE NARCISS ...	"	13	6	"
MIXED DAFFODILS ... ... (A Grand Mixture.)	"	15	0	"
BLUEBELLS	"	12	6	"
WINTER ACONITES	"	10	6	"
SNOWDROPS	"	21	0	"

Buyers from this List must please give the price with their order.

All are offered so long as unsold, and for quantities of not less than 500 bulbs.

Suppliers of Bulbs to the Royal London Parks,

237 & 238, HIGH HOLBORN, LONDON.

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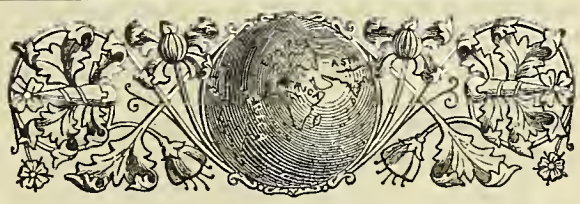

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Dec. 7.—Bulb Sales at Protheroe & Morris' and Stevens' Rooms.

TUESDAY, Dec. 8.—Royal Horticultural Society: Committee Meetings at the Drill Hall at 12 o'clock.—Nursery and Seed Trade Association: Annual Meeting at 6 p.m.—Bulb Sale at Protheroe & Morris' Rooms.

WEDNESDAY, Dec. 9.—National Chrysanthemum Society: Early Winter Show at the Westminster Aquarium.—Bulb Sales at Protheroe & Morris' and Stevens' Rooms.

THURSDAY, Dec. 10.—Sale of Greenhouse Plants, &c., at Protheroe & Morris' Rooms.

FRIDAY, Dec. 11.—Sale of Orchids at Protheroe & Morris' Rooms.

SATURDAY, Dec. 12.—Bulb Sales at Protheroe & Morris' and Stevens' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, DECEMBER 5th, 1891.

STREET TREES.—Some recent wholesale breakages of street trees in one of the London suburbs shows something of the danger to which they are subjected even in these presumably enlightened days. In the old Tom and Jerry times nothing would have afforded greater delight to the "bucks" of the day than to have employed their drunken pastime in pulling up street trees by the roots or in otherwise promoting destruction. We had hoped to have got beyond that form of rowdyism, and to have found public favour for trees so great that they would have been regarded almost with adoration.

But we may take it for granted that what the Jerrys of old did, they did in their cups, and what the modern tree iconoclasts have done was doubtless done under similar influences. We may, as horticultural critics, sometimes have occasion to complain of the almost crass stupidity which marks some examples of street planting. Very often we see them thrust thickly into narrow streets, which, dark enough in winter and especially during fog, would when the trees become large and in full leaf render the streets dark almost all the year round. In other places we have seen trees of the most unfit kind planted. In others they have been planted right opposite to each other to secure uniformity, but which when they become large will be unduly crowded. In other cases again they have been so planted by rule of thumb that even street lamps have been practically hidden from view, and their light shut in because the rule of thumb planter would put some of the trees close to the lamps.

Still faults of this nature should not permit us to overlook the charm there is incidental to trees in towns or their suburbs where there is ample space for them. We should much prefer to see our streets broader, and the trees planted down the centre as well as at the sides or down the centre when there is not room for both, so as at once to divide the traffic and to provide a pleasant foot promenade down the middle of the roads. That would be a great gain, but we fear at home land is too costly to permit of very broad thoroughfares.

PERPETUAL BLOOMING CARNATIONS.—We may well rank amongst the perpetual blooming flowers those varied members of the Dianthus family generally known as Carnations. What the old Florists knew as Carnations were chiefly of the section which is still most largely exhibited and known as bizarres, flakes, &c. The world had got into the habit of regarding all Carnations as of this type, and as needing considerable care and skill in their cultivation. We are wiser now, and whilst still greatly admiring the Florists' favourites, find great pleasure in the commoner and it may be hardier sorts which now so much grace our flower borders, and give us during the summer such a wealth of deliciously perfumed flowers.

But there is a section of Carnations which there is no particular reason for assuming are of a distinctive origin, which bloom so freely under glass all through the autumn and winter, that we can well claim for the Carnation the merit of perpetual blooming. We have now literally a wealth of winter blooming varieties commonly called tree Carnations, but all admirably suited for pot culture, and being easily propagated can be had by anyone who has glass room in plenty. What again do not we gardeners of to-day possess as compared with our garden progenitors. What of winter blooming Carnations they had were of the poorest, and of garden or summer blooming varieties how few but of the tenderest. We have of late found it easy to obtain seeds of fine double strains and produce plants in plenty in that commonplace way.

If we want to perpetuate stocks of good varieties the veriest tyro may manage a few layers or put in some pipings. If winter bloomers be needed cuttings put in early in the spring strike freely in gentle warmth and if later planted out in the open ground, scores of fine strong plants may be had for lifting into pots in October, and bloom all the winter. We cannot too much admire Carnations whether they be found under glass in winter or in the open borders in summer. They are always welcome.

BOUVARDIAS.—In the Bouvardia, like the Carnation, we have another class of plants which have proved to be wonderfully serviceable in helping both to beautify our greenhouses and to furnish immense quantities of valuable cut flowers. Here again too do we find plants of such great service to us, but of which our progenitors

enjoyed so few and those of the poorest. The various varieties now available seem to be so beautiful that it is difficult to excel them, and yet we who have faith in the advancement of floriculture are bound to believe that other and even finer varieties will be presently produced. We can have Bouvardias in bloom nearly all the year round, indeed, quite so if plants be but prepared for all seasons.

A light house and a little gentle warmth suffices to keep plants blooming all through the winter, for, being hard-wooded, bloom of it comes slowly, comes regularly, until the plants are finally exhausted. Then a hard cutting back, repotting, and standing in a little heat soon sets them growing again and bloom once more succeeds. There is no great difficulty in getting the plants to produce plenty of young tops for cuttings; so treated, and then put into bottom heat and under bell-glasses, soon root and thus a good stock of young plants is gained. One charm of the Bouvardia is that one section of plants produces sweet-scented flowers. Those of the Humboldtii strain bear white ones in profusion and almost rival the blooms of the Stephanotis in purity, beauty, and perfume.

The scarlet and pink forms of the smaller flowered single strain cannot be excelled in beauty and in usefulness for the making of button-hole flowers or ordinary bouquets. The double varieties are hardly less attractive or serviceable. We can if we like trust these Bouvardias—although they come from a warm part of the globe—to decorate our borders and beds in summer. Perhaps we have from the first coddled them too much, but anything which produces useful flowers for market and will force fairly well soon becomes so much coddled, for that reason, that out-door usefulness is often overlooked. We have indeed cause to rejoice over the beautiful Bouvardias.

Canadian Apple Culture.—As everything relating to Canadian Apples is of interest we refer to the production of a recent census of the entire province of Ontario—perhaps the largest Apple-growing area in the world—taken by the Ontario Fruit Growers' Association with the object of ascertaining what varieties have been found most suitable for general cultivation. The number of sorts in each case was limited to twelve, and the province being divided into thirteen districts, each comprising several counties, the census return is perhaps the most complete of its kind yet obtained.

Something of a similar nature was undertaken in connection with the first Apple Congress at Chiswick a few years since, but that hardly had the same systematic basis the Canadian Census had. We contented ourselves with getting returns as to the best dessert and culinary sorts without any particular reference to market fitness. The Canadians evidently place saleable fitness before other considerations, for they grow Apples for exportation in the fullest sense. Thus their lists ask for twelve varieties only, divided into summer, autumn, and winter selections. It is worthy of note how popular Russian varieties appear to be in Canada, doubtless owing to their being hardier than our English varieties. Thus we find Duchess of Oldenburg—a really good early kind here—and Yellow Transparent, both Russian sorts, getting nearly all the votes in the summer section. Then of autumn ripeners we find another, Emperor Alexander, and Gravenstein coming at the top of the list with Wealthy, a handsome American Apple, now little grown here, and Calvert, not much known on this side of the water, following; all others, some twelve sorts, having but one or two votes.

Then of winter varieties the best six are Golden Russet, Ontario, Pewaukee, Ben Davis, Hubberdson's Nonsuch, and Cranberry Pippin. Others—including the famous Baldwin, our more famous Blenheim Pippin, and Rhode Island Greening—we find getting very few votes. The proportion of the Russian varieties, as compared with English sorts or even *bona fide* Canadian varieties, selected in the lists is remarkable. Only the Duchess of Oldenburg occupies a high place here, for Emperor Alexander with us is but second rate, and Gravenstein does indifferently.

Nursery and Seed Trade Association.—The annual general meeting of the members of this association will be held at 25, Old Jewry, E.C., on Tuesday next, at 6 p.m. The annual dinner will take place at the Guildhall Tavern, Gresham Street, E.C., an hour later.

The Birmingham and Midland Counties' Chrysanthemum and Fruit Show of next year is announced to be held on November 9th and 10th.

The Edinburgh Chrysanthemum Show.—We understand that close upon £900 was taken at the doors during the three days this exhibition was open, which sum it is expected will be increased to nearly £1000 when it becomes known how much has been realised by the sale of tickets. Last year the total income from all sources was about £50 below the four figures.

Ealing and District Gardeners' Mutual Improvement Association.—At the usual weekly meeting on the 24th ult., Mr. R. Dean read a paper entitled "Parables from the garden," and on the 1st inst., the Rev. Dr. Oliver gave a lecture on the "Life History of Columbus," and has offered prizes for the best reports of his lecture written by members of the Society.

Preston and Fulwood Floral and Horticultural Society.—At the meeting of the members of this Society to be held this (Saturday) evening, December 5, Mr. George Blench, gardener, Prospect Cottage, Broughton, will read a paper on two useful winter-flowering plants, viz., Euphorbia Jacquiniæflora and Poinsettia pulcherrima, with notes on their culture. Chair to be taken at 7.30.

Death of Mr. Franz Kramer.—We hear of the death, on the 22nd of November, of Mr. Franz Kramer, head gardener to Herr Legationsrath Rucker-Jenisch, of Flottbeck, Hamburg. Mr. Kramer had for about thirty years charge of one of the most renowned continental Orchid collections, that of the late Senator Jenisch. He was well known in English horticultural circles and generally esteemed both for his character and abilities as a gardener. The situation having been held by his family for several generations, is likely to be filled by his eldest son.

Preservation of Wood.—Here is a curious example of the preservation of wood by salt solutions, says *L'Illustration Horticole*:—In the salt mines of Hallein, in Austria, there exists woodwork the establishment of which goes back, in certain parts, to the first time of the exploitation of the mines, that is to say, to an epoch anterior to the Christian era. In spite of the nineteen centuries which they have seen to pass away, these woods remain absolutely intact.

Reading and District Gardeners' Society.—On Nov. 23, Mr. Richard Dean, of Ealing, gave a paper on Aromatic Garden Herbs, their history, uses, and culture. There was a large attendance of members, and the subject proved a very interesting and instructive one, and brought before the gardeners present a department of the kitchen garden not nearly so much appreciated as it was some years ago, viz., the Herbary. A hearty vote of thanks was passed to Mr. Dean for his paper.

Gardeners' Orphan Fund.—At the usual monthly meeting of the Executive Committee, held on the 27th ult., the Honorary Secretary announced the receipt during the month of the following amounts:—Mr. Matthew Todd, Edinburgh, by sale of fruit, £2 7s.; Mr. W. Bates, Twickenham, money-box collection, £1 5s.; Mr. W. Bryant, Rugby, from sale of flowers at the Rugby Chrysanthemum Show, £6 4s.; Mr. F. Miller, Margate, collecting box, 5s. 10d.; Woolton Gardeners' Improvement Society, from sale of flowers and fruit, £10 2s. It was unanimously resolved that the annual general meeting should be held on Friday, February 5, 1892, when an election of eleven children to the benefits of the fund will also take place. The applications of candidates to be placed on the election list must be forwarded to Mr. Barron before December 18.

Degeneration of the Varieties of Fruit Trees.—As related by *L'Illustration Horticole*, the question of the degeneration, apparent or real, of the varieties of fruit trees of greater or less antiquity has been remitted, according to the order of the day, to the care of the Pomological Society of France. Wholly confounding the species of fruit trees with their varieties, M. L. de la Bastie, the president of the Society, thinks that, if one admits that the decrepitude of the species of fruit trees is due to the modes of multiplication—such as grafting, cuttings, or slips—there must be admitted also the degeneration of the same order for all the species of trees, shrubs, and plants multiplied by the same procedure. As to that, the old age established for certain varieties ought to be attributed to the unfortunate choice of grafts taken without discernment from already diseased trees. We admit with him that grafts of cankered trees give in their turn trees which, in spite of all care, are affected with canker in a few years. All or almost all depends then upon the choice of grafts, and one cannot sufficiently recommend to arboriculturists to employ only grafts which are quite sound and well formed, taken exclusively from vigorous trees not offering any indication of the malady.

Arborescent Chrysanthemums.—For a long time past the Chinese horticulturists obtained arborescent Chrysanthemums in proceeding by quite a different method from the Europeans, as stated by *L'Illustration Horticole*. The Europeans restricted their plants to a single stem, then pruned the latter successively so as to cause it to elongate as much as possible. The Chinese graft the branches upon the stems of a species of Artemisia. The latter plant is put in a pot and grown to a yard in height; upon the base of the shoots they graft branches of Chrysanthemums, which take very well and promptly cover themselves with flowers. The stock dies as soon as the flowering of the Chrysanthemums is past. The Artemisia serves two purposes—the stems cut and dried, are employed, the largest ones for burning, and the others, both branches and inflorescence, are interwoven coarsely into tresses and burned slowly in apartments to drive away mosquitos.

ROSE TREE PLANTING.

This is the best month for planting Rose trees in the open borders, or beds. Holes about eighteen inches in diameter and eighteen inches deep should be made for their reception, but, before planting, an ordinary bucket-full of old horse or cow manure, the latter preferred, should be put into each hole, mixing same well with the soil at the bottom of the holes; this will reduce the depth to about seven inches. When the holes are thus prepared the first dry day should be taken advantage of for planting, that is assuming that your plants have arrived from the grower, and have been put into the ground by their "heels" in readiness. Prior to planting, the roots should be examined and any portion over long should be shortened.

Special care should also be taken in cutting off, quite closely to the stock, any sucker that may be observed shooting either from the Briar or the Manetti stocks; this being done, the root of the plant should be spread out on the top of the prepared soil, and covered with the soil first taken out of the hole, which should be well trodden down. If the dwarf plants are properly budded, or grafted, the budded or grafted parts will be several inches below the surface of the soil when the planting is completed, and this is essentially necessary, because new roots will be formed from the wood of the Rose, which will afford the plant extra strength.

In case of standards, or half standards, being planted, each plant should be well secured with a strong stake, to which it should be tied with some thick string, so as to prevent the roots from being disturbed by the wind.

The plants will require no further attention until March, when they should be pruned with a sharp

knife, each shoot being shortened down to two or three eyes, care being taken to leave such eyes pointing to a direction which will most likely form a bushy or well-shaped head of bloom.

In pruning the cuts should always be made in an upward slanting direction, and close to the eyes or buds. It is a very common practice for Roses and other plants to be pruned without any regard to the cuts being made close to the eyes, the result being that when the new wood has grown from the eyes there will remain pieces of dead wood above the old eyes, or angles, of the new shoots, and which are always a great "eye-sore" after the pruning is performed, a good dressing of either old or fresh manure round the plants will prove most beneficial to the vigour of growth.—*James Thurstan, Finsbury House, Richmond Road, Cardiff.*

SEA KALE.

This must be one of our oldest vegetables, for it is said to have been known to the Romans, who used to gather it in a wild state and preserve it in barrels for use during long voyages. I have no doubt but that we owe its introduction as a vegetable largely to the fishermen upon the sea coasts, who gathered the stems and cooked them long before it became a cultivated vegetable in our kitchen gardens; and they used to swing themselves over precipitous cliffs by means of ropes in order to gather the stalks for their consumption.

It is a sea-side plant, and derives its name from having been originally found growing wild upon the sea-coast, its tender shoots, no doubt, blanched by the drifting of the sand. It is a true native plant, a hardy perennial. Every one who knows anything of kitchen garden plants is aware of the character of its growth, though they may not know that the white flowers have a strong smell of honey. It is said that bundles of Sea Kale were exposed for sale in Chichester market about 1753. Sir William Jones, who lived at Chelsea some time in the middle of the last century, highly appreciated the excellence of this delicious and delicately-flavoured vegetable, and endeavoured to introduce it to our markets, but only with a moderate amount of success. Accounts state that in Exeter at one time the roots fetched as much as half-a-crown each, but when tried in Covent Garden Market, the labels attached to the roots having become defaced or lost, the Kale was carefully set aside as a suspicious looking and probably poisonous root in case it should be eaten by some guileless purchaser. It was not known about London until 1767, when Dr. Lettsom cultivated it at Camberwell, and was the first to bring it into general notice. It was always in favour among the Scottish people, and may be found in most continental markets, more especially in France. An old French author vilified Sea Kale as the "Chou marin sauvage d'Angleterre," having possibly tasted a bitter specimen of Kale he opined it fit only for uncouth and uncivilised palates. But when well blanched and well served it equals, if it does not surpass, Asparagus in delicacy of flavour. The young shoots and unopened leaves are considered by some the best parts of Sea Kale, but the larger leaves may be scraped, cooked, and served like Asparagus. They are also found very useful in soups.

Forced or blanched Sea Kale is most delicate in mid-winter, when other kinds of fresh vegetables are difficult to obtain. It should not be exposed to the action of light, as that renders it strong and bitter; therefore, after cutting, the heads should be kept in the dark, or carefully covered, dressed when young, crisp and tender; if allowed to become stale and discoloured, it is comparatively worthless. Sea Kale is remarkably easy of assimilation, and as it abounds in alkaline properties, it will be found one of the most nutritious, as well as the lightest esculents which can be taken by the sedentary, or by any who suffer from dyspeptic tendencies.

Sea Kale should have ground prepared for it much as for Asparagus, and like the latter it appears to have a preference for salt and seaweed. An old gardener says the best plants are those one year old which have been obtained from seed sown on poor land. The roots may be planted in the autumn and up to April, in land of good heart, deeply trenched and well manured; if planted singly, as some recommend, the rows may be 3 ft. apart, and the plants 2 ft. apart in the rows. If planted in clumps, three roots should form a clump, and they be 3 ft. apart, and 4 ft. be allowed between each row. When grown for forcing simply they may be much nearer together.

Sea Kale should never be hurried by too much heat, as it spindles, becomes weak and flavourless. One old gardener says that it is at its best when from 4 in. to 6 in. long; and when cut, care should be taken to cut through the crown just below the surface of the soil; the reason being that if the severed crown is left above the soil, to be exposed to frost after it has been cut, it causes something in the way of canker. Therefore it is recommended that after being cut, some litter and leaves be shaken among the crowns, so that the frost may not penetrate to them, to cause injury in the manner just stated.—*R. D.*

RICHARDIA AFRICANA COMPACTA.

Within recent years, since the cultivation of Richardia africana (better known perhaps as R. æthiopica) has been taken up in earnest and specially grown for decorative and cut flower purposes, spathes of surpassing size have been produced, and are certainly handsome in their way. High culture has had the advantage of giving rise to such large spathes, in ordinary phraseology termed flowers, but it has had the disadvantage of enormously increasing the length of the leaf stalks, the flower scape, and the bulk of the plant generally. Comparatively a few plants take up a considerable amount of space.

Richardia africana compacta.

Recently a pigmy variety, about 1 ft. high, came to us from the Channel Islands. It was exhibited and certificated under the name of Little Gem, and undoubtedly it is a gem in its way, and on its being sent out by Messrs. Cutbush & Son met with a ready sale. The size of all the parts, however, was so much reduced that some cultivators thought there was a necessity for something of an intermediate character and this has in fact been accomplished in the raising, in Germany we believe, of the subject under notice, namely, R. a. compacta. The whole plant is dwarf and compact, the flower scape, which is the tallest part of the whole, being only 18 in. to 20 in. high, while the leaf stalks are robust and in keeping with, the flower scape. The spathe is not much smaller than that of the ordinary type, and equally pure white, so that the new variety has the merit of being dwarf, while there is no corresponding reduction in the spathe.

It will no doubt be largely grown for decorative purposes as a pot plant, as well as for cut flowers; its dwarf compact habit will enable it to be placed on the front shelves of the conservatory, or on the tables or in the windows of dwelling houses, where it will prove a boon when it becomes known. A plant of it was exhibited at the meeting of the Royal Horticultural Society on the 27th of October, by Messrs. Robert Veitch & Son, Exeter, when an Award of Merit was unanimously accorded it. Our illustration was prepared from the plant exhibited.

CINERARIAS.

Cinerarias have much to recommend their culture, inasmuch as they can be had in bloom at a period of the year when our greenhouses are somewhat scarce of flowers, and, when staged with ferns and other foliage plants, make a house look quite gay. In order to have a good display in December, it is necessary that seed should sown in February, and in the selection of seed it is always advisable to procure a good strain, as a bad variety, however cheap, entails the same amount of labour in the matter of pricking out, potting, watering, etc., besides ending in disappointment.

Sowing.

Pans or pots should be well-drained, and filled to within an inch of the top with light loamy soil, the top portion being made a little finer, and evenly pressed down. After being watered with a fine rose, the seeds should be scattered thinly on the surface, and placed in a warm house, covering the pans with a sheet of paper to exclude the light. Treated in this manner, the seeds quickly germinate When large enough to remove they should be potted off into thumbs, adding to the loam a little rough leaf soil, and coarse silver or river sand, leaving the hearts of the seedlings free from soil. It will be found that they will quickly fill these pots, and should be shifted into larger ones as soon as necessary, otherwise, if they are left too long, the leaves quickly go yellow, and the future well-being of the plants is impaired. Too much attention cannot be paid to this point if success is to be attained. 6-in. pots will suffice for the general stock of plants for the final potting, but, if a few large specimens are desired, 8-in. pots may be employed. For this last shift a little rotted manure should be added, as this will greatly help them.

Watering

Is also an essential point in Cineraria culture, and if foliage is to be maintained in good condition, broad and of a dense green, is one which must receive great attention, as however fine the heads of bloom may be their beauty is depreciated if not surrounded with plenty of their own foliage. Stimulants in the shape of liquid cow manure, or fertilizers, etc., weakly applied at first, may be given them when the roots have filled the pots.

Their summer quarters should be a frame which is not exposed to the rays of the sun the whole of the day; one having a north aspect will do, and in this position they should receive an unlimited supply of air. As autumn approaches, and danger of frost is apprehended, they should be removed to a cool house —a cool house in its widest sense—and here they must have abundant ventilation; only during severe weather should heat be applied, and then only sufficient to dispel damp and frost.

Cinerarias resent a close warm atmosphere and give far better results if grown under cooler conditions; moreover, red spider, a pest to which they are unfortunately subject, is almost sure to attack them if treated to a high temperature, and if allowed to get dry at the roots.

Another point, which ought not to be overlooked, is overcrowding. Too many growers fall into the error of overcrowding their houses, and nothing is worse for Cinerarias. It is far better to grow a dozen plants well than to cram into the same space a score, which must inevitably suffer for want of air, etc. Indeed, it is absolutely necessary that they should stand clear of each other if perfect specimens are required. Whilst in the frames the lights may be entirely removed on warm nights, as the dew will be beneficial to them, besides having a tendency to make the plants more robust, and consequently less liable to the attacks of insects.

If greenfly or red spider should present an appearance, the plants should be lightly fumigated with tobacco paper once or twice and afterwards syringed with clear water. There is such a thing as fumigating too strongly, and I have on more than one occasion seen plants which had previously given great promise completely divested of their foliage through over-fumigation. It is far better to adopt milder measures once or twice than to spoil the labour of months by an operation like the one I have described. Greenfly, etc., can generally be traced to either dryness at the roots, bad ventilation, or too high a temperature, frequently the latter. Cinerarias only require exclusion of frost to ensure a show of flowers, and the best display I ever saw was a batch

of plants in a pit, the heat of which never exceeded 45 degrees.

Many people are unsuccessful with them because they look upon them as subjects which require "coddling," instead of treating them to a cool atmosphere. For winter and early spring blooming few plants excel the Cineraria, and to those who have not hitherto cultivated them I would recommend a trial, as they brighten up a conservatory or greenhouse considerably at this season of the year.—*Vesutrus.*

THE LATE LORD LYTTON ON FUNERAL FLOWERS.

When we remember the wealth of flowers grown at Knebworth, under the generous care of Mr. Kipling, it is a matter for surprise that the late Lord Lytton should just prior to his death have so strongly deprecated the employment of flowers at his funeral. The words imputed to him, on excellent authority, are: "There is one favour I wish to ask of you. It is that you may not send the tiniest Violet or the smallest Rosebud to be placed on my coffin. What in heaven's name have poor flowers done, to be condemned to such a horrid purpose as being consigned to vaults and graves. I like a sad-looking funeral, I detest one tawdry with flowers. Besides, the flower craze throws upon the friends of the defunct the cost of giving him a showy funeral."

Doubtless the Funeral Reform Association would so far as relates to the costly floral wreaths, crosses, &c., at funerals, fully agree with the deceased nobleman, whilst they would demur to the suggestion that funerals should be dull. Probably Lord Lytton thought that anything in the nature of display, even of flowers, did not harmonise with those feelings of sorrow and grief which are assumed to be contingent on death. Doubtless he was right, much as those who have display and funeral pomp may differ. It is probably the case that wreath and other funeral emblem makers have derived much profit from this form of floral trade, but all the same it is not possible for any true lover of flowers to withhold some sympathy with the pity shown for beautiful flowers when so employed.

Why should they be made the associates of death and decay, when they rather typify all that is beautiful, joyous and healthful. We do not suppose that Lord Lytton's death bed appeal on behalf of flowers will materially affect the general public, but it may the class to which he belonged, and which on the whole care little in death for pomp and display.—*X.*

SOILS, POTTING, AND WATERING.*

Soils perform at least three functions in reference to vegetation: they serve as a basis in which plants may fix their roots and sustain themselves in their erect position; they supply food to vegetables at every period of their growth; and they are the medium in which many chemical changes take place that are essential to a right preparation of the various kinds of food which the soil is destined to yield to the growing plant. The study of the ash of plants shows us that a fertile soil, besides its organic matter, must of necessity contain an appreciable quantity of twelve or fourteen different mineral substances, which, in most cases, exist in greater or less relative abundance in the ash both of wild and of cultivated plants. Actual chemical analysis shows that, in moist soils, the presence of all the constituents of the ash of plants may be detected, though in very variable and sometimes in very minute proportions; and following up investigations in regard to the effect of the difference in their proportions, it establishes certain other points, of the greatest possible importance to agricultural and horticultural practice. I will not, however, trespass longer on your valuable time with this difficult art, as it does not bear directly on my subject. I would simply recommend all who wish to improve themselves in this particular art, to procure a copy of Johnston's "Elements of Agricultural Chemistry and Geology," a book that ought to be the property of every gardener.

When giving the heading of my paper I spoke of soils; a more suitable word would be composts. This subject deserves careful consideration, and particularly on the part of young gardeners and amateurs who are desirous of becoming successful plant growers, and make their mark in the horticultural world in this particular branch of gardening. In the first place, let us glance at some of the materials or ingredients which are commonly used in the formation of these composts. These are loams taken from the surface of pasture-fields, and are of various textures in accordance with the site from which they are taken; thus we have strong, heavy loam, and pliable sandy loam, with the intermediate gradations of texture in accordance with the amounts of sand present in them. Peat or heath soil, silver or river sand, half-inch bones and bone-meal, decomposed manure and leaf-soil, charcoal and charred earth, are a few other ingredients, the presence of which in the composts may be useful and requisite in the case of particular kinds of plants; but those mentioned may be looked upon as all that are necessary for the growth of pot plants in general. At the present time, all good plant growers when preparing a compost for the growth of any particular class of plants, confine themselves to fewer ingredients than was formerly the practice. Turfy loam of sound and enduring texture is the material chosen by the majority of plant growers of the present day to form the staple of nearly all composts used in the growth of pot plants. The object in doing so is to secure for the plants a root medium of a lasting nature, and capable of withstanding, without becoming sour, the repeated waterings to which all plants in pots are necessarily subjected.

Fibrous loam of good texture, with sufficient coarse sand for the purpose of giving the degree of porosity required by the character of the roots of the plants to which it is about to be applied, forms the best compost in which to grow the greater number of pot plants in general cultivation. Heaths and plants having similar roots are, of course, excepted, and instead of the loam they require a good fibrous peat. In the early gardening days, decomposed manure and leaf mould entered into, if they did not actually form the staple of, the compost in which the majority of both stove and greenhouse plants were grown. These two materials were then by most gardeners considered essential to the successful growth of nearly all plants cultivated in pots; and to have potted a plant without having added the due amount of both to the compost, was considered an evidence, at least as regards the proper root medium, of how little the operators knew of the requirements of plants in general. I admit that leaf mould and well decomposed manure are useful in the earlier stages of the growth of most plants; and in case of those annuals which are considered worthy of pot culture, and require the protection of glass to bring them to perfection, both materials are of much service in promoting their healthy and early development; but I have a decided objection to either leaf mould or rotten manure being employed, in however small quantities, as part of the compost intended for the growth of plants the balls of which are not to be disturbed, it may be, for years. For all such plants a compost of more durable materials is necessary, and should be supplied, if possible, in preference to those of less lasting qualities; although the latter may for a short time produce a quicker growth in the plant, their power of sustaining it is limited in comparison with that possessed by good fibrous loam.

In reference to large plants, I would recommend broken potsherds or crocks equal to half-inch bones being mixed with the compost to ensure a good drainage; and as to manures, I prefer an artificial one such as we have in Thomson's Vine, Plant and Vegetable Manure. The condition as regards moisture in which loam has been kept from the time it was brought from its original site, and the length of time it has been in a heap previous to being used in the act of potting, are important considerations, having regard to its value as a material for plant growing. In reference to moisture, it is agreed by all who understand the matter that all potting materials should be kept under cover, either in open sheds or beneath some material capable of protecting them from drenching rains. It is also agreed that at the time of using they should incline to over-dryness rather than to the reverse. This is a good practice, and for this reason, that when a little over dry they may be made as firm in the pots as possible, without fear of undesirable consequences following therefrom.

There is a difference of opinion as regards the length of time turf should remain in a heap before it is fit to use on the potting bench. Some hold it is not in a fit condition to apply to plants until it has lain twelve months, and been repeatedly turned and chopped during that time. My own opinion is that three or four months is quite long enough for it to do so. If left much longer, the fibrous or organic portions of it will have become considerably decomposed, and these while undergoing decomposition contribute much to the health and vigour of the plants, the roots of which are in contact therewith. I therefore consider it a waste of the most valuable parts of the material to allow it to remain in a heap for twelve months before applying it to the plants. When stacking turf intended to be used as potting materials the heap should not be made more than 3 ft. or 4 ft. wide. If made of greater breadth, the air cannot act so freely on all parts of the mass, and consequently it is more likely to become sour, an occurrence that should be guarded against in all composts intended for the growth of pot plants. I cannot see the good arising from the practice of turning and chopping the turf heap months before it is wanted on the potting bench. The process has only the effect of reducing the organic portion of it sooner than if left undisturbed, as on each occasion of turning fermentation is renewed, and consequently a more rapid decomposition of the fibrous parts is the result. As a rule this part of all composts disappears fast enough without any assistance being rendered in the process. I therefore hold that a week or so previous to being wanted is long enough beforehand to subject turfy materials to the preparatory process of chopping and turning and mixing therewith the other ingredients which may be thought desirable or necessary to the welfare of the particular kind of plants for which the compost is in preparation. The same remarks apply to peat or heath soil also, with this difference, that the fibre contained in good heath soil is of a more lasting nature than that contained in loam, and therefore, the circumstances being equal, decomposition does not proceed so rapidly in the one as in the other. But for all plants requiring peat soil to grow in, I am in favour of it being as fresh as possible. Before leaving this subject I would remark that all soils intended to enter into composts for potting purposes should be collected in dry or frosty weather. This will secure them in proper condition, and if room cannot be found for them under cover, they are not so likely to get sodden afterwards when stacked out of doors as if got together in wet weather.

(To be continued.)

*A paper read by Mr. William Craig, plant foreman at the Tweed Vineyard, Clovenfords, at the last meeting of the Howick Gardeners' Mutual Improvement Association.

UP THE NIGER WITH THE ROYAL NIGER COMPANY.

We have been favoured by Mr. J. A. Kilburn, a former employé at Kew, with copies of two letters dated November 3rd, 1889, and March 16th, 1890, and written by the late Mr. H. E. Bartlett, whose sad death from fever a few days later adds a melancholy interest to the communications to his former comrade. The following extracts are from the letter of November 3rd:—

"I went ashore at Sierra Leone and found, much to my surprise, a very different place to what I imagined. A hundred years and more of English rule has had its effect, and as a consequence the place boasts of many of the refinements of civilization. Artisans and mechanics of all kinds ply their respective trades, and in the stores and shops nearly everything is obtainable, and not at such exorbitant prices as one could imagine, although I must admit that 9d. for a bottle of lemonade was rather stiff. I visited what is by courtesy termed the Botanical Garden, which is situated some distance from the town, and is the most abject, forlorn, and neglected looking place it is possible to conceive. It is a barren wilderness—unproductive, uninviting. The rains here are very heavy, a fact sufficiently indicated by the deep gullies and watercourses, which are everywhere to be seen. I had some personal experience of their character, for, it being yet the rainy season, I encountered a tremendous driving storm of rain on going back to the ship.

"After leaving Sierra Leone we kept the coast continually in sight, and many times I thought of Monteiro's description of it in his "Angola and the River Congo." The coast line is low, flat, depress-

ing, no hills or cliffs rising to break the dreary monotony. The coast, too, is washed by a tremendous surf, a long white line of breaking surf being visible for miles. I next went ashore at Accra, and there had the pleasure of landing for the first time on a surf-beaten shore. The sensation was grand, exciting, and perilous. The surf boat shoots suddenly into the midst of the boiling surf, and the natives seize you and bear you on their shoulders high and dry to the beach. The place is made up principally of native mud huts, with some houses of European residents. I paid a visit to the Rev. Mr. ——— a retired missionary who at one time was a gardener in England. He is a half-caste, has married an African, and is now living in patriarchal state surrounded by children and grandchildren. In his little garden he had Vines, Tomatos, Egg plants, Cabbages, Parsley, and other things growing most luxuriantly, Tomatos especially.

"Leaving Accra the coast line became even more flat and depressing than before. One longed for a sight again of the bold cliffs, the verdure clad hills and pleasant valleys of Madeira—lovely Madeira, where every prospect pleases and only man is vile, and sometimes very vile at that earthly paradise. On Wednesday, October 9th, I landed at Akassa, twenty-six days out from England. Akassa is the depot through which every thing passes on its way up the river. It consists of two dwelling houses, one for the white men and one for the black clerks, a long line of stores, and a billiard room. I spent ten days here waiting to be sent up the river, and started, on the 20th, on board the steamer "Kuka."

"The river Niger was at its full tide. It was the close of the rainy season, and the river had risen 40 ft. above its level in the dry season. The Niger delta covers an immense tract of country, and all the district was covered with water, enormous volumes of which rushed out of every available creek and river. It is here that the Mangrove swamps abound, a weird fantastic jungle of interlacing stems and roots through which no human being could force his way. The navigation of this delta is exceedingly intricate and difficult, being in fact a perfect network of waterways, through which it takes an experienced and careful pilot to find his way.

"As we went further up the river, the vegetation slowly changed in character. The country still remained level, but the Mangrove gave way to the Coco Nut and Oil Palm (Elaëis guineensis), and then as we proceeded onwards the Giant Silk Cotton tree (Bombax sp.), reared its colossal head above the surrounding vegetation. While the Niger flora seems to lack the lofty grandeur which one almost involuntarily associates with the tropics, yet the compact and dense masses of Palms alternating and intermixed with trees of a sturdier habit, from the branches of which hang pendent climbers, gives the scene a charming appearance peculiarly its own. The eye looks in vain for a bold striking effect, and one is perforce obliged to pick out and admire the individual beauties of leaf, frond, and stem.

"When we got past the creeks of the delta we emerged into the Niger proper. Here the true width and volume of the river at once manifests itself. We were on a rolling, rushing flood in width varying from two to six miles, and not a bank to be seen. It is while the river is at the flood that banks are swept away, aye and native towns entirely obliterated. The native always builds close to the water, for here he grows his little plantation of Yams and Plantains, and does his bit of fishing. It was about the second day that I first really understood what a tornado meant. The steamer was towing a steam launch moored amidships, and in which were three men. In the middle of the afternoon a tornado struck us with fearful and unexpected fury, making the ship reel, and lifting all light articles on deck overboard. The fury of the wind and rain was terrible. Suddenly there came a dreadful cry from the side, and looking over we saw that the launch was rapidly sinking, and it was almost incredible the quickness with which she went down. Two of the men managed to scramble on board, but the engineer was swept away. The surf boat was at once manned and sent after him, but the poor fellow was lost. The rain fell in torrents, but in fifteen minutes all was over.

"It took three days to get to Abutshi, where I write this letter. I found Woodruff here, he having shifted from Asaba, the latter station being totally unfit for a Botanic garden, the soil being mostly sand, consequently he has started here and has made good progress. The plants and seeds I brought out arrived in excellent condition except Eugenia malaccensis, which had lost all its leaves. As we have others of the same that will not matter. There is not as yet much variety in the station, but time will improve all that. Coffee is doing very well; Cocoa fairly. Bixa Orellana (Arnatto dye), Cotton, and Jute all seem to take kindly to the soil. I am staying with Woodruff at present, but we shall not be together long, though plans are not definitely settled yet.

"The work of the day commences early out here and also all over the West Coast. At 5.30 the bell rings and all the "boys" (black labourers) turn out and work till 10, when they stop for an hour for "chop," commencing labour again at 11 and working on till 6 o'clock. In effect this means working from dawn to dark. We have to keep much the same hours but have a different arrangement for meals: thus, after turning out the "boys," or before if we prefer it, there is early tea; breakfast at 10; lunch at 2 p.m.; and dinner at 6.30. So far I like the life very well, but of course there is always the contingency of fever to guard against. I had my first attack last week, but it was soon over, and in two days I was out in the plantation again. The worst time of the year is now approaching—the dry season. The most useful articles of wearing apparel out here are singlets (very thin undershirts) and pyjame suits. These are cheap and are worn night and day. A pith helmet is also very necessary. To keep in health out here one must perspire freely and copiously; the first cessation of perspiration is the first sign of fever, and then artificial means have to be resorted to to start it again.'

SCOTTISH NOTES.

Potatos.—While the crops of Potatos in our district have been abundant the continuous heavy rains have rendered the quality very inferior. The tubers are very full of moisture, and the flavour is very unpleasant. I would suppose that Potatos which are so close and watery cannot be wholesome as food, but in any case much can be done to improve their quality by mashing and drying them. Sutton's Abundance has come greatly into favour of late years, both in gardens and on farms. The crops are invariably heavy, the quality very fair, and the tubers more disease-resisting than many others. Magnum Bonum is also much valued as a heavy cropper, and is still very free from disease. Jubilee has been somewhat disappointing, being more diseased than many kinds. The Champion is still much valued by farmers for latest crop. It resists the disease, and when used very late is of fair quality. Immense breadths of Regents are grown, and I notice at agricultural exhibitions that the highest awards are generally given to that old favourite. The agriculturists seem to retain the idea that a Potato should be valued according to their success with its cultivation in the district where they reside; nurserymen exhibit fine collections of handsome tubers at these shows, which are unnoticed, no matter how handsome the tubers are. I think this is a great mistake, as some might become new favourites and be of more value as market kinds than those which have long been considered "unapproachable." To get Potatos floury and of fine quality, I think the system (which we have seen so much in practice around Dublin) of "lazy-bed" culture very advantageous.—*Stirling.*

Tomatos.—Among some new varieties of Tomatos which I have tried this season, the two best proved to be Acquisition, which I have already noted in your columns, and Northern Beauty, which I had from Messrs. Dickson, Brown & Tait, Manchester. It is an excellent cropper, large, deep scarlet in colour and of beautiful form. There was not the slightest sign of disease about the plant. A high temperature and a moist, close atmosphere, and a loose compost mixed with rank manure, both seem to be conditions highly favourable to the development of disease. Good loam mixed with old lime rubbish, charcoal and wood ashes makes a suitable compost for Tomatos, and if manure must be mixed with the soil, Thomson's answers first-rate. Clear soot water is also an excellent stimulant, but liquid manure should not be given until the roots are abundant.—*Stirling.*

On Strawberry Culture.—I have several times met with amateur growers who wondered very much as to whether they ought to dig between the rows of their Strawberry plants or simply to remove the runners and afterwards lay on a mulching of manure as a winter dressing. With reference to this uncertainty of action it may be pointed out that most excellent crops of fruit are produced as the result of both systems, but some discrimination may be exercised according to the varying character of soils in certain instances. In one particular garden we have in our mind's eye, abundant crops from plants growing in clayey loam, which was annually dug over without applying manure, were regularly obtained; and from similar soil left undug we have noted the same results. From soil of medium texture with liberal dressings of rotten manure dug in or simply laid on the surface as a mulching, we have obtained equally good crops, the berries however being a trifle smaller than from a more-holding soil. In the case of the heavier class of soils, one of the chief advantages of the digging system is the pulverizing effects of weather influences which is thus secured.

Where very light, porous or sandy soil has to be dealt with, unless there is a command of abundance of manure, Strawberry growing, except indeed on a very limited scale, is not advisable, but with such valuable aid fair crops may be gathered. In the winter treatment of such plantations digging is not to be recommended, as the plants would suffer much less from severe spring droughts on a solid bed well mulched with rich manure. Records are not wanting of fine crops being produced from land originally very poor, but liberal treatment amply rewarded the growers afterwards.

Referring shortly to old plantations it appears to be still a vexed question with some amateurs whether plants which have fruited for three or four years should not be rooted out or trenched down. Here again much depends on the texture of the soil and also to the weight of the produce they have recently yielded. From plantations upwards of six years old, growing in soil of medium texture and annually dug and manured, I have gathered even superior crops as compared with the yield from more recent plantations. We have a few rows of the Elton Pine which have occupied the same plot for at least ten years, from which last season we picked one of the best crops I have ever seen, the individual fruits being also remarkably fine for dessert purposes. The runners from the plants which had a number of years ago been allowed to grow into each other, were removed leaving stools about a foot in diameter, and with liberal treatment they are now in a thoroughly rejuvenated and fruitful condition. Of course I have been referring more to exceptional instances of prolonged vigour and fruitfulness in Strawberry plantations than to a general rule, but my main object has been to warn inexperienced growers against destroying old beds which are bearing good crops of fruit, lest it should afterwards prove to have been a meaningless sacrifice.—*D. M., Ayrshire.*

COVERING VINE-BORDERS.

I think it an error to cover the surface of Vine-borders thickly during winter with close, damp-holding manure. Protection, if needed, by the use of dry litter or fern is much better than the ordinary mulching, so commonly applied, which shuts out the action of air, and tends to sour the soil. Dry leaves thatched keeps the border warm and dry. I know some very successful exhibitors who never cover their borders at all, and year after year have Grapes of the finest quality. I also know where there are borders which are annually covered to exclude frost and where the Grapes are never satisfactory—this does not refer to very early forcing—as the fruit is often badly coloured and frequently shanked.

I notice that some Vines under my own care have found their way out of the house into a gravel path; they are not covered or mulched at any time, but the Vines bear abundantly, the fruit becomes highly coloured, and is superior in flavour to the Vines confined to the ordinary borders. The shrivelling of Muscats, so often complained of, is I think increased to a large extent by placing close coverings of manure over the roots; the action of the sun being excluded, the border remains cold and the roots become inactive, and their functions impared. Most of the Muscats which I have seen lately on exhibition tables have been poor, and, like black Hamburghs, do not have the high culture they deserve.—*Stirling.*

NOTES FROM OAKWOOD.

On the 20th October we finished putting the greased bands on our fruit trees to protect them against the female of the Winter moth. This made its first appearance on the 4th November; on the 12th moths came in quantity, we found eight on one tree; there seems to be something in the garden at Oakwood attractive to moths, perhaps our wood or water. In the gardens here, and at our Cottage near, so few were caught last year (while we had many at Oakwood) that we had not banded the trees. I should doubt the quantity of grease which finds it way through the Willesden brown canvas, of which the bands are made, being enough to injure the bark, but to make sure we have this year put a band of Willesden thick brown paper under the greased bands.

I shall be obliged if any of your readers who grow hardy Cyclamens successfully would state whether they find sun or shade best for them. I know a beautiful bed in Cheshire in complete shade where they bloom well, and have beautiful leaves, but still think full sun is best for them; in our experience the corms grow larger in sun than in shade, and there are more flowers, but we find that unlike many Alpines the roots keep so near the surface that occasional watering is needful.

There seem to be curious changes in the Horticultural world: while members of the trade go on the Council of the Royal Horticultural Society, which used to consist only of amateurs, amateurs have begun to sell plants. I have to-day received some good plants sold by a Clergyman in the country.—*George F. Wilson, Heatherbank, Weybridge Heath.*

CHRYSANTHEMUMS AT CASTLEHILL, MAIDENHEAD.

Anyone paying a visit to the nursery of Mr. R. Owen, at Castlehill, Maidenhead, can see that the season is yet far from being over. The lateness of his Chrysanthemums must be attributed to the fact that a large proportion of those at present in bloom are seedlings either of English or American production. Another year will be necessary before we are able to pronounce definitely upon the bulk of the American seedlings, in order that high culture may exercise its influence upon them. The undermentioned English productions are mostly two years old, and the blooms now show their true character. The bulk of them have been raised from seeds of Japanese varieties, which ripen seeds more freely than the incurved kinds; but the results show that we can get great variation in form (including true incurved sorts) as well as in colour even from the same plants. In this we can recognise both the extreme variability of the Chrysanthemum and the close affinity of the various types which we are wont to consider so distinct from one another. Mr. Owen has further demonstrated not only that Chrysanthemums can be raised from seed in this country, but that those of English production are often of very superior types. After the flowers have been fertilised by whatever means, the long lamina of the florets is cut off and the plants kept in a dry and airy atmosphere by proper artificial heating and ventilation.

English Seedlings.

Under this heading are included all those seedlings of Mr. Owen's own raising. Viscountess Hambleden is a silvery blush-pink incurved Japanese of the largest size and finest form raised from Miss Anna Hartshorn. Mrs. T. A. Spaulding is of the same group, but has more globular blooms of a blush-pink with a white centre, and the middle series of florets get recurved with age. A seedling from Beauty of Castlewood, with deep rose amaranth florets and a yellow reverse, gives promise of being a very fine incurved Jap provided the centre fills up in another year. Somewhat similar to the Boule d'Or type is Mrs. C. Russell, but the florets are broader, more incurved, and lemon-yellow slightly tinted with bronze. A promising exhibition sort is Mr. Wm. Tunnington, an incurved Jap, with long, broad, arching florets of a strikingly reddish-chestnut lined and tipped with yellow. The blooms are much the darker from terminal buds. We reach a climax amongst incurved Japs when we come to Robert Owen, a seedling from the globular Sarah Owen, with a very broad bloom, slightly flattened on the top. The florets are broad, closely incurved, regularly twisted against the sun, and then hooked at the long, pointed tips. They are of a rich golden bronze, deepening to reddish-bronze at the base, lined with yellow and having a long yellow tip; they are, furthermore, slightly fluted but not tubular. The plant is a strong grower and rather tall in the seedling form, with blooms 8 in. to 10 in. in diameter, both novel and distinct.

A last year's seedling named Henry Perkins grows about 5 ft. high, with reddish chestnut and pointed florets. It is an incurved Jap of medium size and useful for grouping or decorative purposes. In contrast to the above J. P. Kendall has blooms of the largest size, of a rose amaranth with a silvery lilac reverse, and is also an incurved Jap. To the same type belongs Umpire, having large and full flowers of a light silvery lilac shaded with rose. Charles Broustedt on the contrary is globular, incurved but reflexed with age, and rosy-lilac. Masterpiece is a reflexed Jap with large carmine-red blooms shaded with salmon, and light carmine on the reverse. It is a very full flower with gracefully recurved florets. Another reflexed Jap is Mrs. Gladstone, with creamy white flowers shaded blush and compact florets concave at the tip. On the other hand Mrs. Carr Gomm is a true Jap with creamy white flowers of the Cleopatra type and fine. Mrs. Langtry is a pure white, incurved Jap. Wm. Kipps, an incurved Jap, is large and promising with chestnut red florets tipped with bronzy yellow; and Mrs. Annie Smith is of the same form but more compact and rich bronzy orange. Yellow Avalanche is a seedling from Avalanche with pure yellow flowers fading to sulphur yellow with age.

The above have been selected from amongst 2,000 seedlings raised last year by Mr. Owen, and the results have given the greatest satisfaction and encouragement, so that the number next year is likely to be increased, rather than decreased. Seedlings from Mrs. F. Jameson have given rise to flowers of various forms and colours, and the same may be said of Sunflower, some of which are of a rich golden yellow. A seedling from Mr. C. Orchard has large pure white flowers, and gives great promise provided the centre fills up in another year. An incurved Jap raised from Sunflower has broad bright buff-apricot florets, and is certainly striking. Seedlings from Avalanche have given rise to white, rose and blush flowers, some of which are beautifully incurved Japs. A seedling Anemone with rose magenta flowers also promises well. Amongst sports originating here, Rivelyn is worthy of notice. It is a sport from the yellow Mrs. Norman Davis, and has golden bronze florets considerably darker towards the base of the flower, and the centre is golden yellow. A pale form of Lady Dorothy has given rise to primrose yellow flowers and light fawn ones on the same plant.

American Seedlings.

A large number of these are grown on trial, but seeing that the plants are small because introduced late in the season, it is impossible for the present to determine what they may turn out to be like when propagated at the proper time and grown under high cultural treatment. An older introduction is Mrs. Bowen, with brilliant crimson florets and a golden reverse, and one of the finest of the same type as Beauty of Castlewood, Mrs. C. W. Wheeler, etc. Mrs. F. A. Spaulding is another incurved Japanese with broad florets in whorls, and of a rosy-bronze on the back with the inner surface of a sulphur-yellow. This distribution of colour is quite unusual amongst Chrysanthemums. The terminal buds will always be selected for exhibition purposes, as the blooms from crown buds are paler and bronzy yellow; it is a fine variety and grows vigorously. Mrs. J. S. Fogg is a reflexed Japanese of good habit, with compact heads of long, drooping chrome yellow florets. The large bright chestnut-red florets of President Harrison, an incurved Japanese, are very telling and promising, provided the centre fills up. Danæ, belonging to the same section as the last, has large bronzy-yellow flowers. Miss Lizzie Cartledge is a reflexed Japanese with large pinkish-purple flowers and a silvery reverse; it was awarded a First-class Certificate at the last meeting of the National Chrysanthemum Society at the same time as Viscountess Hambleden received the same honour. Several frames are filled with old stools of Chrysanthemums in preparation for taking the cuttings, and two houses each 80 ft. long are also occupied in the same way.

Other Plants.

Large quantities of Chinese Primulas are now coming into bloom, mostly of Mr. Owen's raising and selection. Two shades of blue have been derived from a lilac and a bluish lilac respectively. There are several white varieties, some of which are variously mottled. Others are white laced with pink, and a vermillion-red variety is very fine. Imperial white is a double and is sometimes tinted with blush; there are also a semi-double pink and a laced form of the same type. Most of the above are very choice and well worthy of being grown. Ivy-leaved Pelargoniums are also grown to some extent at Castlehill. Souvenir de Chas. Turner was raised here and has large semi-double, warm-rose flowers. It was a cross between Masterpiece and Comte Horace de Choisieul. Beauty of Castlehill is similar in type to the last, but is very dwarf and suitable for bedding purposes or for window culture. Liberty is another semi-double and of a bright rose-cerise; Victoria, on the other hand, is single with large soft-rose flowers. A house full of Cyclamens of a good strain will soon be gay. Palms for decorative purposes are also grown to some extent, including the popular Kentias and Seaforthia elegans, as well as Ferns and winter-flowering Begonias of the B. semperflorens carminata gigantea type. Abutilon megapotamicum variegatum grown in the form of small bushes for decorative purposes is attractive, both on account of the rich yellow markings of the leaves, the inflated red calyx, and the yellow corollas.

PEACH PRUNING.

It is a very common experience that when Peaches are promising and flower buds abundant, much disappointment is experienced by cultivators through the falling of the flowers just when they are expected to set their fruit. The weather or some other cause is assigned for the mishap, but if it was always understood how much the future crop depends on admission of light and air among the foliage and young growths, there would be less crowding of young wood during the growing season and less falling of flowers.

It is the previous season's manipulation of the trees which settle their fruit-bearing powers for the following year. It is often noticeable that the system of pruning is such as almost entirely precludes the trees from bearing fruit. The thinning of the shoots during summer is not half done, consequently the growths remain green a long time, and do not become matured, and the flower-buds are, in consequence, imperfectly formed. Too much of the pruning is left to be done in winter, and then double the number of growths are fastened to the walls than ought to be, taxing the vitality of the trees to the utmost.

There is also a great waste of labour attached to the work of so much unnecessary tieing and training; the judicious pruner begins early in the season to remove shoots which are not wanted, and endeavours to retain those which are to take the place of such as are to be removed when they have had the fruit gathered from them. A young shoot at the top of the bearing wood, to draw up support to the fruit, and a growth, well placed, to supply the place of its predecessor, is left to maintain the regularity of the tree. Instead of the two shoots indicated there may in some cases be seen half-a-dozen. Trees which are loaded with unripened wood should now be relieved of every gross shoot which can be spared.—*Stirling.*

HARDY TREES & SHRUBS.

The Cotoneasters.

About fifteen species of Cotoneaster are known to botanists, but as some of them exist in various forms or varieties the number to be met with in gardens is considerable. All are hardy or sufficiently so to withstand most ordinary winters without protection of any sort. A number of them lost a quantity of their foliage during the severe frost and fogs of last winter, but they recovered their wonted vigour and health upon the return of spring. The number and variety of purposes to which they can be put is considerable. The larger growing kinds are most suitable for shrubbery borders or for planting in groups or clumps of a kind in the pleasure ground. Outside of the smoke radius of large towns they retain their evergreen leathery foliage in perfection all the year round, and provided birds are not particularly numerous and the weather severe, the bushes will remain laden with berries all through the winter. Other kinds are more suitable for covering trellis

work, walls, the end or fronts of dwelling houses; and the smaller, more procumbent species are well adapted for covering rockwork as small bushes or for creeping over large stones.

Propagation is easily effected by means of cuttings, layers, and seeds. By the latter method they may be raised in large numbers in nursery beds. Cuttings of the ripened wood root readily if put in pots or pans of light, sandy soil during the autumn, and stood in a cold frame. Most of them would also root freely if put in frames having 4 in. to 6 in. of a light compost, and more especially if put in early in the autumn. Grafting is also resorted to in some cases, using C. vulgaris, or the common Quince, as a stock.

COTONEASTER BUXIFOLIA.—As the name indicates, the leaves of this species bear considerable resemblance in superficial appearance to those of the common Box, both in shape, size, and leathery character; but they, like those of other Cotoneasters, are of a rich, dark green hue, such as is never seen in the Box. They are obovate-elliptic, revolute at the margin, of a deep shining green above, and hoary with tomentum beneath. The flowers are in small racemes or clusters, terminating the short side shoots. The fruits are dark red, and about the size of those of C. microphylla. As a rule they ripen in great abundance, making the plant glow by the end of August or the first week in September. The hardiness and vigour of the plant is remarkable considering that it is a native of the Neilgherry Mountains in India. The other Indian species come from more northern localities. The plant forms a dense bush 4 ft. to 5 ft. high, spreading widely on either side. On rocky banks and similar dry places along the sides of drives it would prove invaluable. Birds are remarkably fond of the berries, so that in wooded districts and especially when the plant is grown at a distance from dwelling houses, the fruit cannot be expected to hang long. Our illustration shows a spray indicating the general appearance of the plant, and the smaller portion at the lower right hand corner is life size. There is a variety of this species named C. b. marginata, and characterised by a dense line of grey hairs at the margins of the leaves. The plant is also procumbent in the young state at least.

C. MICROPHYLLA.—In this we have one of the most useful, most popular and most widely distributed of all the Cotoneasters in this country. The leaves are small, ovate or obovate, deep green above and tomentose beneath. The red berries are produced in great abundance, and hang on all the winter. The number of purposes to which the plant can be put is remarkable, and it depends on the manner in which it is grown as to what form it can be made to assume. Grown as a bush it usually attains a height of 3 ft. or 4 ft.; but it is so accommodating that it may be kept dwarf by training it over the large boulders on the rockery. When placed against the walls of a house or other masonry it grows almost as rapidly as Ivy, flattening itself against the wall in a remarkable way, and covering it with a close sheet of verdure that is pleasing at all seasons of the year, even in the north of Scotland where it is very long-lived.

C. THYMIFOLIA.—The small size of the oblong-ovate leaves of this species is one of its most striking characteristics; for no other Cotoneaster in cultivation has neater foliage. It is a native of the temperate Himalayas, and forms neat decumbent or spreading bushes, 12 in. to 18 in. high, bearing small red berries in the autumn. Owing to its dwarf habit it forms a very suitable shrub for rockwork. There is a variety of this, namely, C. t. congesta, usually spoken of as C. congesta, and which comes from Darjeeling, and other parts of the Western Himalayas. The branches are much crowded, and usually prostrate, especially when allowed to creep over the large stones of a rockery, for which it is even more highly appreciated than the typical form. The leaves are broader than those of the latter, elliptic, deep green above, hoary beneath and densely crowded.

C. HOOKERIANA.—This forms an irregularly branching bush, 2 ft. to 3 ft. high, with elliptic, deep shining green leaves larger than those of C. microphylla. The berries are red, and relatively of large size and ripen about the end of August or the first week in September. C. congesta is often grown in gardens under the name of C. Hookeriana.

C. HORIZONTALIS.—The leaves of this are broadly ovate-elliptic, small and of a deep shining green, and devoid of hairs with the exception of the midrib beneath. The branches of young plants are procumbent, closely hugging stones and similar objects where there are such, and give off shoots very regularly in a close row on either side, forming a two-ranked series. Older plants get up to a height of 18 in. to 2 ft. with spreading branches. The berries are small and orange-red. It is by no means common in gardens, but is equally well adapted for rockwork as several of the foregoing.

C. LUCIDA.—As the name implies, the leaves of this species are of a lucid and dark shining green on the upper surface, paler and more hairy beneath and broadly ovate, attaining the size of those of C. Simonsii, or are even larger, but altogether brighter. The stems vary from 18 in. to 2 ft. in height or even more. The margins of shrubberies are the most suitable places for it unless the planter chooses to make isolated beds of it on the grass.

COTONEASTER BUXIFOLIA.

C. UNIFLORA.—In this we have another dwarf and often procumbent species, with obovate, dark shining green leaves. The berries are globose, red, and produced singly at the ends of short, lateral shoots, ripening in September. The leaves are about twice the size of those of C. microphylla, and the plant may be used in the same way as the last named.

C. NEPALENSIS.—The stems of this plant reach a height of 3 ft. to 4 ft., resembling those of C. Simonsii in habit, and the leaves are of a bright green. The berries are borne in short lateral clusters, and ripen late in September or in October.

C. SIMONSII.—This species is one of the commonest and most widely distributed in British gardens, but notwithstanding its utility it should not be allowed to oust other kinds that are equally beautiful and interesting. The leaves are elliptic and of a dull and deep green, and the oblong or obovate berries are abundantly produced in short lateral clusters, ripening about October, and hanging on all the winter. The plant is liable to lose its foliage, even though naturally evergreen, in the heart of smoky towns, but recovers during the following summer. More removed from smoky centres, and even in the suburbs of London, it does well.

DESTRUCTION OF AN ELIZABETHAN MANSION.—The destruction of the fine old Elizabethan mansion at Bourn, Lincolnshire, in which, tradition says, the Guy Fawkes conspiracy was hatched, has been decided upon. The old Red Hall, as it is called, is one of the finest specimens extant of the red brick Elizabethan mansions. A new railway is being made from Bourn to Saxby, and the historic mansion it is said stands in the way, and has been doomed to demolition.

BANKFIELD, BINGLEY.

A VERY fine display of Chrysanthemums is now to be seen at Bankfield, Bingley, the residence of H. Mason, Esq., which I had the pleasure of inspecting a few days ago in company with the indefatigable gardener, Mr. Midgely. In a roomy, well-appointed conservatory I found a display well worth going a long journey to see. The plants are artistically arranged; some large Camellias and Tree ferns forming a good solid background. Trained on the roof are a dozen red and white Lapagerias, flowering profusely and adding greatly to the beauty of the surroundings. All the latest novelties in the Chrysanthemum line are grown here and severely tested, for Mr. Mason and his able gardener are both good judges of these flowers; needless to say all inferior or unsatisfactory varieties which do not do well in this northerly climate have been discarded.

Standing and gazing upon the profusion of flowers one could not help thinking how justly the Chrysanthemum has been called the queen of autumn flowers. What should we gardeners do without it? All shades and colours are represented, suiting the taste of the everchanging fancy of dame mode. Passing along, my attention was drawn to some exceedingly fine flowers of the incurved section, namely, Golden Empress, Jean d'Arc, Lord Alcester, Miss Haggas, Princess of Wales, and Violet Tomlin, all unusually good this season. Amongst the Japanese varieties, which have always been A 1, I noticed Thomas Stephenson, a sport from Criterion, and a well-formed flower of great substance and colour; Puritan, Sunflower, Avalanche, Louis Bœhmer, Stanstead White, Etoile de Lyon, etc.

Leaving the conservatory we entered a Black Hamburgh vinery, filled at present with late-flowering Chrysanthemums, such as Duchess of Teck and others, which will shortly be placed with the rest in the conservatory, and give a plentiful supply of flowers at Christmas time. The next house is filled with miscellaneous plants, such as Eucharis, very promising plants pushing spikes; a healthy batch of Poinsettias, which ought to produce good useful bracts; winter-blooming Begonias; intermixed with Asparagus and Maidenhair Fern. Primulas are housed in the next range, and a healthy lot too. They are a special feature here. The well-flowered plants of White Lady, Lord Beaconsfield, Chiswick Red—shown last year at Bradford Chrysanthemum Show—eclipsed anything seen there before.

Passing through a division which is used during the summer for Melons, I noticed a magnificent specimen of Cœlogyne cristata alba, with twenty growths, Cœlogyne maxima, C. Lemoniana, and Odontoglossum citrosmum having a rest preparatory to flowering. A small but very choice collection of Odontoglossums was to be seen in the compartment we entered next. Mr. Mason takes a great interest in Odontoglossums; his collection is not the largest, but perhaps the finest in the North of England, and he is justly proud of it; all the plants have been selected with great judgment and bought in flower. What a strong, healthy lot they are; bulbs of enormous size, carrying in most instances two long spikes. Evidently they receive good treatment. Cymbidium Lowianum and eburneum grow and flower well in this house. I have seen the plants in bloom for several years, and was astonished to find them doing well, though the temperature of the house is only kept from 48° to 50°.

The last house which I had the pleasure of inspecting is a very substantially constructed vinery 80 ft. long, fitted up splendidly, and divided into two sections, one filled with Muscat of Alexandria, the second one with Mrs. Pince's Black Muscat—the latter are bearing good sized bunches but are wanting in colour. In my own mind I do not think Mrs. Pince will colour well in smoky manufacturing districts, as even when the sun shines the smoke hangs about like a veil, and the glass is covered with soot, so different to an agricultural district, where the air is pure and the sun bright. In con-

cluding my notes, I may say that Mr. Midgely has been one of the most successful exhibitors for many years, and his abilities are well recognized, for he has the honour of judging at some of the leading shows.—*E.*

FLORICULTURE.

Midland Carnation and Picotee Society.

At our exhibition held in August it will be remembered that we made a very radical change in the classification of our single blooms. Instead of having three separate classes for the Bizarres, three classes for Flakes, and six classes for Picotees, we classed all the Bizarres together, asking the judges to pick out the three best scarlet, the three best crimson, and the three best pink and purple, then arrange these nine flowers in their order of merit, thereby creating, so to speak, a double competition; the same was done with the Flakes and Picotees. Some said that by this classification many good flowers were passed over, but such I told them would be the case if we had a class for each and only awarded three or four prizes in a class, for in my opinion most exhibitors will always put their best flowers in their stands of twelve or six, leaving only the odd blooms for the single classes.

For my own part I would as soon see all the single bloom classes done away with. Some would like to see the number of the single bloom classes reduced from the old system; some would stick to the old lines; but as I want to have some new feature in our exhibition, I do not want if possible to go back upon the old lines of showing each class separately, and I am now asking the opinion of exhibitors whether they would like to give this new classification another year's trial, or whether they would prefer to let all the Bizarres remain in one class, the Flakes in another class, the heavy edge Picotees in a third class, the light edge Picotees in a fourth class, the Selfs in the fifth class, and the Fancies in the sixth class; then let the judges award prizes to the six or eight flowers best in each of these six classes, regardless of colour. —*Robert Sydenham, Chairman of Committee, Tenby Street, Birmingham.*

The Gold-laced Polyanthus.

The pots containing Gold-laced Polyanthuses should now be plunged up to their rims in some dry riddled cinders, and kept through the winter in a cold frame, as much air as possible being allowed them during the day, the frames being closed up at night; and a bass mat thrown over the frame at night will prove advantageous. The less the plants are exposed to rain during the winter the better; and when the soil is observed to be dry, it should be moistened by the aid of a watering can with a fine rose.

Pinks in Pots.

The above treatment cannot be improved upon in regard to the wintering of Florists' Laced Pinks.

Alpine and other Auriculas in Pots.

Persons who do not possess properly constructed houses for the above, cannot do better than follow the advice recommended for wintering the Gold-laced Polyanthus and Pinks in pots. The plunging of the pot plants in riddled cinders, or ashes, will prevent a great percentage of breakage of pots by the frost and sudden thaws.—*James Thurstan, Cardiff, November 25, 1891.*

CHRYSANTHEMUM NOTES.

Chrysanthemum Mademoiselle Cabrol.

Chrysanthemum vagaries are as endless as they are interesting. Mademoiselle Cabrol, also known as Madame Cabrol, is a popular variety belonging to the Japanese Anemone section, and is characterised by its rose pink, broad and much twisted drooping guard florets, and a lilac disc. A sport, as sports are usually understood (and in this case we cannot say whether it will prove constant or not), has occurred in the collection of C. A. Dawes, Esq. (gardener, Mr. J. Baird), Homefield, Ealing, showing three kinds of florets. A large number of the outer ones forming the guard, instead of taking their usual strap-shaped form, have become tubular or quilled and of a soft rosy pink; the middle series are fewer in number, flattened often almost to the base, and variously twisted and incurved upon the disc, pure white on the upper surface except at the tip, which is blush and blush pink on the reverse. The central or disc florets are well developed and prominent, and rosy-purple with yellow and white lobes or teeth at the apex. On the whole the flower was charming, and we could wish that the sport would remain constant.

The Old and the New.

"Now the hurly-burly's done
And the battle lost and won."

This, then, is the time to review our forces, to weigh in the balance as it were our veteran warriors of yore, our tried soldiers of recent years, and our most promising recruits. From what we have seen and heard, there can be but little doubt that many of the old favourites who have led the van in years past must soon be relegated to the "reserve forces" to guard the citadel at home, whilst the more doughty champions of the present day are engaged in the tug-of-war on many a battle plain, or to speak more literally, on many an exhibition table.

Whilst the claimants for future fame amongst the Japanese are almost numberless, those in the incurved sections are but few and far between. The following are a few that have come under my notice, viz.—M. R. Bahaunt, this I think will prove to be a great acquisition; the same may also be said of Matthew Russell. Although I have seen several blooms of Robert Cannell, I cannot truly say that this variety took my fancy. Hero of Hull is a sterling good thing, and will I think oust H. Shoesmith from his present position. John Lambert and Lady Dorothy will also hold their own even in the best company, but the "Queen" of them all, in my humble opinion, is Mrs. Robinson King.

This truly splendid variety is a sport from Golden Empress, and originated with a neighbour of mine in 1887. I saw it both growing and "on the boards" in 1888, and every subsequent year—the good opinion I first formed of it has been more intensified as its features became definitely fixed, and better developed. Its colour is that of a deep rich gold, while its form and shape are in every respect equal to that of Lord Alcester, at its best. With me it has grown better and stronger than any other variety of the Queen family.

During the past year it has been awarded several First-class Certificates. Amongst others those of the N.C.S. at the Aquarium, the Ancient Florist Society Show at York; also at Liverpool, Nottingham, Derby, and Leeds Chrysanthemum Shows. I understand that the entire stock of this grand variety has passed into the hands of Mr. Robert Owen, of Maidenhead.—*Welton Dale.*

THE NATIONAL CHRYSANTHEMUM SOCIETY.

The Annual Dinner of this Society took place at Anderton's Hotel, Fleet Street, on Tuesday evening, when about 120 members and friends sat down under the presidency of the Chairman of the Committee, Mr. Robert Ballantine. The dining hall and the dinner tables were beautifully decorated, the "Mum" of course playing a conspicuous part, and thanks to some very good friends there was also a capital dessert. Honour having been done to the usual loyal toasts, the Chairman proposed "The National Chrysanthemum Society," and in so doing took occasion to refer to the steady growth of the society during the past year, which had brought them sixty new members, and added nine to their roll of affiliated societies. They had also to deeply regret some losses. The deaths of Mr. Shirley Hibberd, and more recently of Lord Lytton, one of the Vice-Presidents, was alluded to in feeling terms as was also the absence of their old friend Mr. E. Sanderson, and their former esteemed colleague Mr. Brisco Ironside, both of whom had the misfortune to be in bad health. The exhibitions they had held during the year had all been successful ones, the last one especially so; their medals and the new certificate were eagerly contested for, and the former especially found much favour with their affiliated societies, and especially in the Colonies; and their finances were in a healthy condition, and the whole of the prize money awarded at the November Show would be paid in a few days. On the whole their present position was a flattering one, and their future prospects most hopeful.

Mr. E. C. Jukes proposed, and Mr. R. Dean responded (in the absence of Mr. Ritchie) to the toast of "The Royal Aquarium and Summer and Winter Garden Society," both gentlemen bearing eloquent testimony to the exceedingly generous and liberal treatment which the N.C.S. received from the Aquarium authorities. They were met on all occasions with the greatest kindness and consideration.

The principal prizes of the year were distributed at this point of the programme, and Mr. Chigwell, who received the Silver Challenge Shield on behalf of the Havant Chrysanthemum Society, received a very cordial reception. Mr. C. E. Shea proposed "The Officers of the Society," to which Mr. J. R. Starling and Mr. C. Harman Payne responded. "Our Fellows and Guests," proposed by Mr. Dean, was acknowledged by Mr. G. J. Ingram, secretary of the Gardeners' Royal Benevolent Institution. The other toasts were "The Chairman," "Affiliated and Kindred Societies," responded to by Dr. Walker, of Wimbledon; "The General and Floral Committees," and "The Horticultural Press." An admirable musical programme was greatly enjoyed by all present.

AMARYLLIS BELLADONNA.

I wonder who introduced this beautiful Cape of Good Hope bulbous plant to this country? It came here as far back as 1712, and probably some voyager, noticing its delicate beauty, secured a plant, and, bringing it home, enriched our floral treasures by the introduction of this delightful stranger. One can quite understand the appropriateness of its common name, Belladonna, from the charming tint of delicate red upon the white perianth, resembling the complexion of a beautiful woman.

This exquisite species, which blooms in September and October according to the season, does admirably at Gunnersbury Park, Acton, W. A few years ago Mr. J. Roberts, when gardener there, planted a border on the outside south front of one of his plant houses—a house in two divisions, one end being used for New Holland and such like plants, the other division being kept warmer. Mr. Roberts had this border, which is about two feet in width, well drained, he then put in some suitable compost, light and rich, and planted his bulbs a foot or nearly so below the surface. He thus made a permanent border, and every season a remarkably fine lot of bloom results. The advantage of planting in such a position as that selected by Mr. Roberts is readily seen: the wall near to which the bulbs were planted is dry and warm, and these conditions conduce to the thorough ripening of the bulbs at the proper season. One characteristic is noticeable, the bulbs in front of the warmer portion of the house are always the earliest to throw up their flower stems several days before the others.

In spring the foliage is produced. It is a curious characteristic in some plants that the flowers should be produced at one season of the year, and the leaves at another, but this peculiarity appears to be largely, if not altogether, confined to bulbous-rooted plants which flower in autumn. I have known the foliage of the Belladonna Lilies at Gunnersbury much injured by the late spring frosts, which tends to give the plants a severe check. This cannot well be avoided with the plants grown in the open.

A good mulching of manure is very serviceable after the spring growth has been formed. It will impart robustness to it, and during summer assist in keeping the bulbs and the soil about them cool and moist.

This beautiful Amaryllis can also be grow in pots. The bulbs, which are largely grown in Holland and other parts of the continent, come to this country in September, and they should be kept dry until early spring and potted, but little water being given until the foliage appears. During summer the pots may occupy a cold frame and the bulbs encouraged to make as free a growth as possible; when the foliage decays the soil may be kept drier, and then flower stems may be looked for in September. Deep pots should be used and a good rich soil.—*R. D.*

Fruit Notes.

Pear Deux Sœurs.

The produce of young trees of this Pear is capable of being grown to large size, but on old pyramids the fruits are considerably reduced, though equally good in quality. They are pyriform, thickest just below the apex and suddenly contracted not far from the stalk. The skin is very smooth, light green and glossy, finely speckled with russet. When in good usable form, the flesh is firm, white, very juicy, sweet, and so finely gritty as hardly to be perceptible. The tree may be grown as a pyramid either on the Pear or Quince stock, but larger fruits are obtained perhaps from oblique or upright cordons. It bears well as a rule and is in condition about the end of October. The trees at Devonhurst, Chiswick, bore well this season, and the fruits were up to the standard in quality. The name means two sisters, and took its rise from the original tree having cropped up in the garden of two sisters, the Misses Knoop, at Malines.

Pear Doyenne du Comice.

The fruit of this Pear is large, obovate, very thick at the apical end and suddenly contracted towards the stalk, and slightly uneven or lumpy on the surface. The skin is pale lemon-yellow slightly flushed with green, and closely speckled all over with russety spots, especially on the exposed side, which sometimes assumes a red colour of variable brightness. The upper portion around the eye and also that around the stalk are generally rough or scurvy and covered with broad patches of pale brown russet. The eye is open and set in a moderately deep cavity, and the stalk is also set in a small cavity or equally often obliquely to the rest of the fruit. The flesh is white, very juicy, rich and melting, with an aromatic flavour, and is more or less gritty around the small core. Most cultivators are agreed that this is one of the most delicious and best Pears cultivated, ripening in October and lasting through November or even longer. The tree has a healthy constitution and bears well every year either as a pyramid, bush, standard, or wall tree, but in the latter state it sometimes fails to give the same satisfaction as when grown in either of the three other forms. The fruit is by some recommended to be gathered early and in a dry condition so as to get the best results.

Pear Marie Louise.

It is to be regretted that this variety is not a more certain cropper, seeing that the fruit is so excellent for dessert purposes during the months of October and November. The size and shape of the fruit varies remarkably according to the way in which it is grown. The best results as far as flavour is concerned are obtained from standards or bushes in the open; fruits obtained from trees on a wall are larger, but they lose considerably in quality. The larger fruits are generally oblong, and nearly of equal width throughout, but when small they are more or less regularly pear-shaped. The skin is pale yellow when ripe and more or less suffused with a thin russet. The white flesh is delicate and buttery, with a remarkable sweetness which is capable of being increased considerably in fine seasons, and according as the tree is grown as a bush or standard in preference to a wall specimen.

Apple Peasgood's Nonesuch.

Many Apples vary considerably in colour eveu in localities not far distant from one another. It is generally considered that Apples colour badly within the metropolitan area as well as in the suburbs which suffer from the smoky atmosphere. The difference in colour, however, is by no means universal. Even in outlying districts far removed from the influence of London smoke, Peasgood's Nonesuch is often shown almost green in the early autumn months, while even later on it may be anything but brightly coloured. The difference must be accounted for not only with regard to a smoky atmosphere and consequent diminution of light, but to the soil of the garden, the aspect on which the tree is grown, and to the proper thinning of the branches and the pushing aside of the leaves so that the fruit may enjoy the benefit of what light is to be had. The fruit is of the largest size, somewhat wider than deep, with a regularly rounded basin or cavity in which the closed eye is set. The skin at first is green, changing to yellow by the month of November, and suffused with red on the exposed side and streaked with different shades of red. The fruits now in the fruit room at Templeton House, Roehampton, are large and richly coloured over the greater part of the surface. The flesh is pale yellow, tender and juicy, and possessed of a certain amount of acidity which proves agreeable to those who like Apples of that class. It may be used either for culinary or dessert purposes, and remains in perfect condition till Christmas at least. Being naturally a large Apple a large number cannot be expected from small trees; but the best samples are produced on dwarf trees on the Paradise stock.

Apple Annie Elizabeth.

When in season this is appreciated by those who like firm and brisk Apples; but this very firmness makes it a valuable culinary Apple on account of its long keeping properties. The flesh furthermore is white, tender in texture, and agreeably flavoured. It was raised by Messrs. Harrison & Sons, of Leicester, and is gradually finding its way into gardens by reason of its long keeping properties.

Apple Landsberger Reinette.

The fruit of this variety is above the medium size, conical, and slightly five-angled near the apex. The smooth, shining skin is clear yellow, flushed with red on the exposed side, and occasionally more or less streaked with crimson. The whole surface is also thinly speckled with minute russety markings, occasionally with a slender white line surrounding the russet. The flesh is pale yellowish-white, tender and sweet, with a slight acidity. The Apple is of such a character that it may be used either for culinary or dessert purposes. Its relative firmness enables it to keep till Christmas, while it is fit for use in October. The tree is reputed to bear heavily, and in this respect it upheld its character at Devonhurst, Chiswick, during the past season. The quality is excellent, and there is no reason why it should not be more extensively used in private establishments for the sake of the variety which it would afford.

THE VEGETABLE GARDEN.

French Beans.

Though the past season in the North has been a period of extremes of weather, many vegetables have been of over the average quality, and so have been some flowering plants, especially Pansies, Antirrhinums, Pentstemons, and Dahlias. The long period of dry weather accompanied by cold, easterly winds between early March and July, and the damp and sunless autumn, raised many difficulties in the way of cultivators. The growing of Kidney Beans seemed at one time to end in complete failure, but by the genial weather in July many things rapidly improved, and some three successions of French Beans rapidly came into bearing, and were the best we have had here for some years. Three kinds were new to us; they were sent for trial, and, though all were good, one out-distanced the others as a dwarf, very green, and free-bearing sort. It is named "Dwarf Green," and its character is strictly in accordance with its name. Ne Plus Ultra, Williams' Early, and Negro were side by side with this Dwarf Green, but were not so serviceable as it. Ne Plus Ultra has for some years been our favourite for forcing in pots and for planting out in heated pits. French Beans often fail in the North, but it is because they are not protected from easterly and northerly winds.—*Stirling.*

About Parsley.

It may not be necessary to remind cultivators, except young beginners, that it is a judicious practice to put a quantity of Parsley roots into boxes, frames, or where they can in any other way be protected during a period of severe weather. Many were caught napping last year, and their supply of Parsley was abruptly cut short. We had to lift the greater portion of our roots and force them in heat to meet the demand. While we have large breadths at the present time, a quantity of roots have been lifted, packed closely into boxes of soil, which can be lifted under cover in an emergency; Pea trainers are fixed over a breadth of fine Parsley, on which mats can be hurriedly thrown if snow should come on suddenly.

When gross leaves have been removed and a short, stiff growth encouraged, there is a capital opportunity of meeting the demands of the culinary department should the weather be ever so severe. Many losses are sustained by sowing Parsley on rich, highly manured land, and allowing the gross leaves to remain on late in the season, crowded till they are in a state of decay. Where planting is practised and the ground firm and not rich, good Parsley is generally had in abundance. A selection (Drummond's) which we sowed about twenty months ago and was transplanted on firm ground, is at present the finest we ever had.—*Stirling.*

Gardening Miscellany.

IMPATIENS FLACCIDA.

Although this has never attained the popularity of I. Sultani, yet it merits cultivation for its larger flowers, which are of an entirely different shade of colour, namely, warm rosy-purple with a crimson purple blotch at the base of the two lateral petals. The flowers are slightly less flattened than those of I Sultani, and the spreading, branching habit of the plant is entirely different. Young plants are the most easily accommodated on account of the space occupied by the spreading character of the branches; they can also be potted on late in the autumn, thereby ensuring a flowering condition till late in autumn, or even into winter. Being a native of the Mountains of Malabar and Ceylon, it usually gets stove treatment, and such may be necessary to ensure flowering in winter, but during the summer months it may be grown in an intermediate house, or even a greenhouse. It is readily propagated from cuttings in the same way as other soft wooded stove plants. The name I. platypetala is usually applied to it in gardens, and the white variety is called I. p. alba.

ARISTOLOCHIA ELEGANS

The flowers of this species are of very moderate dimensions compared with those of A. gigas and A. Goldieana, but the plant has become far more popular in gardens generally, because more manageable, more regular aad certain in its flowering. The dimensions of the plant also enable it to be grown in relatively small space; for those who cannot accommodate it on a pillar or rafter of the stove can grow it in a pot, training it round some stakes or on trelliswork. The basal portion of the tube is pale greenish white, and inflated, while it is so bent in the middle that the back of the lamina lies against the tube. The lamina is the most ornamental part, and is about 3 in. long, nearly as broad across the base, slightly concave or cupshaped, deep purple, variously marbled with white and deepening to crimson or black around the contracted mouth. The plant flowers and fruits freely with Mr. H. Dennison, gardener to T. Gledstanes, Esq., Acton.

BEGONIA LOUIS VALORSIS.

This is one of the numerous hybrids or garden varieties of the B. rex, or Elephant's Ear type, but has much smoother leaves than those immediately derived from B. rex. The upper surface is of a dark bronzy olive, overlaid or heavily shaded with purple, rendering it very dark, while the central portion is of a bright shining purple, distributed in broad irregular patches. A freak has occurred amongst the plants at Homefield, Ealing, by the union of two leaves along their edges in the lower third of their length. The upper two-thirds of one leaf diverge at right angles to those of the other, so that the combination of the two gives the whole the appearance of the outspread wings (so termed) of a bat in flight. The petioles of the two leaves are completely united throughout their length.

AGAPANTHUS UMBELLATUS.

Anyone fond of this plant, and having specimens in pots or tubs, should learn a lesson from last season, and take care that in housing their plants for the winter the roots are well protected from frost. Last winter I in common with others who could not give these plants the advantage of artificial heat during the prevalence of severe frost had their plants killed outright through the frost acting upon the roots. In this way I, to my great sorrow, lost from six to ten large specimens in pots sixteen inches in diameter. They were placed in a cold house, but the frost reached them, and completely destroyed them. I know of no better plant an amateur can grow for the decoration of his forecourt garden in summer, and it is to spare further loss that I advise all who have to winter this fine plant in a cold house, to take care the pots are well protected. We may not have a severe winter like that of 1890-91, but it is well to be on the safe side, we do not know what weather is in store for us.—*R. D.*

APPLES FOR AMATEURS.*

It is not my intention here in these brief remarks to enter into the system of growing and disposing of our most useful of all hardy fruit from a commercial point of view, but rather to confine myself to those about to plant in their own small private gardens individually. I will endeavour to point out to intending planters the best method of maintaining a constant supply from their own resources, leaving the large trade growers and salesmen to cater for the masses, who have no means of growing their own fruit.

In a brief paper of this description it is impossible to enter minutely into the whole business of Apple production, but I will endeavour to place my ideas before you in a simple, practical manner. To make them as plain as possible I will divide my paper into four sections as follows:—1st, Selection of Trees; 2nd, Preparation of Ground, Planting, and Pruning; 3rd, Fruit Room and Storing; 4th, Insect Pests, briefly touching upon each of them in the order named.

Selection of Trees.

This may at first appear somewhat early in my remarks to refer to this most important point. Upon it depends the foundation of success or failure of the plants. By way of making a commencement it will be well for the intending planter to have a limited number of trees of approved sorts, and treat them well, rather than overstock himself at the commencement. Success with a few will probably result in the careful treatment of a much larger number in future years; but failure through having a larger number than can be skilfully managed will probably lessen the interest originally attached to them. Glowing ideas at first formed will not be realised owing to overwork, the idea of Apple culture for the use and pleasure of one's own family will probably be abandoned never to be repeated. With regard to the number of trees to be planted, much depends upon the means and requirements of the intending planter. Apples may be grown with success in several forms, but the four ways in which I find they answer best are as follows: bushes, espaliers, cordons, and standards. For bushes I find the most suitable varieties with me are—for dessert—Early Margaret, hardy and good cropper; Red Astrachan, extremely handsome and a good cropper; Duchess of Oldenburg, hardy, exceptional cropper, handsome, moderately good flavour; King of Pippins, hardy, good grower, and a reliable cropper; Cox's Orange Pippin, undoubtedly the best of the dessert varieties for flavour; Sturmer Pippin, a most excellent late Apple. Worcester Pearmain, a large conical Apple very popular at the present time, bears on the points of the shoots, which must be remembered in pruning.

For Cooking.—Keswick Codlin, an old and popular Apple; Stirling Castle, extremely prolific, should be bought on the Crab; Ecklinville, large and a good bearer; Potts' Seedling, a very heavy Apple, tree exceptionally dwarf and a good bearer; New Hawthornden, an excellent Apple and good grower; Wellington, an exceptionally useful Apple, good cropper, cooks well, and is in use a very long time; and Lane's Prince Albert.

For Espaliers I find the following with me are suitable:—

Dessert.—Red Astrachan; King of Pippins; Scarlet Nonpareil, tree hardy and good bearer; Cox's Orange Pippin; Sturmer Pippin; Court Pendû Plat, a very late Apple.

For Cooking.—Lord Suffield, where the soil is warm; Cellini, sure cropper; The Queen, a handsome new Apple; New Hawthornden; Warner's King, a large heavy Apple; and Wellington.

For Cordons I consider the following a good selection; they do well with me:—

Dessert.—Red Astrachan; Kerry Pippin, a useful early Apple; King of Pippins; Cox's Orange Pippin; Lady Sudeley, new and excellent; Sturmer Pippin.

Cooking.—Stirling Castle; Warner's King; The Queen; Cox's Pomona, a handsome Apple; Potts' Seedling; Wellington.

As Standards I find the undermentioned do well:—

For Dessert.—Yellow Ingestrie, an attractive Apple; Worcester Pearmain; Fearn's Pippin, a good Apple, but the trees do not bear quickly; Duchess of Oldenburg; Cox's Orange Pippin; King of the Pippins.

For Cooking.—Keswick Codlin; Potts' Seedling; Warner's King; Lord Derby, an excellent Apple; Ecklinville; Wellington, and Lane's Prince Albert. Several others might be added, but I have found the foregoing thoroughly reliable.

It is very interesting to have a trial ground in some convenient place. A large selection of approved sorts may be grown there, and will prove very interesting and instructive. Presuming the intending planter to have decided on the number of trees of each form he wishes to plant, his best plan will be to pay a visit to some well-known reliable nurseryman in the late summer months, and personally select his trees, taking due care to have them marked ready for delivery when the lifting season arrives. This plan of personally selecting the trees I regard of the utmost importance, for the following reasons:—You have the choice of the very best trees for sale; by selecting them early you practically insure early autumn delivery; and further, you have a good opportunity of comparing the merits of the different varieties, and forming an opinion on the ground of any new sorts that may have been recently introduced to commerce.

Preparation of the Ground, Planting and Pruning.

In my opinion the most useful of all trees for the moderate-sized garden is the bush, which should, with few exceptions, be planted on the broad-leaved Paradise. They may be conveniently planted by the sides of walks in rows about 6 ft. apart, and the same distance from the path. The ground should be trenched 10 ft. or 12 ft. from the walk, and 18 in. deep or thereabouts, according to its nature, and drained if necessary. Holes should be dug at the required distance from each other, and from 12 in. to 18 in. deep, according to the nature of the soil. If the soil is wet they may be somewhat shallow, and if dry they may be somewhat deeper, but in no case must the tree be planted deeper than it was originally. The holes must be slightly higher in the centre and well covered with slates or brick rubbish to prevent the roots going downwards. At planting time a good stake should be in readiness to drive in the centre of the hole to secure the tree, also some good turfy loam, to induce the formation of fibrous roots. The roots should be carefully pruned with a sharp knife, making the cut on the under side to induce the new fibrous roots to start from the top of the old root, and ultimately become what are termed surface roots. Without these surface roots it will be impossible to succeed, as they are the first to take any nourishment that may be administered to the tree, also the warmth in the summer.

The trees should in most cases be shortened back to a wood bud, pointing outwards, before the end of the current year in which they were planted. In my opinion, from my own experience, I believe one of the chief causes of canker in newly planted trees is the result of shortening back late in the spring. Severe and untimely pruning, I believe, induces canker if the operation is performed in the spring, when the buds are swelling and the sap is at work. It must either overflow by the wounded surface and cause weakness, or it must stagnate, and when it does so, being partly in contact with the air, it becomes vitiated and the bark cankers and shells off, leaving a long dead stump, which requires to be cut off, and even then the wound is difficult to heal over, setting aside the loss of wood, of time, and perhaps the loss of the whole tree.

Espaliers.

This is a useful and economical type of tree for small gardens. They may be conveniently planted by the side of walks, about 4 ft. from the walk, the ground having been previously trenched as for bushes, a post placed at each end of the line to be planted, and others at intervals of about 18 ft. along the lines, and a hole as described for bushes dug midway between each of the posts. Strong wires should be strained along the posts at the same distance as the branches are apart on the espalier trees generally. Do not shorten these horizontal branches, but tie them in the full length for the time being; they will help to keep the tree in action, and may be shortened if necessary when the tree is at rest

Cordons

Require a more restricted method. A trench should be dug out about 18 in. deep, and 3 ft. wide, stout posts placed along the line as for espaliers, about 6 ft. high; strain the wire tightly along the top, another about half way down, and one along the line of the posts near the ground. Tie long bamboos to the wires at an angle of 45° to 50°, and 18 in. apart. Plant one tree to each bamboo, and secure them as the work proceeds. These bamboos will be found to protect the trees from the wires, and will be found very handy for securing the leaders of the trees to, more especially if maidens are bought. It should be mentioned that the leaders of the trees should not be stopped if they can be induced to form spurs as they proceed in growth.

Standards.

These are too often planted in a careless and slovenly manner, but if success is to follow the efforts of the planter the work must be well and carefully done. The ground should be broken up to a depth of 24 in., good large holes dug for the trees, the injured roots carefully pruned with a sharp knife, and the whole of them carefully distributed in the hole, a stout stake having previously been placed there in the centre, the tree securely tied to it before it is left, not, as is too often the case, left undone for the time being, and perhaps never done at all. As a result the trees bow to the ground with the wet and wind, and then our amateur cultivators wonder why their trees do not bear fruit. The trees should be shortened back when perfectly dormant, but do not defer the operation till late in the spring, or canker will assuredly follow. No time should be lost in giving all the newly planted trees a good mulching of decayed manure to prevent undue evaporation and protect the roots from frost.

*A paper by Mr. W. Goring, Weald Hall Gardens, Brentwood, read at a recent meeting of the British Fruit Growers' Association.

ORCHID NOTES AND GLEANINGS.

A Leek Amateur's Orchids.

Seldom does it fall to my lot to meet with such enthusiasm as I usually find amongst the Leek (Staffordshire) Orchid growers. Their minds are continually open for the reception of anything appertaining to Orchid lore; in short they are interested in every collection of Orchids and in every grower in the United Kingdom. Foremost amongst them is Mr. Thomas Hall, whose collection has been formed during the past eighteen months. He has in all three houses. The intermediate house measures 22 ft. by 12 ft., cool house, 20 ft. by 12 ft., and the show or flowering house, 10 ft. by 12 ft. At the time of my visit there was quite a formidable array of plants in bloom, viz., several Calanthes of sorts, including C. veratrifolia, Lælia elegans, L. Dayana, L. anceps, L. anceps alba, L. albida, L. grandis, Cattleya Harrisoniæ, C. Bowringiana, C. Eldorado, C. Warocqueana, Oncidium crispum, O. Forbesi, O. incurvum, O. tigrinum, Odontoglossum grande, O. Alexandræ, O. bictonense, O. maculatum, O. cordatum, O. Cervantesi, Vanda Amesiana, V. Kimballiana, V. suavis, Epidendrum vitellinum majus, Cœlogyne barbata, Cymbidium Lowii, etc., many representatives of each, all thoroughly clean and well grown. Mr. Hall is proud of them and well he may be.—*J. McNab.*

Odontoglossum grande.

A well-flowered plant of Odontoglossum grande was exhibited the other week by Mr. David Lord, Stackstead, and created no small surprise among the visitors at the Bacup and District Chrysanthemum Show. The plant, not a large one, bore three spikes, one with seven, one with four, and one with three flowers. Mr. Lord is well-known to grow this Odontoglossum remarkably well.

Lælia anceps.

These are now coming on rapidly, L. a. Barkeri is already in flower, L. a. Hilli has nine strong spikes; it is one of the prettiest yet of the pale section. One of the white forms, too, is in a forward state, flowering from a single lead for the third season in succession where larger pieces with stronger growths positively refused a single flower. These latter were removed early in the season to a place by themselves where they received the least shade during very hot sunshine only; the result has been three flower spikes—the largest plant has two and one I see has four flower-buds. They give good promise of proving true, and it will be interesting to watch them open, after being so long in showing us what they are like. —*Jas. Brown, Arddarroch.*

Lælia autumnalis alba.

The white form of L. autumnalis has proved

rather disappointing here. Last season its flower was poor, wanting in both size and substance, but we withheld our opinion, thinking, as the plant was only semi-established, it would improve. This year strong growths came away and finer bulbs were finished, larger even than the native ones and equally stout flower spikes in proportion. But the flowers have not improved proportionately; they are as poor as ever. I shall be glad to hear what other growers have to say about it. To my mind a good L. albida is the better of the two. It is a very free grower with us, better even than the type, and it will be a pity if it lags behind it in the quality of its flowers.—*Jas. Brown, Arddaroch, N.B.*

SEASONABLE WORK IN THE GARDEN.

Ardisias.—There are now several species of Ardisia in cultivation, but probably none of them excel A. crenulata in general usefulness. The plants now in fruit should be looked over to see that they are not infested with scale, which often multiplies very rapidly upon them, greatly disfiguring them. A. mamillata is an attractive and distinct looking species for the stove, but is more difficult to keep clean than A. crenulata if once allowed to become infested with mealy bug. The greenhouse is the best place for A. japonica as it is hardier than the others, and keeps its crimson berries till well into the spring. In order to get a batch of young plants a quantity of berries should be sown now, as it is the best method of raising them.

Gardenias.—To get an early batch of young plants cuttings should be taken now and rooted in strong heat; they will be ready to start away into vigorous growth in the spring when potted on. Old plants may be put into heat as required to furnish cut blooms. Those having the most prominent and advanced buds should be taken first.

Flowers for Christmas.—The requirements about the 25th inst. will have to be borne in mind and provided for. A batch of crowns of Lily of the Valley should be put into heat at once as they require longer time to develop at this season than later in the year. Roman Hyacinths and early-flowering Tulips should be introduced in batches as they show signs of having developed roots and commenced to push their crowns. Paper White Narcissus, and some of the earlier of the large-flowering Hyacinths will prove very serviceable at that time. Bouvardias, Cyclamens, Chinese Primulas, and Tree Carnations should be kept in a temperature of 50°, with a rise by day, and they will furnish a lot of bloom provided the light remains moderately good. In rural districts removed from smoky towns there is as a rule little difficulty in this matter.

Azaleas.—The old A. indica alba and the variety Narcissiflora require no forcing to bring them into bloom, although a rise of temperature would cause them to come on more quickly if so required. Deutsche Perle also shows that it is an early flowering sort, and may be treated much in the same way as the above. If other kinds are wanted those with the most prominent buds should be selected for placing in heat.

Cinerarias.—Plants still in cold frames or pits cannot be left much longer with safety, as hard frosts may at any time be experienced, and ruin the plants in a single night. The foliage is so susceptible of injury from frost that the leaves get curled up at the edges and do not recover as Chinese Primulas do. When taking them into a warmer place, stand them on a bench covered with ashes if possible, so that the foliage may benefit by the moisture arising therefrom.

Early Vinery.—Where the house was closed for forcing on the 1st November, the buds will now be swelling, and the temperature at night should therefore be kept up to 55° with a rise of 10° by day; and as the buds get into full growth the night temperature may be raised to 60° except on cold, windy or frosty nights. Increase the temperature early in the day so as to take full advantage of the light, and ventilate when the heat rises to 65°. Syringe the rods several times during the early part of the day until they are fairly into growth.

Pruning Hardy Fruit Trees.—Every opportunity should now be embraced to forward the work of pruning of all kinds of fruit trees, while the weather is open. In the case of pyramidally trained Pear trees and also those on walls it will be advantageous to thin out the spurs that have become crowded on old trees, otherwise they cannot attain sufficient vigour to bear fruit. Crowding also prevents the free access of air and light during the summer time, both to foliage and fruit, and the crop of the latter especially must be unsatisfactory under these conditions. Plum trees on walls also require a thinning out of the old spurs, especially those that reach away some distance from the wall.

Bedding Plants.—Hitherto we have had no severe weather, so that the temperature of the houses in which the bedding plants are located is easily kept up. The points to be attended to are proper watering, heating and ventilation. While as little heat as possible should be given consistent with the health of the plants, it will be as well to remember that late struck and imperfectly rooted subjects should be placed at the warmer ends of the house.

Protecting Tender Plants.—A covering of ashes or Cocoa-nut fibre placed over such things as Lilium auratum, L. speciosum, Cape Bulbs, and other deciduous subjects will do much towards keeping them dry, and from the effects of severe frost should it occur. Tender Roses should have a mulching of manure over the roots and round the collar of the stem. The crowns of Gunnera scabra might be covered with dry fern litter.

Spring Bedding. — Take advantage of dry weather for filling the flower beds with Narcissi, Tulips, Hyacinths, Crocuses; also plants of Arabis, Wallflowers, Polyanthus, Daisies, Myosotis, Silene, and similar subjects intended for making a display in the spring months. The object should be to get it done when the soil is tolerably dry and not liable to get puddled in the operation.

Collecting Leaves.—Now that the bulk of trees are quite leafless, the operation of collecting the leaves should be gone about energetically so as to get the place into a tolerably respectable condition for the winter. Lawns in the more immediate vicinity of the house should be swept after raking in order to clear them of pieces of wood, fruits, and other objects which the wooden rakes failed to collect. All wood and stones should be picked out as well as can be done from the leaves that are to be used for fermenting purposes.

QUESTIONS AND ANSWERS.

NAMES OF PLANTS.—*Young Grower:* 1, 2 and 3, garden varieties of Fuchsias, which we cannot undertake to name; 4, Chrysanthemum Elaine (section Japanese reflexed); 5, A Pompon Chrysanthemum we do not recognise; 6, Polygala Dalmaisiana. Chrysanthemum Elaine is a useful variety for growing as trained specimens, or in the bush form for cut flowers. The Pompon variety is a good dark one, and should be disbudded if you want large flowers.—*Rose:* 1, Marrubium vulgare; 2, Origanum vulgare; 3, Thymus Serpyllum vulgaris, but often called T. Citriodorus; 4, Blechnum occidentale; 5, Nephrodium Filix-mas, usually called Lastrea Filix-mas; 6, Celsia arcturus; 7, Pteris cretica albolineata; 8, Pteris tremula; 9, Nephrodium molle; 10, Bignonia sp. (please send when in flower); 11, Begonia maculata; 12, Selaginella Martensii var.—*J. K.:* 1, Miltonia Clowesii; 2, Phyllanthus speciosus.

LIST OF TWENTY-FOUR CHRYSANTHEMUMS NEW AND OLD.—*Louis Morhardt:* The undermentioned are twenty-four of the leading Japanese Chrysanthemums at the present time, that is, those which have taken a prominent position at the leading shows in Britain, during the exhibition season which is now mostly over. We do not give them exactly in their order of merit, but the more important are kept to the front rank, and include Viviand Morel, Etoile de Lyon, Stanstead White, Avalanche, Lillian E. Bird, W. H. Lincoln, E. Molyneux, Sunflower, Mons. Bernard, Sarah Owen, Mrs. F. Jameson, Madame J. Laing, Meg Merrilies, Ralph Brocklebank, Mrs. C. H. Wheeler, Boule d'Or, Stanstead Surprise, Gloriosum, Florence Percy, Mrs. F. Thompson, Mrs. H. Cannell, Louis Bœhmer, Mrs. Irvine Clarke, Mademoiselle Lacroix.

HERBACEOUS PLANTS FOR JULY.—*J. B.:* The following we think would suit your heavy soil very well, namely:—Helianthus rigidus æstivus (better known as H. japonicus), Phloxes hybrids of the P. paniculata, P. acuminata, and P. decussata type, Aconitum Napellus, or A. N. variegatum, Ænothera fruticosa, Campanula latifolia macrantha, C. Van Houttei, C. lactiflora cœrulea, Centaurea montana, Delphinium elatum, garden varieties, Eryngium alpinum, Galega officinalis, and its white variety, Geranium pratense, G. armenum, Lupinus polyphyllus, Iris germanica, and its varieties, Polemonium Richardsoni, Scabiosa caucasica, Statice latifolia, and Veronica longifolia subsessilis. The list might be greatly augmented by introducing dwarfer plants, which in the front row and other suitable situations could not fail to be appreciated. A useful book on herbaceous plants is that named *Hardy Herbaceous and Alpine Plants*, by Sutherland, and published by Blackwood & Sons, London and Edinburgh. A cheaper work is *Hardy Herbaceous Plants*, by William Robinson, and sold at *The Garden* office, 27, Southampton Street, W.C.

PAULOWNIA.—*W. J.:* Any nurseryman who grows ornamental trees and shrubs should be able to supply this. Try your fellow townsmen, Messrs. Keynes, Williams & Co.

WORMS IN A BOWLING GREEN.—*J. Watson:* If the soil is of a stiff, retentive nature, and the subsoil clay, we should allow the worms to perform their natural functions as drainers until early in March, then on a dry day run a light roller over the grass, to pulverise the worm casts, and then lightly sweep the green, and give it a good watering with lime water, made by putting 12 lbs. of fresh lime into thirty gallons of water, stirring it well up, and allowing it to settle down clear before using it. This will bring the worms to the surface when they can be swept away. A subsequent dressing of soot and lime, eight bushels of the former to six bushels of the latter, and applied at that rate per acre, will help to settle any that may be left and act as a fertilizer to the grass also.

VINE BORDER.—*Constant Reader:* You cannot do better than follow the advice given by Mr. Smythe in our number for November 21, p. 180, or if that is not convenient give the Vines a dressing of Thomson's Vine Manure as soon as the Grapes are thinned in spring. Vines want something more than mere liquid manure. We should prefer a light dressing of leaves and litter to putting on shutters. In an ordinary season the shanking will probably not prevail to any serious extent.

FRUIT AND PLANT HOUSES.—*Constant Reader:* Except for very early forcing, when a lean-to house facing south is perhaps the best under all circumstances, a span-roofed house running north and south is undoubtedly the best for the growth of plants and fruits of all kinds.

SALT AND SOOT.—*Omega:* These make a good manure for Grass when mixed together at the rate of six bushels of salt to eight bushels of soot, and this quantity should be applied per acre.

HEATING.—*J. B.:* The smell you complain of does not arise from the pipes or the joints, so much as from the overheating of the pipes, which causes the decomposition of particles of matter floating in the air, or as gardeners say, "the hot pipe burns the air." There does not seem to be any necessity for heating the pipes to such an extent in your case, and if you use the damper more, you will both avoid the objectionable smell, and save your fuel.

MARKET BUNCHES.—*J. L.:* A bunch of Parma Violets measures about 6½ in. in diameter, and one of English Violets contains about three dozen blooms, Pyrethrums, one dozen, Double Primulas about six trusses, Mignonette, 4-5 in. in diameter; Marguerites one dozen. There is no limit to the number of anything sold in bunches in Covent Garden, which vary in number or size according to the season, and the abundance or otherwise of any particular article.

GALL UPON OAK.—*A. W.:* The insect which you gave us is Cynips aptera, sometimes also called Biorhiza aptera. It is one of the Hymenoptera, and is remarkable in the genus and group to which it belongs in being wingless like an ant, for which it has often been mistaken. It usually occurs in galls upon the roots of various trees such as the Oak, Elm, Beech, Birch, and Horsechestnut, and sometimes though perhaps more rarely, upon the roots of the Deodar (Cedrus Deodara). Galls containing the insect are also occasionally found upon the roots of those trees above ground; but we think that its occurrence upon the stems of the Oak as you have found it is unusual. The only remedy we can suggest is to remove the galls as early in the autumn as possible, that is, as soon as you can detect them, and burn them while the insect is still in them.

COMMUNICATIONS RECEIVED.—W. T.—C. E. J.—C. L.—F. H. P.—G. W.—T. S.—W. J. B.—C.—H. G.—D. Bros.—Carnation—W. C.—R. J. H.

TRADE CATALOGUES RECEIVED.

W. E. BOYCE, Archway Road, Highgate, N.—Descriptive Catalogue of Chrysanthemums.

FRANK CANT, Braiswick Nursery, Colchester.—Rose Catalogue.

HARLAN P. KELSEY, Linville, North Carolina, U.S.A.—Trees, Shrubs, and Herbaceous Plants, of the Alleghany Mountains and the Southern States.

JAMES CARTER & Co., 237-8, High Holborn, W.C.—List of Novelties for 1892.

W. HARRIS THOMPSON, Union Bridge, Pemberton, Lancashire.—Choice New and Old Chrysanthemums.

LONDON SEED TRADE.

November 30th, 1891.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, E.C., report that the market for Red Clover and Alsike is steady. Trefoil is enquired for at a slight advance. Ryegrasses advancing. White Clover is dearer.

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December 2nd.

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Apples... per ½-sieve	1 0	5 0
Canadian and Nova Scotian Apples per barrel	12 0	18 0
Cobbs... per 100 lbs.	30 0	35 0
Grapes .....per lb.	0 6	2 6
Pine apples. —St. Michael's, each	2 6	8 0
Peaches .....per doz.	0 0	0 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.
ArtichokesGlobe doz.	3 0	6 0
Beans, French, perlb.	0 9	
Beet..... per dozen	2 0	3 0
Cabbages ... per doz.	1 6	2 6
Carrots ... per bunch	0 6	
Cauliflowers,English, per doz.	3 0	6 0
Celery.....per bundle	2 6	
Cucumbers .....each	0 6	0 9
Endive, French, doz.	2 6	3 0
Herbs .....per bunch	0 2	0 6
Horse Radish, bundle	2 0	4 0
Lettuces ...per dozen	1 0	1 6
Mushrooms, p. basket	1 3	2 0
Onions.....per bunch	0 4	0 6
Parsley ... per bunch	0 6	
Radishes... per dozen	1 6	
Small salading, punnet	0 4	
Seakale ...per basket	3 0	3 6
Spinach, per strike ...	1 6	
Tomatos..... per lb.	0 9	1 3
Turnips .....per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Aralia Sieboldi ...doz.	6 0	12 0
Bouvardias...per doz.	8 0	12 0
Chrysanthemums,doz	6 0	12 0
— large .....per doz.	12 0	24 0
Cyperus .....per doz.	4 0	12 0
Dracæna term., doz.	24 0	36 0
Dracænaviridis,doz.	9 0	18 0
Epipbyllum per doz.	10 0	
Erica Hymalis, per		
Evergreens,invar.doz	6 0	24 0
Ferns, invar..per doz.	4 0	18 0
Foliage Plants, doz.	12 0	60 0
Heliotrope, per doz.	4 0	6 0
Marguerites, per doz.	6 0	12 0
Mignonette, per doz.	4 0	6 0
Palms in variety,each	2 6	21 0
—scarlet .....per doz.	4 0	6 0
doz.	18 0	
Roman Hyacinths, per doz.	12 0	
Solanums...per doz.	12 0	
Tulips.....per doz.	9 0	

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Acacia or Mimosa French per bunch	1 3	1 6
Arum Lilies, 12 blms.	4 0	6 0
Bouvardias, per bun.	0 6	1 0
Carnations, 12 blooms	1 0	2 0
Chrysanthemums, doz. blooms	0 9	3 0
Chrysanthemums, doz. bunches	3 0	9 0
Eucharis ...per doz.	4 0	8 0
Gardenias 12 blooms	3 0	6 0
Heliotropes,12 sprays	0 3	0 6
Hyacinths, Roman, doz. sprays	9	1 0
Lapageria, 12 blooms	1 0	3 0
Lilac, French, per bunch	6 6	7 0
Lilium Harrisii, doz. blooms	6 0	8 0
Liliumsvar.,doz.blms.	1 6	3 0
MaidenhairFern,12bs.	4 0	9 0
Marguerites, 12 bun.	2 0	4 0
Mignonette... 12 bun.	1 6	3 0
Narciss, Paper White doz. sprays	1 0	1 6
Narciss, French, doz. bunches	6 0	8 0
Parme Violets, French, per bun.	3 6	4 0
Dark " " "	2 0	2 6
Pelargoniums, 12 sps.	0 6	0 1
—scarlet.....12 bchs.	4 0	6 0
Primula, double, bun.	0 9	1 0
Pyretbrum, doz. bchs.	2 0	4 0
Roses, yellow, dozen	3 0	6 0
— Red..... doz. blms.	1 6	2 0
— Saffrano...per doz.	2 6	3 0
— Tea ..... per dozen	1 0	3 0
Stepbanotis, dz. spys.	3 0	6 0
Tuberoses, per doz.	0 6	0 9
Violets, English per bunch	1 6	2 0

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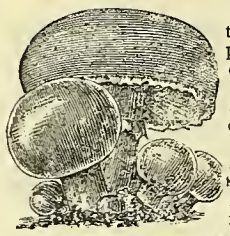

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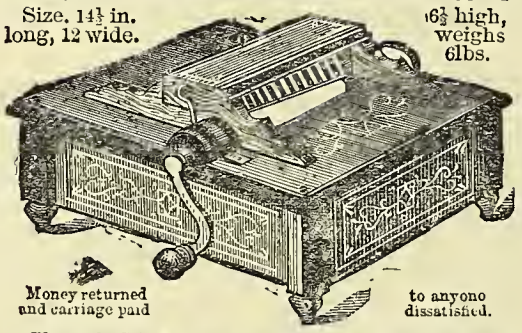

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6	Clematis montana and 2 C. Flammula, 1½ to 3 ft.	2 0
6	Climbing Roses, own roots, 6 var., 1½ to 3 ft.	2 3
6	China or Monthly Roses, own roots, 6 var.	2 3
13	Large-flowering Clematis, purple, &c. named	2 6
12	Tea Roses on own roots, best kinds, named	5 0
6	Mrs. Sinkins, new white Pink (12 for 1s. 10d.)	1 4
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6	Variegated Gold and Silver Ivies (12 for 4s.)	2 3
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12	Irish Ivies, strong plants, 2 to 3 ft. high	1 9
12	Pansies and Violas, best named kinds	2 3
12	Alpine Auriculas, lovely strain (25 for 2s. 6d.)	1 6
6	Named perennial Phlox, 6 var.	1 6
4	Honeysuckles, evergreen, Dutch, &c., named	1 6
6	Perennial Michaelmas Daisies, white, very large	2 0
12	Assorted plants, suitable for rockeries	1 6
100	Assorted hardy herbaceous and perennial plants	5 0
12	Iceland Poppies, pretty perennials	2 0
3	Dracæna indivisa, about 1 ft. high	2 0
6	Heliotropes, best kinds, well rooted	2 0
6	Large choice Greenhouse Ferns, A. Farleyense, tenerum, concinnum, latum, &c., 1 ft. high	3 0
12	Chrysanthemums, best named var. (25 for 3s. 6d.)	2 0
6	Ficus repens, strong, well-rooted plants	1 6
6	Perennial Pyrethrums (12 for 3s.)	1 9
6	Heliotropes, 6 distinct named	2 3
3	Double Tropæolums, Hermine Grashoff	1 9
6	Nicotiana affinis (sweet scented Tobacco-plant)	2 0
6	Fuchsias, 6 var., named	1 6
6	Delphiniums, mixed colours, light and dark	1 9
6	Pinks, alba fimbriata or Anne Boleyn (pink)	1 6
6	Saxifrages, 3 distinct kinds	1 9
4	Marguerites, white and yellow, named	1 9
6	Tuberous Begonias, excellent strain	2 9
6	Tree or winter-flowering Carnations	3 0
6	Perennial mauve Michaelmas Daisy	2 0
6	Sedums, in 6 var., named	2 0
6	Saxifrages, in 6 var., named	2 0
6	Coleus, 6 distinct and best named kinds	1 6
6	Ivy Geraniums, best named vars.	2 0
6	Lavender or Southernwood, strong plants	1 6
6	Begonia Rex, handsomely marked leaves	2 0
6	Christmas Roses	2 0
12	Perennial white Candytuft	2 0
12	Seedling Carnations, from double flowers	2 3
3	Passion-flowers, 3 vars., named	1 6
6	Lobelia cardinalis, intense red flowers, perennial	2 0
3	Ampelopsis variegata (variegated Virginian Creeper)	1 6
3	Scarlet Salvias, very free flowering	1 3
1	Tacsonia, 1 Hoya, 1 Solanum jasminoides	2 0
12	Perennial Gaillardias, assorted colours	2 0
3	Sensitive-plants, from single pots	1 6
6	Primula obconica, always in flower, strong	2 0
6	Rudbeckia Newmanii, bright yellow, perennial	1 9
6	Spiræa, good clumps	2 3
6	Cyclamen persicum, good strain	1 9
12	Hollyhocks, mixed, from double flowers	2 6
12	Hollyhocks, double, white or yellow	3 0
40	Wallflowers, blood-red, purple, yellow, &c.	2 0
12	Double German Wallflowers, good strain	1 6
6	Perennial Oriental crimson Poppies	1 9
3	Pampas clumps, from pots	1 9
100	Strawberry-plants, 4 vars., best named	3 0
6	Carnations, Bride, Jupiter, Purity, Clove, &c.	3 0
6	Arum Lilies	1 9
20	Foxgloves, white and spotted	1 6
20	Antirrhinums, splendid strain	1 6
3	Erica Cavendishii, strong, well-rooted	2 6
3	Erica hyemalis, strong, well-rooted	2 0
3	Deutzias, 3 Solanums	2 0
6	Flowering shrubs, Ribes, Deutzia, &c., Lilac, Weigelia, Mock Orange	2 9
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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Dec. 14.—Bulb Sales at Protheroe & Morris' Rooms.

TUESDAY, Dec. 15.—First Annual Dinner of the National Amateur Gardeners' Association, at the Guildhall Tavern, Gresham Street, at 7.30—Bulb Sale at Protheroe & Morris' Rooms.

WEDNESDAY, Dec. 16.—Sale of Orchids at Seeger & Tropp's Nursery, East Dulwich, S.E.

THURSDAY, Dec. 17.—Sale of Bulbs at Protheroe & Morris' Rooms.

FRIDAY, Dec. 18.—Sale of Orchids at Protheroe & Morris' Rooms.

SATURDAY, Dec. 19.—Sale of Bulbs at Protheroe & Morris' Rooms.

The Gardening World.
Edited by BRIAN WYNNE, F.R.H.S.
SATURDAY, DECEMBER 12th, 1891.

THE CHRYSANTHEMUM SHOWS.—With that held this week at the Royal Aquarium, Westminster, comes to an end the Chrysanthemum Shows for the present year. They have been many and good, and should have amply satisfied the desires of all who either love Chrysanthemums or trade in them. Already our readers will have noticed that committees of some of the larger societies have already fixed the dates for their exhibitions of next winter. That seems to be looking a long way ahead, and may also be thought by some to be rather sharp practice. In reality it is important to every show of any considerable pretensions that they should have long antedated fixtures because many other shows of less importance have to be fixed so that they shall not conflict with the larger ones, and thus enable committees to arrange their dates accordingly.

We shall expect to find next November that more than ever of the prominent shows are fixed for the last two days of the second week of that month, and thus if small ones will not appreciably compete with large ones the greater ones will do so with each other. That is, however, their

look-out. It is very likely that the chief grumbling will be found on the part of those who, in the short Chrysanthemum show season, desire in some capacity or another to fill three or four engagements in one week. However, for good or for evil, the fact remains that the show season of the Chrysanthemum is a very short one, and we hail with satisfaction the proposal on the part of the National Chrysanthemum Society to take the lead in promoting October exhibitions by holding one next year.

Without doubt, if some effort be made, many varieties which now so generally bloom in the latter month might be induced to bloom earlier if needed. But there is ample reason to believe that we have grown up a section of October bloomers, and these need that encouragement which earlier shows would afford. There seems to be good reason to believe that shortly very fine exhibitions of Chrysanthemums may be held in October.

Outdoor Peach Culture. — We have not anywhere seen growing, as ordinary standard trees, various varieties of Peaches so abundantly as Mr. R. D. Blackmore has in his garden at Teddington. It must not any the more be assumed that trees of this description are generally fruitful. When it is so difficult under ordinary culture to obtain a crop of fruit on walls, naturally we should be surprised to find trees growing as standards in the open quarters to be productive. Mr. Blackmore has told us that these trees just fruit occasionally, and that is all, and if he does not destroy them it is because having them he is loth to part with them now.

It may be taken for granted that the art of Peach culture as applied to trees on open walls is less well understood than it was a generation ago and earlier. The free use of glass houses has materially discounted Peach culture outdoors, and we have not followed the old practices in the same way that our fathers did. Those of us who are old enough to remember them and their gardens know full well that there was then no feature in those gardens which they more ardently worshipped or were prouder of than their Peach walls. Now that our Peach walls are too seldom very attractive we put all the blame on the seasons and make the weather the scapegoat. Forty or fifty years ago we had bad or cold seasons as we have now, and our fathers in their gardening had to contend against them, without having any glass houses to fall back upon. Perhaps the weather really is at fault, perhaps our defective practice, perhaps both.

The old gardeners almost always kept their Peach borders firm and not cropped so near the trees as we do. May not our trees have suffered materially from this cropping practice. Why should we surface crop Peach borders, keeping the roots from the surface, any more than we should crop our Vine borders. Very likely, too, we have made our borders too rich, and have in our hurry to cover walls forced the trees into a coarse, barren growth. We should hail with pleasure a winter discussion upon this subject as it is full of interest for young gardeners.

Who are Amateurs ?—When a most estimable gentleman and an occasional correspondent wrote the other day complaining that the old lines of demarcation between the plant-trader and the amateur gardener had been broken down, he did but give utterance to a truth with regard to which many of us have too long been familiar. We have never found in horticulture a more acceptable person than is he who, out of the noblest regard and love for gardening, maintains good gardens and gardeners, seeks for no other return than is found in the pleasure derivable from such expenditure, and places the love for gardening inherent in him above every consideration. Such men as these are amateurs in the highest sense. They are gardeners because they love gardening and for no other reason.

In earlier days there were few gentlemen who had gardens who did not belong to this class of amateur, and our profession stood far higher in dignity than it does now. At the present day it is difficult to divide the amateur gardener from the trader, for if not directly and openly as the trader does at least covertly and indirectly trading is carried on in myriads of gardens of a nature which the few would suspect. Probably this form of trading is found more in relation to Orchids than to other plants, to fruits more than to other garden products. Orchids are purchased that they may grow into value and thus become good investments. One result of that method of looking at these beautiful flowers is that collections have multiplied all over the country, and both Orchid trade and Orchid cultivation have enormously benefitted. Still the fact remains that all so-called private collections are grown in the interests of trading more or less.

As to fruits, it would be difficult to name a private garden of any pretension where surplus, and often a big surplus, is not sent to market. Many large gardens are market growing establishments pure and simple, and being lightly rated, do compete most unfairly with bona-fide market growers. Cut flowers go into our shops and markets also from thousands of private gardens, indeed there is no end to that form of trading, and it is spreading. Possibly we may yet see the title of garden amateur become an absolute misnomer.

The Gardeners' Orphan Fund.—The announcement made in our last issue that at the ensuing annual general meeting in February next it is proposed to add eleven more orphan children to the list of those now enjoying the benefits of the fund, may well induce our readers generally, and gardeners specially, to manifest renewed interest in this noble, and yet most economically managed charity. A reminder of this kind may well be regarded as seasonable, because we are approaching the customary festival season of Christmas when appeals for all sorts of charities, good and doubtful are made, and as a rule responded to with great liberality.

Why should the Gardeners' Orphan Fund be an exception in this respect? Why should it not share in that Christmas bounty? Perhaps the merits of the fund are not placed before gardeners with sufficient emphasis. Perhaps gardeners have not yet sufficiently realised the value of an institution of this description. Some time has elapsed since the previous election for reasons of a purely business nature, but now that the business year of the fund is brought into harmony with the ordinary calendar year, and also that another election is so imminent, it is hoped that renewed interest will be created, and that the new year will prove to be one of exceeding advantage to the Fund. Whilst it is most satisfactory to learn that the whole of the liabilities incurred in relation to every child on the fund are provided for, yet it is evident that only by the furnishing of ample means every year that the claims of other orphans can be satisfied.

How fully that might be done did gardeners generally become annual subscribers? For every twenty gardener subscribers now there should be one hundred, and were such the case the fund would be placed in a splendid position for carrying on its mission of mercy to the young and helpless. Cannot gardeners, even in a small way, adopt the lines of the Salvation Army, and have a self-denial week once a year, the savings in money going to the Orphan Fund. Now that the exhibition year has closed cannot the thousands of prize-winners all over the Kingdom who have not yet given anything to the fund set aside some small portion of their gains for the benefit of the Orphan fund. The product would be a handsome sum and be most welcome to the Committee at the present moment.

Royal Botanic Society.—The dates selected for next year's exhibitions of this Society are as follows:—March 23, April 27, May 18, special Floral Fête June 22, evening Fête July 6.

Mr. John Fraser, assistant editor of The Gardening World, has been engaged by the Berkshire County Council to give a series of lectures on practical horticulture, extending over the ensuing four months.

Mr. Alfred Hopkins, who has been gardener to A. Caldecott, Esq., at Pishobury Park, Gloucestershire, has removed to his employer's new establishment at Highcroft, Husbands Bosworth, near Rugby.

Mr. Alexander Wright, gardener to E. H. Watts, Esq., Devonhurst, Chiswick, has been engaged by J. MacMeeking, Esq., as gardener at Falkland Park. Norwood, S.E., in succession to Mr. Mackinnon.

The Temple Show.—The first of June next being Derby day, the dates recently announced for holding the Royal Horticultural Society's show in the Temple Gardens has been altered from June 1 and 2 to May 25 and 26.

Mildness of the Season in Ireland.—M. C. H., writing from Nenagh, Co. Tyrone, on December 1st, says:—I have to-day some plants of Laxton's Noble Strawberry in fruit in an open border, a circumstance which has never happened with me before, though I take a lively interest in Strawberry culture, and have grown every good sort in commerce during the last fourteen years. The fruit is fully grown, but of course quite green.

Tuberous Begonias with Striped Flowers.—Some striking additions to this useful class of plants have been made recently by Herr E. Benary, of Erfurt, Germany. These novelties recall by their colours those varieties of Carnations which are termed flakes and bizarres. Some have a whitish-yellow ground colour, others an orange ground colour, and a third series has a lively red ground colour. All are marked with bands and stripes of a more or less dark hue. We have not heard the last of these plants, says the *Bulletin d'Arboriculture, de Floriculture, etc.*

Remedy against the Brown Rust of the Peach.—Last year, says the *Bulletin d'Arboriculture, etc.*, M. de la Bastie, President of the Pomological Society of France, had expressed the opinion that sulphate of copper would act as a remedy against that malady of the Peach. In the last number of *Pomologie Française*, that eminent pomologist reported the result obtained by the employment of the remedy precited. Notwithstanding the humidity and the cold of the springs of 1890 and 1891, his Peaches have shown no trace of brown rust; they had received in the autumn an energetic treatment of bouillie bordelaise. That should then be an efficacious preventive remedy.

Death of M. Alphand.—We regret to learn of the death in Paris, on Sunday last, of M. Alphand, the eminent landscape gardener who created the garden parts of the Champs-Elysées, the different squares of Paris, the parks of Chaumont and Monceau, and the Bois de Boulogne. M. Alphand was born at Grenoble in 1817, and made the acquaintance at Bordeaux of Baron Haussmann when the latter was Perfect there, and was offered subsequently by him the directorship of the parks and public promenades of Paris. He was unrivalled in the art of landscape gardening, and some years ago published a splendid work on the Parks, Promenades, and Gardens of Paris.

NURSERY AND SEED TRADE ASSOCIATION.

THE annual meeting of this association was held at 25, Old Jewry, E.C., on Tuesday evening, the President, Mr. N. N. Sherwood, occupying the chair. The report of the committee and statement of accounts for the past year were unanimously adopted. Some discussion then took place as to the advisability of altering the date fixed by the articles of association for holding the annual meeting, and it was ultimately resolved that in future it be held in the month of December, and during the cattle show week. It was also resolved that in future the committee should meet quarterly on the fourth Tuesdays in the months of March, June, September and December.

The election of officers resulted in the unanimous adoption of the following list:—President, Mr. N. N. Sherwood. Treasurer, Mr. W. J. Nutting. Trustees: Messrs. T. A. Dickson, J. Hayes and H. J. Veitch. Committee: Messrs. P. Barr, G. Bunyard, H. Cutbush, T. A. Dickson, J. Harrison, J. Hayes, — Jefferies, Wood Ingram, J. Laing, W. Paul, E. H. May, — Protheroe, T. F. Rivers, H. Simpson, H. Turner, H. J. Veitch, — Wood, T. S. Ware, — Watkins, and H. Williams. Auditors: Mr. H. J. Cutbush and Mr. T. S. Ware. Solicitor: Mr. Charles Butcher. Secretary: Mr. G. Worrell.

Mr. Butcher announced that next week he would change his office from Old Jewry to 30, Wood Street, Cheapside, and it was agreed that in future the office of the association should be at the same place.

A number of members and friends afterwards sat down to dinner at the Guildhall Tavern, Mr. Sherwood again presiding, and Mr. W. J. Nutting occupying the vice-chair. The usual loyal toasts having been duly honoured, Mr. David Syme, of Edinburgh, proposed "Success to the Association," which, he said, in the past had been of the greatest possible benefit to its members, in supplying all who sought it with information which resulted in the avoidance of making many bad debts, and in collecting considerable sums of money which the members might otherwise have lost. The association was not merely a combination of gentlemen interested in the nursery and seed trade for the enjoyment of "little dinners," but had for its object the protection and promotion of their common interests as nurserymen, florists and seedsmen, and as such the association deserved the support of every honest member of the horticultural trading community.

The President, in responding, congratulated the members on the growth of the association, the steady increase in its roll of membership and its enchanced usefulness as a means of preventing fraud, and of promoting unity of action and good feeling throughout the trade generally. The association enabled them to meet for the discussion of subjects affecting both branches of the trade, and for combining together to attain their objects when that could best be done by unity of effort. In this way they had been able to do much good in connection with the railway rates question, and also with regard to the very important matter of the rating of nurseries, etc. He felt that the association was a most useful one, but was still capable of extension, and hoped that the members would do all in their power to extend their numbers, and particularly to assist one another by communicating with the secretary any information they may obtain with regard to the operations of long firms, and other persons unworthy of trust.

Other toasts of a complimentary character followed, including the health of the Chairman, which was received with great cordiality, and suitably acknowledged by Mr. Sherwood.

LAWNS.

I HAVE during my gardening experience often thought that we had more occasion to be gratified with the possession of smooth, well-mown, clean grass lawns in winter than in the summer. That may seem somewhat paradoxical, but it is a fact all the same. In summer we have everything green, and the rich verdure of the lawn is often discounted by the universal existence of green all around, even if that richness of hue be not somewhat marred by the heat and drought of summer. It is not green that we care for so much in the summer as the brighter hues of flowers, because one perpetual aspect of green would be so monotonous as soon to become unendurable.

There is no more acceptable or fitting setting for flowers of every hue than is green; no matter what the colours of the flowers, it harmonises with them all. Very often we mar the harmony or balance of colours in Nature when we create big blocks of bright glowing hues, and the eye turns to the greenery of foliage with a strong sense of relief. Whilst a summer garden without flowers would be little less than a green desert, one excessively laden with colour, especially of garish hues, is hardly less objectionable. It is in the summer that we find green foliage and herbage acting as a delightful foil to bright colours. It is in the winter, when there are no flowers and little enough of foliage, that we find the deep green of the smooth, clean lawn to be so acceptable and refreshing. There is not a foil but the one bright cheerful object in Nature. How poor indeed would our pleasure gardens be in winter without grass. How tempting does it then appear when, in the form of a perfectly kept lawn, smooth, clean and dry, it seems as if it were a beautiful carpet inviting us to walk upon it, and rarely (even stormy time) in winter open weather is not a smooth lawn beautiful and inviting to walk upon.

We did wonders towards making the keeping of lawns easy when the mowing machines were introduced, and what was once a specially laborious occupation has now become one of exceptional pleasure and ease. Everybody having gardens can now have some lawn and keep it clean and nice at the most trifling cost. Thus we find the charm of a lawn in winter more than ever appreciated.—*A. D.*

WEATHER PROGNOSTICATIONS.

PREPAREDNESS FOR EVENTUALITIES.

HERE is cheering intelligence for gardeners! Professor Walter H. Smith, the best-known meteorologist in Canada, states that Europe will experience another severe winter. And so, after a wet season, almost unparalleled in its duration, followed by one of the moistest and mildest autumns we have known for years—(to-day, December 5th, I am sitting writing in my shirt sleeves with the window of the room open, and voting the fire a nuisance rather than a comfort, as it invariably is at this season of the year)—we are to have a frosty visitation, that if it comes quickly and with severity must be terribly destructive. Many had begun to comfort themselves with the anticipation we should pass through a winter of exceptional mildness, and now our buoyant hopefulness is frowned upon by Professor Smith. There is no armour against fate, and we must bear what is in store for us and what we cannot avoid.

All that gardeners can do is to prepare as best they can for what appears to be the inevitable. At present Roses are flowering and quite evergreen; only yesterday I cut in the open air a handful of charming buds of Reine Marie Henriette and Marie Van Houtte. My neighbour has a standard tree of Gloire de Dijon beautifully in flower. Nasturtiums are still growing and blooming in the open; and only yesterday I saw in a market garden a line of plants of the blue Cyanus minor, from which a posy of blue blossoms might be cut. One might enumerate other subjects to show how kindly Nature is treating us by bestowing in December such unusually mild weather. But Nature is wayward, and has her moods of passion as well as placable ones, and she may at any moment turn upon us with something akin to fury in her dealings, and let loose upon us frost, snow, wintry winds, and killing coldness. It therefore behoves the gardener to be watchful and prepared for contingencies.

Let him have in reserve mats and straw with which to cover up, on walls, pillars, &c., anything having a suspicion of tenderness, and such preparedness is all the more necessary, because everything in the way of summer wood-growth is so soft and succulent. Let him more particularly pay attention to root protection, the experience of last winter taught that many plants are vulnerable through their roots. The branches or stems may be seared by frost as with a fire, as in the case of the Dahlia, but if it can be kept from the roots there is great hope of the plant surviving, but let the frost penetrate to the roots, and it is then beyond the reach of human aid, therefore heap up ashes, Cocoa fibre, short manure and leaves, soil, anything that will serve as a protector about the roots. Remember the old proverb,—"Safe bind—safe find."

All plants in pots that have to be wintered in cold houses should be kept only moist about the roots, nothing more. And, if there is a suspicion that frost may injure, stand them together in groups, and stuff straw, coarse hay, leaves, old matting, or anything among the pots, as a matter of precaution. Small plants which cannot be cared for in this way, should go upon the shelves in the warmest parts of the house, anything of a specially tender character plunge in boxes of Cocoa-fibre for a time. A little labour must be undergone and trouble borne; but, in the struggle with nature, and very often with the odds largely in her favour, it is glorious to win.

In some greenhouses constructed in these days the floor is raised, and it is open beneath, and so the frost can attack from below as well as at the sides and top Here, too, one can take precautions. Stand plants in pots in those of the latter two sizes larger, stuff some Cocoa-fibre round the inserted pot, and then, by means of inverted flower-pots raise them something above the ground level. As a matter of course I am treating of plants grown in unheated glass structures—houses and frames of which there are hundreds about the country. In a house heated by artificial means, provided the heating apparatus is in good working order, there should be no difficulty in watering plants in safety with ordinary care, and if the frost gets the upper hand it is generally the fault of the gardener, for there are negligent gardeners.

There is another peril of the autumn and winter, and that is damp, and when the days are foggy, raw, cold, and damp, it works many evils. So long as there is no frost to injure it is best to secure a flow of air about and above the plants, so long as it can be done with safety. The lights should be tilted so as to admit air without allowing rain to fall upon the plants; if there are side ventilators open these, so long as a cold draught of air does not play directly upon the plants, and let the toplights be raised a little also.

I can but throw out suggestions, for it is impossible to give directions to meet each case. As necessity is the mother of invention so the pressure of circumstance should suggest to the gardener what he can do by way of precautions. If he cannot devise and work out methods to meet contingencies likely to arise, he is wanting in one of the qualifications essential to the composition of a successful gardener. —*R. D.*

NATIONAL CHRYSANTHEMUM SOCIETY.

A MEETING of the Committee of this society took place at Anderton's Hotel, Fleet Street, on the 7th inst., Mr. R. Ballantine in the chair, there being as usual, a large attendance. It was agreed that certain extra awards recommended by the Floral Committee at their meeting on October 28th, and by the judges at the great show on the 10th of November, be approved. A letter was read from Mr. S. Chigwell, secretary of the Havant Chrysanthemum Society, the winners of the challenge trophy at the November show, acknowledging the receipt of the Trophy, which they will hold for the space of one year. The secretary read some correspondence he had had with the Rev. W. Wilks, the secretary of the Royal Horticultural Society, in reference to the clashing of dates of the meetings at the Royal Aquarium and Drill Hall on November 10, the Rev. W. Wilks stating that for the future the meeting of the Royal Horticultural Society would be fixed for the third week in December, instead of the second as heretofore.

It was resolved that three exhibitions should be held at the Royal Aquarium during 1892, the early show in September including Dahlias, one in October, and the usual exhibition in November, all to be held for two days. The fixing of the dates for the September and October shows was left to the schedule revison sub-committee to suggest. Twenty-five new members were elected, including one fellow; and the Tenby (South Wales) and Havant Chrysanthemum Societies were admitted to affiliation. A hearty vote of thanks was passed to Mr. Bevan for his services in connection with the annual dinner The proceedings closed with the usual vote o thanks to the committee.

ON CROPPING SMALL GARDENS.

In a paper read recently at a meeting of the Galashiels Horticultural Association, by Mr. Collins, gardener at Walkerburn, the writer recommended that the cultivation of a small garden should be considered a pleasure, especially by those engaged in other occupations. On preparing the soil he recommended that it should be deeply dug, as that gave the roots more room, and also retained damp in dry weather, and, of course, manuring was an essential. The common custom of cottagers was to dig and plant in spring, and to get this done in a hurry at once, but that was a mistake. The true method was to obtain a succession of crops. If they wished nice juicy Cabbages, they should sow a pinch of seed such as "Cocoanut" in the latter end of July, and another pinch about the middle of August. As soon as they could handle the first sowing they should prick out as many as they had space for about 2 in. apart. About the middle of September they might have a piece of vecant ground, say after Potatos. This should be well dug and manured, and the Cabbages transplanted 9 in. apart, in rows 20 in. from each other, and by the middle of May they would be fit for use, when every alternate Cabbage should be cut as required. The later sowing would be ready to transplant in spring. Another pinch of seed could be sown in April to succeed these.

In small gardens late Cabbages took up far too much room, and often hearted badly, but a few Savoys or Brussels Sprouts were useful and stood the frost well. These could be sown in August, or, if for later use, in March. Broccoli was rarely seen in a cottage garden, but a pinch of a late kind, or even of the sprouting sorts, came well in at a time when vegetables were scarce, and should be sown in April or early in May, and would be fit for use during May or June, and when cut could be succeeded by Leeks sown with Turnips. The Winningstadt Cabbage could be planted after Broccoli for a late supply, and came in well in early winter. Curly Greens was a good crop after Potatos. If planted early in August they would attain a good size, and stand frost better than older plants. Spinach sown in August would furnish pickings in early spring, and the ground could be cleared off in time for Cauliflower or Cabbages to cut in autumn. Then again a row or two of Kidney Beans or Scarlet Runners sown early in May formed a good change in vegetable food. To grow Celery did not require the labour usually expended on it. A pinch of seed sown in a flower pot in April and placed in a frame, or even in a window, could be pricked out into a box or sheltered corner outside, and when large enough could be planted in June or early in July. In planting take a few inches of soil from a space, say 2 ft. in breadth, then dig in some manure, and in this space plant three rows with nine inches between the plants, and keep well watering with soap suds or manure water; tie up occasionally with matting, and put a few inches of soil between the plants and you will have good Celery, although you won't have the coarse, hollow-stemmed, overgrown rubbish found at horticultural shows.

Parsnips were very nutritious and useful in winter, but they and Carrots required a deep, sandy soil. The latter if carefully watered with soot water or ammoniacal water for two weeks about the end of June and beginning of July would not be likely to suffer from maggots. Shallots could be grown in time to clear off for a bed of winter Onions, which generally withstood the maggot better than spring sown ones. Regarding the cultivation of Leeks, he condemned the system of growing for shows as a waste of time. Such heavy weight Leeks were fitter for the dunghill than the human stomach. He did not recommend Potato culture in small gardens, except a few of the earlier kinds which could be cleared off in time to allow for another crop, but Peas and Broad Beans, in moderate quantities, were more profitable, and could be cleared off to make way for other crops—Curly Greens for instance, or early Cabbages. Dwarf or medium Peas were best for small gardens as they did not shade plants near them. A few yards of early Milan or white Dutch Turnip if sown in March would come in about the end of June; and a pinch of Golden Ball in April and another in May, with a few yards of Swedes sown in the end of May would make a good supply of Turnips. Two or three roots of Rhubarb sheltered with an old barrel or box and a few leaves to keep out the cold would give an early picking or two long before it could be grown in the open. A few Lettuces and a box or two of Cresses which could be put into any odd corner were also desirable.

Mr. Collins then proceeded to treat of the cultivation of small fruits. Black Currants and Raspberries would grow tied to the fence. For Gooseberries, he recommended that young bushes should be planted 3 ft. apart, with the centre shoot tied to a stake 3 ft. in height. When the side shoots grew their points should be pinched about twice in the season to make the bushes compact. This would soon result in nice little pryamidal bushes requiring no pruning. Red Currants could be well grown in a similar way. To prevent the ravages of caterpillar on Gooseberry bushes they should, several times a week, about the middle of June, examine the leaves near the base, and they would probably find a few leaves with a number of small punctures on the upper surface, due to young caterpillars. These leaves they should pluck off and destroy. In concluding, Mr. Collins said to ensure the full advantage of continual cropping it would be necessary for the cottager to lay out some plan for his garden, and there should be as little trampling on the soil as possible. Also all decaying vegetation matter should be buried.

APPLES FOR AMATEURS.

(Concluded from p. 216.)

Fruit Room and Storing.

How often, even in large well-known gardens, do we find a poor makeshift structure for the preservation of fruit, after all the expense and trouble of producing it. What credit is it to an employer, what encouragement to the grower? A good room efficiently constructed may be some little outlay at the beginning, but if properly done it will last as long as any of the surrounding buildings. I recently constructed one on the following lines, at the back of a north wall, some 45 ft. long and 12 ft. wide to accommodate fruits from newly planted trees; the ground was taken out sufficiently deep to allow of a doorway, 6 ft. 3 in. deep, at the same time giving a good pitch to the roof which is of thatch. The floor is of concrete throughout; there is abundance of ventilation at each end, and shutters to keep out frost. The windows open outside and the shutters inside. The shelves are of beech wood smoothly planed, with the edges evenly bevelled to prevent the fruit becoming bruised. The shelves on one side are 2 ft. wide and 18 in. apart from top to bottom of the room; on the right I have one long continuous bench with bins underneath, to hold fruits in large quantities. From this room we, this year, had fruits until July, and have even now some Wellingtons in good preservation. In storing be careful to pick all fruits as they approach maturity; if they part readily from the tree the gatherer will be all right. Do not become alarmed at a few stray ones dropping from the trees. The period of gathering is a busy and interesting time for the grower; he has then as it were the reward of his labours for the past season. The fruit should be placed gently in shallow boxes with a layer of wood wool at the bottom to prevent them becoming bruised. None that have dropped or are in any way bruised should be placed in the store room with the good ones. Be careful to keep the varieties separate, and arrange the best as near together as possible, it will prove interesting to visitors.

Insect Pests.

A long paper might be written on this subject alone, as we do not yet appear to have any very definite authority as to the best means of eradicating them. The Royal Agricultural Society of England, in their Journal for June last, published a very interesting description of them, and gave some good sound advice which it would be well for the grower to make himself acquainted with. Speaking from my own experience the best and safest remedy which I have used is softsoap and quassia, one ounce of each to a gallon of water; boil the quassia until it sinks, afterwards adding the softsoap when cooling. A quantity of this mixture should be in readiness to use at once when the pests are first discovered and then at intervals of ten days afterwards for winter moth. Do not wait until they are actively at work, but remember that prevention is better than cure. The same remarks apply to aphides. They must be kept down, otherwise it is impossible for the trees to thrive, and in my opinion it is only by a constant and unremitting use of insecticides that they can be successfully dealt with.

CHRYSANTHEMUM NOTES.

A Plea for Hirsute Chrysanthemums

When Mrs. Alpheus Hardy first appeared it created quite a sensation amongst lovers of this useful class of plants; and everywhere, but especially in this country and America, the phenomenon was spoken of as if it was quite a new or even unique occurrence amongst Chrysanthemums. This is by no means the case, for several varieties show it to a greater or less extent amongst Chrysanthemums belonging to different sections, from Pompons to incurved varieties and Japs. Some Pompons are pubescent on the back of the florets, and this is also the case with the reflexed Cullingfordi, which, in several parts of the country during the past season, has exhibited a departure from the type, developing fewer but coarser and longer bristles on the back of the florets. The same peculiarity occurs in several of the varieties that have originated either directly or indirectly from Princess Teck, including Mrs. Norman Davis, Charles Gibson, Lady Dorothy, &c. The bristly appendages are generally few in number, and arise near the tips of the florets, but on the outer or reverse surface; they are not always present however, some blooms on the same plant being quite smooth. An old, incurved Japanese variety named Chang, with orange head slightly tinted with red, is distinctly hirsute.

Mrs. Alpheus Hardy is certainly the finest and most attractive of the newer kinds, but its constitution is so poor that it will to a large extent drop out of cultivation in a few years, and is no doubt consigned to the background in many establishments already. Before this is done however, those concerned in the production of new varieties should endeavour to get a pure white variety with the constitution of Louis Bœhmer. That would undoubtedly again raise the status of the plumy or hirsute varieties for decorative as well as exhibition purposes. Louis Bœhmer has shown that anyone can grow it, and that good cultivators can get it to a size large enough for any purpose. A great cry has been raised against it on account of its variability, general lack of any decided colour, and on account of its peculiar form. Tastes may differ and so do Chrysanthemums, and Louis Bœhmer is certainly distinct, a fact which should tell greatly in its favour nowadays when so many varieties exhibit a sameness which is most bewildering. The duty of raisers now is to produce hirsute varieties of more decided and telling colours from plants having the robust constitution of Louis Bœhmer.

A bronzy yellow variety with globular heads and regularly incurved florets, and named H. Ballantine, is described as a yellow Louis Bœhmer. The narrow florets would point to such an origin. The heads are bronzy when they first expand, but they ultimately become sulphur yellow, and are distinctly plumy. Another new kind named W. A. Manda is described as a yellow Mrs. Alpheus Hardy. The florets are broad, incurved, and the outer ones more or less twisted and interlacing with one another. The leaves have a thick and leathery texture, showing some evidence of good constitution, but another year will be necessary to prove the value of both the sorts here named for decorative or exhibition purposes. Another new hirsute variety quite distinct from the above is Mrs. George Daniels; it is a Jap, with heads of medium size, and rosy purple, spreading florets that are paler or silvery on the reverse and plumy. Further trial is necessary to determine what its characteristic features will be.—*Chrys.*

POLYPODIUM FOSSUM.

In gardens this Fern is occasionally seen under the name of Pleopeltis fossa, but Pleopeltis and several other generic names are now included under Polypodium simply as sections of that genus. The fronds vary considerably in form, some of them being quite entire, while the larger ones, which are 12 in. to 15 in. long, are more or less deeply pinnatifid or lobed with linear segments. They are leathery in character, rich dark green, and the undivided middle portion, with the other leading features, give this Fern a characteristic appearance. The apex of the frond sometimes becomes bifid or even tasselled, especially in large well grown specimens. It is recommended as a basket plant, but may also be planted on rockwork, as is done at Chelsea in the nursery of Messrs. J. Veitch & Sons.

SCOTTISH NOTES.

ROYAL CALEDONIAN HORTICULTURAL SOCIETY.—The annual meeting of this society was held in Dowell's Rooms, Edinburgh, on the 3rd inst., Mr. D. P. Laird presiding. The accounts for the year ending 30th November were submitted by the treasurer (Mr. P. Neill Fraser), and showed the receipts to have been £2,281 8s., and the expenditure £2,337 10s. 4d., the latter including £906 as expenses for thespring and international shows, and £1,324 11s. 6d. in premiums at these shows. In addition to the money prizes, plate of the value of £57 13s. was presented to successful competitors by nurseymen and others. The capital value of the funds at date was £1,174 1s. 4d., being a decrease of £68 5s. 2d. on the previous year. Mr. Welsh, in moving the adoption of the report and a vote of thanks to the treasurer, said the statement just submitted was a very gratifying one. The decrease in the funds was very small considering the great show that had been held in September, and which had given a stimulus to horticulture which more than compensated for the slight diminution of the funds. Mr. William Young stated that there was not another horticultural society in Britain that paid as much in prize money as the Royal Caledonian. The report was adopted. Colonel Wauchope of Niddrie was elected a vice-president of the society, in the room of Lord Melville, who retired by rotation, and two members of Council were appointed. The Chairman mentioned that the society had arranged to hold three shows next year—in the spring, summer, and autumn; and they had every reason to hope that the year would be as successful as in the past, and that the society would continue to maintain the premier position.

GLASGOW AND WEST OF SCOTLAND HORTICULTURAL SOCIETY.—The adjourned general meeting of the members of this society was held on the 2nd inst. Mr James Hunter presided, and there was a large attendance of the directors and members. The Chairman, at the outset, reported that since they last met the directors and other friends of the society had subscribed funds to an extent of over £170, and that the prize money gained by competitors during the past season, as well as all other debts due by the society, had been paid or provided for, and that there now remained a small surplus at the credit of the society. The treasurer (Mr. Charles Macdonald Williamson) submitted a statement showing the details of the society's financial operations to date, and the same was approved of and adopted. A spirited discussion arose on a motion that the society be dissolved and its affairs liquidated. The motion was, however, defeated by a narrow majority, and the following amendment was ultimately carried, viz:—"That a committee, consisting of Messrs. Hunter, Sadler, Miller, Meston, Simpson, Sutherland, and Clark, along with the treasurer (Mr. Williamson), be appointed to consider as to the position and affairs of the society, and to bring up a report and recommendation at an adjourned general meeting on January 6th. Much regret was felt at the announcement that Mr. Franc Gibb Dougall, who has acted as secretary to the society for over twenty years, did not, owing to his recent illness, seek re-election to that office, and it was unanimously agreed to insert an expression of regret at his resignation in the minutes of the meeting.

EXCHANGING AT THE TERM.—Would you allow me space for a few remarks on the hardships frequently involved in the system of exchange carried on among gardeners in Scotland at what is called "the term." The nurserymen undertake to find situations for young men desiring to make a change conditionally upon the masters agreeing to take from them the same number of hands, and one of the evils of the arrangement is that when a gardener does not do that the men have to go idle, or enter the "poor-house," i.e., the nursery. The system is a bad one both for the gardener and the journeyman, because the former has to take any man the nurseryman may send him, and the latter has no choice of place or master. The man sent to a gardener may be good or bad for all that the nurseryman usually knows about him, but if the engagement was made without the intervention of the trade, a man's previous employer would have to be consulted. When a young gardener goes in for his exchange he has to take whatever the nurseryman offers him or he gets the cold shoulder by being told that there is nothing else for him. He may also be sent back again to within a mile or two of where he has been living, in some cases a long way from Edinburgh, and the travelling expenses are a serious item which could well be spared but for the system of exchange. It often happens too that a good man is left out in the cold in competition with the sons of gardeners who give their seed orders to the particular nurseryman affecting the exchange, and who knows that it will go elsewhere if the sons are not provided for. The nurserymen have a great deal of trouble in effecting exchanges, but have only themselves to blame for it. I was a second inside hand in a good place, and, wishing a foreman's situation, I asked the gardener to help me to get one. He wrote to a firm in Edinburgh, who replied that I was to go in on the term day, and they would certainly find what I wanted for me. I went, and, after waiting for five hours, was politely told that they had nothing for me. I ventured to remind them of the contents of their own letter, but was promptly told that I was rude, and I had to go empty away. Had they have sent to my master and said they had nothing on their books I could have stayed where I was until I got suited. It would be greatly to the advantage of gardeners and journeymen if such engagements were made privately.—*Diosma.*

FRUIT NOTES.

APPLE MARGIL.

THE origin of this Apple is not exactly known, although its cultivation has been traced back to the Brompton Park nursery as early as 1750. A list of synonyms usually testifies to the popularity of a flower, fruit, or vegetable, and this has several, including Never Fail and Small Ribston. The former relates to its regular and free fruiting character, which is constant provided the blossom does not get destroyed by late spring frosts, as sometimes happens. Some writers speak of the tree having been planted in a garden at Sheen by Sir Wm. Temple. It is interesting to note that it still flourishes in the neighbourhood of that place, to wit Templeton House, Roehampton, where it is a great favourite with Mr. J. P. Kendall on account of its free fruiting nature. The name Small Ribston indicates that it is a competitor with the Ribston Pippin for favour. The fruit is small, conical, and five-sided, with as many rather acute angles, which are most prominent on the upper half and round the apex. The skin is green fading to pale yellow as it matures, but over all is a suffusion of red, more or less streaked and splashed with a deeper red on the sunny side, while the other side and the top is more or less splashed with russet. The flesh is yellow, juicy, rich and sweet, with a pleasing aromatic flavour, yet very firm and remaining in season from November to February. The variety is considered one of the best for dessert purposes; and considering its suitability as to size and its other qualifications, the wonder is why it is not more extensively grown.

PEAR BEURRE DE GHELLINCK DE WALLE.

SUCH is the rather lengthy name of a Pear which originated in Flanders, growing in sandy soil in the open country, where it has withstood the rigours of the last twenty years. A chromo-lithograph of it was taken for the *Bulletin d'Arboriculture de Floriculture, etc.*, about five years ago, and now appears for the first time in that publication for the month of November, so that it has been under the observation of the editors for that time, and now that they give publicity to the Pear they recommend it very highly. The greatest drawback it possesses is that it comes into season during the month of November, when so many others are in season. The fruit is of medium or sometimes large size, rather irregular in form, roundly oval or elongated and pear-shaped, slightly uneven or lumpy on the surface. The skin is suffused with a delicate green, stained and marbled with red, or sometimes almost covered in this way, and the ground colour changing to a pale yellow when in season. The flesh is creamy-white, very fine, melting, extremely juicy, and very sugary, slightly acidulated, and giving off a delicate perfume. The tree is vigorous and fertile. It succeeds as a pyramid or standard, and is likely to prove suitable for wall culture judging from its mode of growth. The editors of the *Bulletin* above mentioned think it a great acquisition, and they do not hesitate to class it along with the best autumn Pears, such as Marie Louise, Poire de Tongre, Doyenné du Comice, Conseillar à la Cour, etc.

Gleanings from the World of Science.

Effects of Fertilisers on Tomatos.—A series of interesting experiments on Tomatos in the open ground has been carried out at the Cornell University Agricultural Experiment Station, and recorded in *Bulletin* 32. The plots of Tomatos were all contiguous, and occupied a total area of 1,600 sq. ft., or about $\frac{1}{27}$ of an acre, and nitrate of soda was applied at the rate of 540 lbs. to the acre. The Tomatos were divided into 34 plots, and these again into two lots of 17 plots each. To the first lot 10 lbs. of nitrate of soda was given at one application, on June 25th, just fifteen days after planting. The results up to the last week in September were as follows:—The average number of fruits per plant was 14·2; the average weight of crop per plant, 5·5 lbs; and the average weight of individual fruits, 5·7 ozs. To the second lot of 17 plots, the 10 lbs. of nitrate of soda was given at four applications, one in June, one in July, and two in August; the average number of fruits to a plant was 13·2; the average weight to a plant 4·6 lbs.; and the average weight of individual fruits 5·6 ozs. The above would seem to favour the giving of the whole of the manure at one application. The last picking of fruits in the second week of October, added to the rest, showed an entirely different result. It must be understood that ripe fruits only were considered, and on this particular occasion the mild nature of the season and the absence of frost gave the late applications of the fertiliser time to take effect. The totals for the whole of the season, where the 10 lbs. of nitrate of soda were given at one application, were an average of 23 fruits per plant, weighing 7·5 lbs. to the plant, and 5·4 ozs. to individual fruits. Where four applications were made during the course of the season, there was an average of 24·5 fruits to a plant, giving an average of 8·1 lbs. to a plant, and 5·4 ozs. to individual fruits.

Saccharine.—In the inaugural address of Sir Henry E. Roscoe, M.P., F.R.S., to the British Association at Manchester on August 27, 1886, he drew attention to the chemical principles upon which organic synthesis have been effected. He stated that as soon as the chemical structure of an organic substance has been ascertained, or, in other words, as soon as the chemists have carefully analysed and determined the exact constituents of a given organic substance, and the mode in which they are arranged within its molecule, there is open to them by a synthetic process or a building up of such constituents on a definite plan, to produce artificially a substance which hitherto may have only been known as naturally occurring in plants or animals.

Of those as mentioned by Sir Henry Roscoe, "the most remarkable instance is the production of an artificial sweetening agent, termed saccharine, 250 times sweeter than sugar, prepared, by a complicated series of re-actions, from coal tar." The discoverer of saccharine is Dr. Constantin Fahlberg. —*Kew Bulletin.*

Canker of Fruit Trees.—As related by the *Bulletin d'Arboriculture, &c.*, M. Chas. Admiraal, horticulturist at Rijp, Holland, has published an article on the causes and remedy for the canker. He attributes the disease to Nectria ditissima, a fungus belonging to the Pyrenomycetes, and gives a coloured figure of it. Naturally a series of conditions facilitate the development of the cryptogam, such as too wet soil, large bruises and wounds, cuts made in the bark, too severe pruning, the employment of fresh or undecomposed manure, pressure made by ligatures, etc. The disease can to some extent be prevented by the use of grafting wax of some curative ingredient, or, better still, by a special wax, recommended by M. C. Admiraal, and with which he has obtained the best results. Some branches of trees, upon which the operation and the ointment in question had been employed effecting a cure, were exhibited in 1890 at Apeldoorn, and have been deposited at the School of Horticulture of the state of Ghent, where those interested can take note of them.

PRIVATE MARKET GARDENS.

This may seem an odd way of putting matters, because all personally owned market gardens are of course private. But I employ the term chiefly to indicate gardens ordinarily kept for personal use and enjoyment, and are in that respect very dissimilar from those gardens established expressly for the growth of market material and to provide the owner with a livelihood. But recently one of the *bona fide* market growers complained strongly of the competition to which he and his class were subjected, from foreign importations of similar material to that his class produces.

Here we are on economic grounds, which cannot well be discussed, indeed, it is now so useless to discuss questions affecting the trade that any space employed in so doing would be wasted. The millions who have to be fed, clothed, and otherwise cared for, must of necessity stand a long way before the interests of any one class or section of traders. But I did venture to point out to my grumbling friend that after all it was less foreign competition of which he had to complain than the unfair competition at home to which market growers are subjected, through the now almost universal practice which prevails on the part of owners of considerable private gardens, of sending all of their spare garden produce into the markets.

In how many large gardens have not fruit houses been specially erected for the growth of market produce. From how many do not go out hundreds of pounds, worth of fruit and flowers during the year. The total value thus received from private gardens alone during a season must be enormous. Here there are few of those responsibilities which the *bona fide* market grower has to meet. Low rent, low wages, very low rates and taxes, all very materially help the private garden earnings, whilst the opposites bear very heavily upon the trade grower. Probably his gardens are thrice as heavily rated and taxed as are those of the gentleman who professedly holds his for pleasure. If the *bona fide* trader can check private market gardening he may secure some good for himself, but, all the same, of course the public would be losers.—*A. D.*

EARLY FLOWERING CHRYSANTHEMUMS.

The progress made in raising new early varieties has been very great during the last year or two; and no doubt this will continue, especially with regard to varieties that will flower naturally early. There can be no doubt about the popularity of the early Chrysanthemum now, seeing that one of our great French raisers of Chrysanthemums has turned his attention to raising early sorts, and has proved beyond all question, and contrary to the expectations of many, that early sorts are wanted in this country.

Some years ago, it was said by many that early Chrysanthemums had no virtues, deserved no fame, and were bad from first to last, and, even if good, were out of season. As the case then stood this was all perfectly true, for the best of the early kinds at that time were poor things indeed, that flowered too early in the summer, and were better calculated to disfigure than adorn the garden. Seeing that the best of the earlies were of quite secondary merit, it was only natural that they should decline in favour and find few friends.

The varieties that were then grown included Gold Button, Illustration, Jardin des plantes (early) F. Pélé, St. Mary, Précocité, and others, some of which are still in cultivation, but they are not good enough to command general admiration. The advance made by the French raisers last year was very great, as was seen in a few beautiful varieties that flowered in August and September. Amongst them are a few decided acquisitions, some of which obtained certificates.

M. Simon Delaux is to be congratulated on being the raiser of the finest early varieties ever seen in this country, having sent out this year no less than 125 new ones. Amongst them are many sterling novelties and grand additions to this interesting class.

Next season we may safely expect to see other successful raisers, both in this country and on the Continent, turning their attention in the same direction, and to receive from them other new and distinct sorts of merit.

But nevertheless it has been difficult to induce many, even in their own interests, to make a trial of early-flowering Chrysanthemums. Mr. Wm. Piercy, of Forest Hill, has frequently said to me that he has coutinually urged the subject upon the general cultivators of plants.

The number of this season's new introductions is immense, and the difficulty of selecting is great. Knowing that it would be interesting no doubt to many readers to know something of the merits of the most distinct that will be distributed this season, I have carefully selected the following :—

M. Dupuis (Jap.) is a very bright orange-yellow, medium sized flowers, dwarf robust habit; very free flowering, resembling Source d'Or, but flowers in August. This I consider the best in its way, and will undoubtedly find a place in every collection.

M. Frederic L'Usmayer (Ref. Jap.).—This is a valuable addition to the exhibition sorts, of fine dwarf habit; colour bronze-yellow, each petal edged with a light crimson, much in the way of L'Adorable in form and colour; requires disbudding; flowers in September.

Ami Mezard (Jap.).—The flowers are composed of broad ribbon-like petals of a blush pink colour with a yellow centre, a profuse bloomer of fine stout habit; blooms beginning of August.

M. G. Grunerwald (Jap.).—This is, without doubt, one of the best early Chrysanthemums ever raised, and one that is destined to take high rank either in the conservatory or for exhibiting, when the merits of it are fully recognised. As it becomes better known, I feel sure that there is a long future before it. It grows about 2 ft. high, and is covered with flowers which are very full and solid; the petals are long, curled, and twisted in a rather peculiar fashion. The colour is a beautiful silvery white, slightly shaded with pink; it is very early, blooming at the beginning of September.

Vice-President Hardy (Jap.).—Here we have another of the finest introductions of the season, and one that should be included in the most select dozen. The colour is a very fine fire-red; free, and of dwarf habit; flowers large, somewhat drooping, petals of a fine transparent shade of colour; blooms in September.

Coral Queen (Jap.), an English seedling raised by Mr. R. Owen.—Colour of pink coral, the flowers have long foot stalks, very free; of medium height, growing amongst a large collection. During the past summer, it was the most conspicuous out of a large number then in flower. A distinct and entirely new colour; September bloomer.

Ruby King, raised by Mr. Owen.—This I consider the darkest early crimson Japanese sort in cultivation; medium sized flowers, produced in immense quantity; fine stout, dwarf habit; flowers in September.

Vicomtesse d'Avene is a good incurved Jap. of very dwarf, stout habit. Colour rosy-lilac; it blooms in August, and is very rapid in coming to perfection; a cutting put in in May will bloom in September.

Gloire d'Astaford.—Much in the way of Coral Queen, and may be included in any medium sized collection on account of the peculiar terra-cotta colour of the flowers. It is a Japanese variety of fine habit, and blooms in September. Of its distinct and novel character no one need doubt.

Souvenir de William Holmes (Jap.) has a dwarf robust habit; very compact, also very free; the colour is a reddish-crimson; grand for cutting or as a pot plant.

M. F. Katzer (Jap.).—The blooms of this variety are of a deep orange-red colour, with twisted petals; quite new and distinct.

Mdme. Z. Lionnet.—A very early reflexed Jap., of a fine orange-yellow colour; flowers of medium size, but a profuse bloomer; flowers in August.

Baronne G. C. de Briailles (Jap.).—A most distinct and striking sort, and differing from any of the early varieties yet seen. It is a very stout, robust plant with large flowers, composed of broad reflexed petals; the colour is white, slightly shaded pink; it is a good grower, blooming at the end of August.

M. G. de Dubor (Jap.).—A beautiful orange-yellow, shaded red; an improvement on P. Van Geert, being of a much dwarfer habit, very free and distinct.

M. Lemaille (Jap.).—The flowers of this sort are medium sized, colour wine-red, shaded buff; has long petals, and is novel in appearance, and of fine stout habit.

Mons. Z. Lionnet (Jap.).--In this we have a grand addition to the exhibition varieties. The flowers are of large size; colour, rich deep majenta. The habit of the plant is dwarf, and if slightly disbudded will be found valuable for exhibition in September on account of its distinct colour.

E. Immer et Sohn (Jap.).—Flowers large, petals broad and incurved; creamy white, shaded towards the centre with light rose; will be very useful for exhibition if disbudded.

Mdme. Paul Nansot (Jap.).—This is a colour that has been much wanted in earlies, and one that is sure to become popular. It is a fine amaranth-crimson; blooms in September.

Le Poete de Chrysanthemum is a free flowering decorative variety of rather slender habit; colour, bright mauve; blooms in August.

M. Vauvel (Jap.).--Of medium-sized to large flowers, petals rather long; colour, rose-pink, shaded orange-red, a very delicate colour.

M. Clicquot (Pom.). — An excellent addition to the Pompon section. The flowers are large, of fine form, and the colour rich orange-yellow.

Mdme. Gabus (Pom.).—White, shaded rose, form of Mlle. Marthe; fine dwarf habit.

I may add that the Early Chrysanthemums are of easy cultivation, very free flowering, and in the majority of cases of dwarf, bushy habit. Under ordinary cultivation, they commence blooming early in August and continue until late in October, thus producing during the autumn months an enchanting display, when too often our borders and conservatories are comparatively bare.—*Robt. J. Hamill, Sydenham, S.E.*

ASTER NOVI-BELGII DENSUS.

The varieties of Aster Novi-Belgii are now exceedingly numerous in gardens, a fact which was amply demonstrated at the Conference held in the gardens of the Royal Horticultural Society at Chiswick, on the 6th, 7th, and 8th of October last. The plant enjoys a wide distribution in North America, its native home, and varies considerably even there. As might naturally be expected, a plant which enjoys a wide distribution and varies in a state of nature, doe so much more extensively under cultivation. There are good and bad varieties, some of them unworthy of a place even in large collections meant for decorative purposes; but on the other hand a large proportion of them are very showy and exceedingly floriferous, in consequence of which they are valuable for the herbaceous border for parks and shrubberies when other hardy flowers are getting scarce. The variety under notice is one of the showiest and most useful on account of its dwarf, compact habit, floriferous nature, and the rich colour of its flower heads, which are of a bright blue. Its stature seldom exceeds 2 ft., and the flowers are closely arranged in a compact and flattened inflorescence covering the top of the plant. Our illustration, made from a photograph taken at Chiswick during the Conference, shows the natural habit of the plant and its free flowering character. Some cultivators may recognize in it what for many years has passed for A. lævis in gardens, and such is actually the case; but the true A. lævis is a taller plant with long loosely arranged panicles of bloom, and lanceolate, elongated leaves which surround or clasp the stem at the base. This plant on the contrary is often sold and grown under the name of A. Chapmanni, and although a showy and useful species, is certainly inferior to A. Novi-Belgii densus, which will always be a favourite so long as perennial Asters are cherished and cultivated. It is easily distinguished from the other varieties of the species when once seen in the growing state.

DAHLIAS.

The roots being by this time housed, they should be gone over to see if any signs of decay have put in appearance, and these be cut away. For the matter of that, the roots might have remained in the ground until this time without taking harm; but who can predict what the weather is likely to be? Dahlia roots keep best without any covering whatever during winter, provided the frost can be kept from them; and they can be stood upon an old garden mat on a shelf in a cool dry place where frost cannot reach them.

PROFITABLE MARKET GARDENING.

THAT all gardening, whether followed as an occupation or for the mere love of the pursuit, should be profitable everyone will be prepared to admit, and in these days when so many are engaged in the trade it is of the utmost importance that those of our readers to whom gardening is a profession should be smartly alive to their own interests. This does not consist solely in growing a large variety of plants, but in studying the wants of the various markets and their own particular localities, and in meeting those wants at a proper time. It is now generally acknowledged that a market gardener who goes about his work on these lines is more likely to become successful in his business than one who grows a little of almost everything, and takes his stuff to market on the chance of disposing of it without due regard to the requirements of the place, the result being in many cases a comparatively small sale.

As an example of what market gardeners can do we give an instance of one who resides within four miles of a large town, a short distance from a railway station, and who, perhaps, has a better advantage than some in this respect because he can take most of his produce to market by road. Although he has good glass accommodation he contents himself with growing for sale only eight subjects, viz.: Grapes, Tomatos, Mushrooms, Cucumbers, Rhubarb, Ferns, India Rubber plants, and late Chrysanthemums. At the present time he is cutting Grapes, and will continue to do so until March. Chrysanthemums are also just coming in, but only late ones are grown, such as Ethel, Princess Teck, Fair Maid of Guernsey, Snowdrop, Meg Merrilies, etc., and these will occupy attention until January. He assured us that one house of late white Chrysanthemums proved much more profitable than three houses of the mid-season varieties, as these are simply a glut on the market during the month of November, seeing that almost everyone who has a greenhouse goes in for Chrysanthemum culture, and invariably grows those coming into bloom in the middle of November.

RHUBARB, of which he makes a specialty, will be ready for Christmas, and two houses are devoted to this. Roots are lifted in October and placed upon the floor of the house with soil round them, or in boxes; the crowns are covered with hay or straw, whilst the house is darkened with mats, which enables him to cut it in a nice-coloured condition. Heat is applied towards the end of October, and the roots are copiously supplied with water. Rhubarb in the early season and at Christmas time finds a ready sale, and is a much more remunerative crop than that coming in later in the spring. The roots forced this season are planted out, and fresh ones brought in another year.

The TOMATO is also one of his strong subjects, and the seed of this has just been sown. Large Red, Earliest of All, and Maincrop are the chief varieties, and although foreign produce is now brought into our markets in such large quantities, the sale of them does not materially affect the price of English fruit, as those who have once acquired the taste of an English Tomato do not take very readily to the "unsavoury" looking foreign fruit. The seed now sown will be pricked out when the seedlings are wel into their second leaf, and potted on as required. It is his custom to fruit the earliest batch of plants in 10-in. pots, and he generally commences to cut fruit about the middle of May. This last season, however, it was the end of May before he sent them to market, but this may be accounted for owing to the severe winter.

For the first two consignments of fruit he made 1s. per lb. in the wholesale market; the next batches fetched 10d. per lb., and at this stage some were sent to a distant market, realizing 9d. per lb., and throughout the season, even when the foreign fruit was so plentitul, he never got less than 4d. per lb. An early crop pays better than a late one he told us, because at the end of the season people are getting somewhat tired of them, and besides this they do not assume so deep a colour owing to the absence of sun. The earliest batch of plants are grown in pots only, the others being planted in beds and trained over the rafters.

CUCUMBERS are a remunerative crop, especially in the early spring. These are grown well, and are sent to several markets, the first crop realizing 5s. per dozen, which reduce as the season advances, until at its height the price falls to 2s. per dozen. Of course these prices include all sizes, i.e., big and little are sold together, and the retailer reaps the advantage. They are grown on the express system, and as soon as one plant has finished bearing it comes out, the bed is replenished with some fresh material, and another plant takes its place, so that no time is lost. Ventilation is a thing almost unknown in Cucumber growing nowadays, steam, light and heat being the chief elements, and this is the system adopted by the market gardener to whom we are alluding. Telegraph is the variety cultivated, and as a cropper for market takes a deal of beating; in fact, it is a question whether it can be surpassed. The fruits are sent off in hampers in layers of hay, and packed in this way they travel many miles without being bruised. The Tomatos, I should have mentioned, are sent off in wicker baskets similar to those sent into Covent Garden market from the Channel Islands.

MUSHROOMS are grown under the stages, and arrangements are made to ward off the drips from the occupants of the stages by boards being placed over the beds. This is usually a good crop, but they are not grown so extensively as other things for the reason that they are such difficult stuff to pack and send away, hence it is that they are disposed of as far as possible in the immediate neighbourhood.

FERNS are given a long house to themselves. Of the varieties grown Maidenhairs are in the majority, being more largely used for decorative work, bouquets, wreaths, etc., than any other sort. Some thousands are grown in thnmb pots, whilst others are planted in terra cotta baskets, and find a ready sale in the towns as they are much in request for drawing room decoration. All the Maidenhairs are raised from spores, and when we visited the nursery we noticed some thousands of young ones in a corner of the house (separated from the other portion by a partition) in seed pans, looking the picture of health.

INDIA RUBBER PLANTS (Ficus elastica) is grown in large quantities, as these are now so much in request as window plants and for the decoration of the dinner table. Most of them were young stuff in 5-in. pots, this being a convenient size for a window or table.

ASTER NOVI-BELGII DENSUS.

GRAPES are also done well, many of them being Alicante, Gros Colmar and Barbarossa, and as we have remarked come in at the end of the year, which enables him to realize a good price for them. We were struck with the absence of Fuchsias, Begonias, Pelargoniums, and other plants of a similar character, and on mentioning this we were told that these subjects were left for others to deal with, as there was sadly too much competition, every nurseryman within twenty miles of him growing them. His plan appeared to be to cultivate only those subjects for which there was a call, and to get them ready for market at a period when other people were either not ready or had finished. Grapes were no use to them in September, when every grower was cutting; from November to March is their harvest in this department, and they work accordingly. The same with Tomatos, the earlier the better. Here we might say that the houses containing the earliest Tomatos (those in pots) are cleared early in October, and filled with the first lot of Chrysanthemums, but these are only kept from frost, the ventilators being left open, and heat excluded until there is a necessity for it.

What subjects are taken in hand are certainly grown well, and although the man has not had the place very many years we know that he is doing a good trade, and one which is gradually increasing. Here then is a case of a gardener who, like others, has had difficulties to contend with, but by persevering and watching his opportunities, shows that it is possible for market gardening, even in these "hard times," to be made profitable; and we considered our visit to such an establishment was time well spent, as we learnt, amongst other things. that it was not always the nursery with the largest variety of plants, etc., which proved the most successful.

The houses are well heated with hot water pipers, and with the exception of one house, which is used as a Vinery, are all worked from one boiler. As far as we could see the places are never empty for long together, as when the Tomatos and Cucumbers are finished they are succeeded by Chrysanthemums, and when these are over the houses undergo a thorough cleaning and limewashing preparatory to another

year's work. Until such time as the Cucumbers and Tomatos are ready for planting the beds are supplied with fresh compost, and temporary shelves are fixed to the roofs on which young Chrysanthemums are placed; these of course being taken away when the Cucumbers and Tomatos are set out, so that the latter may have the advantage of all the light possible.

As we have remarked he has had difficulties as well as other people, but by working hard and giving a strict personal attention to his business he has overcome them. When first he started Black Hambugrh Grapes was the chief variety, but as these came in when the markets were pretty well overstocked with them, often only bringing him 1s. 6d. per lb., he decided to dispense with them and plant canes of the sorts named. In the early part of this year these brought him 3s. 6d. and 4s. per lb., and lasted until the end of March, yielding a much better interest (even though the coal bill last winter was a serious item) than the early Grapes did.

Amongst our readers there are doubtless many to whom market gardening is familiar, and if these notes roughly penned as they are, will profit them in any way, THE GARDENING WORLD will have proved a valuable medium.—*Vesutrus.*

UP THE NIGER WITH THE ROYAL NIGER COMPANY.

THE following is the letter of March 16th, 1890, written by the late Mr. H. E. Bartlett, and alluded to at p. 210:—

"I have got about 1,000 acres of land, which has to be all opened up and planted. The name of the plantation is the N'Kisi creek plantation, named after the N'Kisi river which runs through it. I have nearly 100 men at work on the estate, labourers from Lagos, very ignorant men who have to be shown everything. I am living in a house built under my own superintendence, and of native materials. It is situated on the top of a hill with a splendid view of the Niger, from which a breeze frequently blows. It is always cool in the house even under the fierce glare of the noonday sun. I am now enjoying very good health, and can pummel the recalcitrant members of my crowd with ease. They are an uncrupulous lot, and instantly take advantage of the 'boss' on opportunity given, so that it is necessary to keep the whip hand of them, and to be master.

"I am very busy just now, as some 20,000 Coffee and Cocoa plants and 130 pods of Cocoa seed have arrived from Lagos as a first consignment to the plantation. That means business, and we are going to do our level best to make the estate a big thing. The climate just now is comparatively cool as there are rains and tornados; but until quite recently it has been very hot. The heat in the middle of the day is something intense. I never stray far from the house without my pith helmet; and I have quite discarded European apparel, a singlet, socks, and pyjame trousers completes my attire. When I left England I did not smoke, but I have found since I landed here that smoking mitigates the plagues of Egypt, as represented by mosquitos, sandflys, etc. The plants I brought out here are doing very well; the Coffee plants at Abutshi are very promising, and Cocoa and Cotton also show up well. I have been looking after the two places lately, Woodruff being away after Coffee plants.

"In England the Mango is described as having the flavour of tow and turpentine, and there is certainly a decided flavour of these substances, but for all that the fruit is delicious. The suspicion of turpentine is only realised just as you are going to bite the fruit: when you have got a good grip of it the initial taste disappears at once. The Sour Sop is also a favourite fruit of mine, and the Pineapples here are very nice.

"The Niger region as represented by this district is not a gay place by any means. Nature wears a somewhat solemn face, and there are not many flowers wasting their sweetness on the desert air. There is a striking lack of both flowers and fruit. In out-of-the-way, shady, watered creeks and bush, many beautiful flowers have their home, but these require searching out; still I hope to send some of them to Kew after I have written my name on the plantation. You can have no idea how densely stupid the average African is, and how utterly incapable he is of reasoning from cause to effect. My plantation 'boys' are all from Lagos, and they do not know the use of a single tool. It is most amusing to see them handle a spade for the first time. I have succeeded in getting some of them to turn over a piece of ground something near the mark. However, like Mark Twain's jumping frog, they have their p'ints.

"It is curious to notice how quickly they succumb to slight sickness; and it is not altogether skulking, as they get no pay when not at work. At 'turning-to' time I generally find about half-a-dozen—sometimes more—squatting on my verandah, for they all come to me when sick. I give them salts freely, on the principle that if they do not do much good, they will not do much harm. I have had a lot of African fever since my arrival in the country, but I have not had a really bad attack yet. About seven white men have been sent home sick since I came here, and two have pegged out, one of fever, the other of heart disease. The fever is quick in its action. You feel heavy and tired; then you may or may not be taken with the cold stage, although the temperature is over 90° in the shade. This may last for an hour or several hours, and gradually passes off, leaving one in the hot stage, in which one is burning hot and dry with no perspiration. One falls into a semi-unconscious state and awakes to find oneself beginning to perspire. The whole business may be over in about four hours, but it leaves one very weak. Last week I had the fever as described, on three days following."

Two days later poor Bartlett died of the dreadful Blackwater fever.

DINNER TABLE DECORATION.

PERHAPS a few remarks on this subject may prove useful to some young gardeners, who have a lot of this sort of work to carry out. They should have several small pans, from 4 in. to 6 in. across, and about 2 in. deep, these should be filled with a mixture of finely sifted loam, peat, leaf-soil and sand. In the centre of the smaller size place some small Ferns, such as Pteris elegans, P. serrulata, P. Argyrea, P. cretica, Adiantums, Gymnogrammes, &c., and in the centre of the larger ones a piece of round wood about 2 in. across, filling in with small pieces of Lycopodium. This if placed in the propagatory pit will soon cover the soil. If they have some tins made about the same size as the pans, which should have some moss tied neatly round the outside, they could then turn the plants carefully out of the pans and place in the tins before using them for the table; those with the piece of wood in the centre should have the latter taken out, and small Coleuses which have been recently struck in small thumb pots turned out and put in its place.

Tins large enough to hold plants in 3 in. or 4 in. pots are also necessary, as in these can be placed Dracænas, Crotons, Aralias, Cocos Weddelliana, Grevillea robusta, Pandanus Veitchii, Ferns, Coleus, &c., covering the top of the pot over with moss. These, if nicely arranged with about three larger plants along the centre of the table, and the dishes or stands of fruit between, make a very pretty effect. If several Beetroots are potted in a 12 in. pot, and one inverted on the top and placed in the stove, in about three weeks they will have grown 5 or 6 in.; these if part of the roots are cut away to fit in small glasses or vases packed in with damp moss, dotted about amongst the Ferns, look very pretty as a change. I have seen Peacock's feathers and the everlasting flowers (Helichrysum) tied up in little bunches used occasionally; the feathers are laid on the table between the dishes, a bunch of the flowers being used to cover the quill end, about four or five flowers in each bunch would be quite sufficient.

Fern fronds and the Mountain Ash and other leaves when dried make a good change from the plants when worked in some pretty design on the table, but flowers when tastefully arranged in small glasses or vases look very pretty. Have a few taller ones along the centre, from these should droop some of the delicate climbers, such as the young branches of the climbing Fern (Lygodium scandens), Selaginellas, Virginian Creeper, Cissus antarcticus, and similar graceful foliage; and from the smaller vases should be seen occasionally a spike or blade of grass, or a spray of Gleichenia, or some other elegant and delicate Fern, peeping up as a relief to the eye, but without causing any obstruction to the view. With but few exceptions there should never be anything to interrupt the view across a dinner-table, tall stands of flowers should have slender stems, and none of their contents should droop or hang over to a lower point than 20 in. from the table. The line of sight will thus be free, and the general conversation be uninterrupted. The number of plants required would of course depend on the length of the table, but avoid overcrowding, some regard table decoration as the art of grouping the greatest possible quantity of fruit and flowers in the most showy manner; this is a great mistake. It is better to keep them off altogether, if table decoration is to be treated as a branch of the fine arts.—*A. W., Chetton.*

WHAT IS A FRUIT?

MR. GEORGE LUNT, Curator of Stamford Park, Aston-under-Lyne, in a paper entitled "What is a Fruit?" read recently before the members of the Manchester Horticultural Improvement Society, said a true fruit consists of one or more modified leaves, bearing ovules on their margins. In proof of this, the open capellary leaf of a cycad was given, and compared with the closed carpel of a Pea. This closing of the carpels was said to be caused by the cells on the under side growing more rapidly than those of the upper, as is the case of the opening and closing of flowers. The achenes of the Buttercup, Strawberry, Rose, and Fig, were given as examples of indehiscent fruits, whose pericarps have to rot in the ground before germination can take place. It was pointed out that gardeners ought to know that such fruits do not split to liberate the seeds, and often require a long time to germinate. The various ways in which the carpels are joined together, in axile and parietal placentation, were described. Other true fruits were next described, and compared with false fruits, or pseudocarps. The ways in which false fruits are formed were shown. The edible portion of the apple was shown to be the succulent calyx tube, the five carpels being the true fruits. The Pine-apple was described as a large succulent inflorescence, bearing numerous flowers on the outside, the true fruits being embedded in the fleshy stalk and bracts. The tissues of the Peach and Plum were compared with the Cocoanut. Having treated of the morphology, Mr. Lunt gave an outline of the physiology of fruit, and showed that, in its young state, the fruit has the same chemical composition and performs the same functions as leaves, taking in carbonic acid gas and giving out oxygen. To the taste, it is first bitter, and then acid. The acid being neutralized by alkalies, it becomes sweet. By the gradual evaporation of water the cell sap becomes thickened by saccharine or other carbonaceous compounds, until maturity is reached; it then begins to absorb oxygen and give out CO_2. When decomposition begins, and the ovule upon the carpellary leaf has developed into a ripe seed, the life work of the fruit comes to an end.

HEAVY RAINFALLS.

WE measure rain by catching it in a vessel called a rain-gauge, the area of whose mouth is accurately known, and then calculate how deep the layer of water would have been if all the rain that fell into the gauge had been spread out evenly on the surface of the side of its mouth. A gallon of water would only cover a space of two feet square if spread out in a layer an inch thick. Accordingly, an inch of rain falling on an acre of land amounts to 100 tons of water, and the same fall per square mile would give 60,000 tons. Now an inch of rain falls not unfrequently at stations on our west coast in the course of a day, so that we can easily see why two or three days' heavy rain cause floods in most of our rivers. The area drained by the Thames is sixty-five square English miles, or five square geographical miles, as stated by Sir John Herschel; and accordingly an inch of rain falling on that district would give us 4,000,000 tons of water, which must almost all of it drains off the high lands and flood those lying lower before it ultimately finds its way to the sea. However, the wettest weather with us is almost dry when compared with that experienced between the tropics in the rainy season. The wettest region on the earth is justly claimed by Cherra Ponjee, in the Cossia Hills, lying north-east of Calcutta. There, in June, 1851, at an elevation of 4,500 feet, twelve feet three inches were measured, while the total annual rainfall is 600 inches, or fifty feet! The average rainfall on our west coasts is about thirty inches, so that at Cherra Ponjee twenty times as much falls, and that within the space of six mouths. The reason of this unequal distribution of the fall is that when the monsoon changes, and the warm and moist south-west wind is blowing north-eastwards towards Central Asia, it meets a ridge of high land which it must pass over, and in its passage it is chilled, and deposits its burden of water on the western slopes of the hills.—*Manchester City News.*

GARDENING MISCELLANY.

"TACT AND PATRONAGE" FOR GARDENERS.

In your valuable paper, The Gardening World, for November 14th, p. 164, Mr. W. Napper, of Chelsea, has something to say as to the above, in allusion in part to what I may have written elsewhere. This is what Mr. Napper says: "I quite expect that the men of mark mentioned by Mr. Burbidge owe their distinction in a large measure to tact and patronage. For instance, there would have been no Sir Joseph Paxton had there not been also a Duke of Devonshire; and my lamented friend, John Dominy, would probably have gone down to his grave a poor, obscure Devonshire gardener instead of a wealthy Orchid specialist and hybridiser but for the great house of Veitch." Now in all deference to Mr. Napper's logic, I differ altogether from his conclusions, and venture to suggest that he has put the cart before the horse in the above paragraph. Both Paxton and Dominy were men whom it was an honour to employ; but both were original and innate men of mark. They were not made men of mark by patronage. Paxton did quite as much honour to the Duke of Devonshire as ever the Duke did to him; and Dominy also did quite as much for the house of Veitch as ever it did—and it did much—for Dominy, but not until his work was done. Both Paxton and Dominy were born gardeners and gentlemen to boot, and it was a simple impossibility for any employer to patronise them. No man is or can be "patronised" who is worth his salt; and "tact" is simply common sense and not to be confounded with toadyism, by which weak men sometimes try to get the goodwill of their employers, and generally fail to do so. I have as much sympathy for unhealthy, or overworked, or unfortunate gardeners as anyone, but I have no sympathy for the men who want and look for *patronage*, because I know they are the men who will never get it. I was never patronised in my life, nor was the Editor of Gardening World, nor any man who has self-respect and independence. "Good luck is good looking after," I am sure.—*F. W. Burbidge.*

AMASONIA PUNICEA.

Botanically the correct name of this is considered to be A. calycina. The floral bracts are of a bright crimson-red, and, although not so large as those of a Poinsettia, they are equally showy in their way, and the plants are as easy, if not more easy to manage. Six species are known to science, and all of them are natives of tropical South America, and mostly of Brazil. They belong to the Verbena family and are closely allied to Clerodendron, but differ in being dwarf and of stiff, erect, shrubby habit. The plant under notice seems to be the only one in cultivation, and the wonder is that it is not more extensively grown for winter flowering. A fine batch of it may be seen in the nursery of Messrs. J. Veitch and Sons, Chelsea, where the earliest plants have been flowering for the past two or three months. Young plants raised from cuttings vary from 12 in. to 18 in. in height, and are now in full bloom. The bracts are lanceolate, the lower ones being the largest, subtending the flowers of the one-sided raceme. The calyx is of the same bright colour as the bracts, but the long tubular corolla is pale yellow. The largest plants are about 2 ft. high, and consist of last year's specimens which were cut down and restarted. They were the earliest to commence flowering, and the lowest bracts dropped away after a time, while a little higher up they increased in size, became leaf-like and green, but partly retain their rich colouring still. Fruits are now of some size in their axils, while the uppermost are still brilliant and continue developing flowers. A plant which continues in flower for such a length of time should indeed be an acquisition to gardens. The oblong-elliptic leaves are of a rich dark green and constitute a fine contrast to the bracts.

IPOMŒA HORSFALLIÆ.

The bulk of stove climbers are flowerless and resting in winter, sometimes even deciduous, and may be cut back. A pleasing variation from this state of matters is introduced to the stove by the culture of this fine evergreen, winter-flowering species. The leaves are digitate and consist of five lanceolate, wavy, dark green, finger-like leaflets. The flowers are produced in great quantity in cymes from the axils of the leaves, and continue to be produced in succession all through the dull winter months, and the more especially if the weather is tolerably open and the light moderately good. The calyx is black, and, while yet in bud, resembles so many globular and shining fruits about the size of large peas. The individual flowers are large, funnel, or almost salver shaped, with a deep rose, rich, and glossy corolla, more or less plaited at the edges. We noted it in fine condition in one of the stoves in the nursery of Messrs. J. Veitch & Sons, Chelsea. Plants may be grown in a moderately large pot or even planted out; but perhaps it would flower best in a pot. Cuttings do not root very readily, consequently it should be propagated by layering, a method of treatment which suits it very well.

COTONEASTER FRIGIDA.

In the interesting note on Cotoneasters, p. 212, I do not see that C. frigida is mentioned. This makes a fine tree with beautiful and abundant berries. My first specimen came from a Chiswick ballot many years ago. It is now a tree in our cottage garden near here. Several plants bought at a nursery—if I remember rightly, Messrs. Richard Smith & Co. of Worcester—have grown very fast, and have this year been covered with berries, and been much admired.—*George F. Wilson, Heatherbank, Weybridge.* [We have an illustration of this species prepared for a future issue, hence the omission Mr. Wilson refers to. Ed.]

HARDY CYCLAMENS: SUN v. SHADE.

Though what I have to say does not specially refer to hardy Cyclamens, it may interest Mr. G. F. Wilson (p. 212) to know that, while learning my business at a nursery, we had a fine lot of Cyclamens and placed them in a cool Rose house where they were shaded by the Roses. For a time they seemed to do fairly well, but soon I saw that they did not like their situation; the leaves lost their lustrous hue and seemed to be flagging, so we changed them into a different house, placing them within a foot of the glass, and in less than a month a great difference was perceptible. When they flowered I never saw better; they were a mass of bloom, the leaves a beautiful colour, and the corms much increased in size. I have always found that Cyclamens are much brighter, healthier, and stronger when grown and flowered with the sun's rays upon them, and do not think that there are many flowers that are the better for shading.—*C. Butlin, The Gardens, Leonard Stanley, Gloucestershire.*

DROOPING URN FLOWER.

Such is the popular name very aptly applied to Urceolina pendula, better known in gardens as U. aurea, from its colour. It is a greenhouse, bulbous plant, inhabiting the Andes of South America, as do the few other species known. The scapes vary from 12 in. to 15 in. in height, bearing an umbel of long stalked drooping flowers, with the mouth of the latter downwards. The perianth is urn-shaped, or much inflated in the middle, and bright yellow, with six small green segments at the closed mouth. The leaves are produced after flowering is over, but the naked scapes, if considered desirable, may be partly hidden by standing a dwarf plant or two in front. The plant flowers at various seasons, according to the time the bulbs are started and the treatment they receive. We noted it in perfection the other day in the nusrery of Messrs. J. Veitch & Sons, Chelsea.

MANURE FOR STRAWBERRIES.

Being a grower of Strawberries to a considerable extent, and finding it troublesome to apply farmyard manure to all my plants, I should be glad if some of your experienced growers would say what, if any, artificial manure they have found it advantageous to use, and the best means and time to apply it. Do the Kentish growers top dress all their Strawberries with farmyard manure? Any information on the subject would be welcome.—*M. C. H., Nenagh, Co. Tyrone.* [Mr. Cannell informs us that fish manure is largely used in the Swanley district, and put on the ground early in spring.—Ed.]

APHELANDRA PUNCTATA.

All the species of Aphelandra in cultivation are highly ornamental, on account of their flowers alone; some have in addition beautifully variegated foliage; while a third set add still another excellent point in the bright colouring of the bracts. The species under notice has all these qualifications to recommend it. The green leaves are silvery-white along the midrib and principal veins, while numerous silvery spots are spread over the leaves on each side of the midrib and stronger veins. The bracts are arranged in a dense four-ranked spike, terminating the stems and branches, and are spiny serrate, bright yellow and tipped with green, thus making a beautiful contrast. They are moreover more inclined to get green at the tips as they are getting old, and when the plant has been in bloom for some time. The flowers are also tubular and bright yellow, more or less conspicuously tipped with green while yet in bud, but assume their wonted brightness when fully expanded. The plant requires stove treatment, is propagated by cuttings, like other winter flowering subjects, and is now in full bloom in the nursery of Messrs. J. Veitch & Sons at Chelsea.

CINERARIAS.

I was much pleased by the timely remarks of your correspondent "Vesutrus" anent the culture of Cinerarias, in last week's Gardening World. There is no other class of winter-flowering plants that so well repays any extra attention as the Cineraria when it is well grown. By having two batches they can be had in flower from November till May, or longer. We put in our seed here about the end of April, and from the time they were pricked off into boxes and then into pots they were kept growing on, shifted into larger pots as they required it, until we had the bulk of them into 8-in. pots. We have some forty pots in flower at the present time, and it is those who have large quantities of cut flowers to supply at Christmas that can fully appreciate the value of a good batch of plants in flower at this time. In the last shift, that is their flowering pots, I believe in potting them pretty firmly in a compost of about two parts of good fibrous loam, broken down with the hands, and not too fine either; one part leaf soil, a good sprinkling of sharp river sand, and as a manure there is nothing I like so well for Cinerarias or Calceolarias either as Thomson's Vine and plant manure. I use it pretty freely, and when we see Cinerarias with fine healthy foliage covering the entire pot, we come to the conclusion that they get something that suits them to a nicety. At the same time I do not know that it really makes so much difference what we give them as there is in how and when to give it, and that can only be found out by careful observation.—*P. McCowan, The Gardens, Crossbasket, High Blantyre, N. B.*

CHRYSANTHEMUM WILLIAM WESTLAKE.

The myriads of new and so-called new Chrysanthemums which are placed upon the market every year are quite bewildering. One need be a specialist in this direction to be able to comprehend a tithe of them. Where are we going to stop? and what rough-and-ready method shall we adopt to classify or distinguish them? All, as flowers, are beautiful and welcome; although the florist and exhibitor necessarily agree to limit the numbers in respect to their particular requirements.

The above so-called new variety is, notwithstanding its name, alike suitable to the exigencies of both sections of the gardening fraternity. My own opinion, however, with regard to its new title is distinctly unfavourable, as I have grown it for many years under the style of "Aigle d'or." Judge of my surprise then, on visiting the National Society's Exhibition recently, to come across an old friend under a new name? Moreover it has been certificated; and one of our leading trade growers has acquired the supposed stock, and is offering the same at a very enhanced price. Until I became re-acquainted with it at the Royal Aquarium, I had no idea that I possessed so much valuable property. My own impression is that it is a superior form of the above mentioned variety, which my erstwhile friend, Mr. W. Westlake, having duly admired, cuttings were transferred in due course. He still further distributed cuttings to a gardener at Hornsey, and the latter, not recognising it as Aigle d'or, rushed it into the market under its present name without consulting me.

Business instincts would seen to be particularly keen in some quarters; and, rather than lose a doubtful honour, a very questionable proceeding is perpetrated. It will, however, have one good result, viz., the dissemination or re-introduction of a very useful pompon for any purpose; for neither the nurseryman's description, nor the notice which appeared in the *Garden*, is at all exaggerated. At the present time some lifted stools are flowering finely with *C. B. Green, Acton, W.*

SOILS, POTTING, AND WATERING.

(Continued from page 210.)

POTTING.

The pots to which the plants are about to be transferred should be clean and dry both inside and out; in the case of new pots, which are too dry to be used as they come from the pottery, care should be taken to soak them well in water before using; if not soaked it will be found that they will extract too much moisture from the soil close to it, and cause a vacant ring between the soil and the pot, a thing that ought to be guarded against at all times, as it is impossible then to give sufficient water to maintain the plant. The drainage of pots is also a very important matter—the future success of the plants depending very much on the way it is performed. We should be careful to do it in an efficient manner. To assure its being so, commence by placing a thin narrow piece of crock at either side of the hole, then place a piece large enough to bridge over the two, and arrange others over it to whatever depth may be thought sufficent to ensure a good drainage in proportion to the size of the pot, smaller pieces, decreasing in size towards the finish. Over all place a layer of the most fibrous part of the compost or some other lasting material such as moss, pressing it level and firm down on to the drainage.

Potting, as applied to plants, is an operation with which all who are interested in gardening are more or less familiar. The process in itself is of a simple nature, and easy to perform. But to do it in the way calculated to produce the best results, it is necessary that the operator should understand the requirements, as regard the root medium, of the particular kind of plants undergoing the operation. In dealing with this subject we wish to be as practical as possible; we will therefore consider it under two heads, namely, potting off and repotting. The meaning of these terms is pretty well understood by all gardeners; the first applies to all plants, whether seedlings or rooted cuttings, that are for the first time undergoing the process of being transferred singly from the seed or cutting pots to others of whatever size it is thought desirable for them to occupy; the second has reference to the shifting of plants that are established in pots into others of larger proportions, and is done for the purpose of giving to the roots a wider field wherein to collect the food necessary for building up the system of the plants. In the first instance there is no hard ball attached to the plants, and it follows that after potting off, the soil which surrounds their roots will be firm in proportion to the amounts of pressure applied to it at the time of potting, and of an equal degree throughout; consequently, when water is given to the plants it will percolate equally through the compost contained in the pots, moistening the whole in a uniform degree. This is an advantage plants potted for the first time have as compared with those that have undergone one or more shifts, and is one reason why careless potting is not so soon discovered in their case as in that of those with balls attached to them.

When plants intended to be permanently grown in pots are being potted singly for the first time, every precaution that will tend to their future success should be adopted, and particularly if they come under the term of hard wooded, as when once established the majority of them are impatient of having their roots interfered with by reducing the balls at future pottings. There is therefore not the same chance of remedying an oversight in not supplying the proper compost at first, as in the case of soft wooded plants that will submit to have their balls reduced without injuriously affecting them. We should therefore be careful to supply at the beginning the compost best adapted to them, and in as lumpy a state as the size of the pot will admit, pressing it to the roots as firmly as is consistent with their safety at the time. When re-potting hard-wooded plants requiring peat as the chief ingredient of the compost, we cannot err in making it as firm as possible around the balls. If the compost is in the right state of dryness, there is no fear of making it over-firm by ordinary means. By supplying efficient drainage and making the fresh compost as hard as possible between the balls of the plants and the sides of the pots, we not only supply the plants with a larger amount of material from which to collect food than would be the case in less firm potting, but we also lessen the chances of the plants suffering through inattention to watering or over-watering afterwards.

In the act of potting off or repotting it is a mistake to overfill the pots with the compost. Young hands at the potting bench are apt to commit this error, but a little consideration will show the undesirableness of so doing. Room enough should be left between the surface of the soil and the rims of the pots to ensure on each occasion that water is given to the plants sufficient to thoroughly moisten the mass of soil contained in the pots. When repotting large plants that are to remain for some years afterwards in the same pots, extra care should be taken to perform all matters connected with the process in the way that is thought to be most conducive to the future well-being of the plants. Having sufficiently prepared and drained the pots as I have recommended, the balls of the plants, whether hard or soft wooded, should be pricked a little with a sharp-pointed stick; this is necessary to loosen a little the edges of the old balls, care being taken to break as few roots as possible, so that the roots may get freer access to the new compost, and in so doing there is less chance of the old ball becoming dry, as the water supplied to the plants drains more freely through the new compost than it does through the old ball if not pricked a little. The old ball should always be low enough to allow at least half-an-inch of the new compost to cover it. Care should also be taken to work the finer portions in amongst the rougher or lumpy parts, ramming the whole firmly down as the work proceeds, so that, when finished, the new material may be as near as it is possible to make i, of the same degree of firmness as the old. Operators should also guard against raising the soil higher in the centre than at the sides of the pots, so that the water may act equally on the old and new soil. Before repotting any plant we should be careful to have the ball in a right state as regard moisture. If repotted in an over-dry condition, it will be found difficult to get it into a right state of moisture afterwards; and as it is not desirable, unless circumstances compel it, to water plants for a few days after they are repotted, we should see that the balls at the time are not over-dry.

WATERING.

There is scarcely a more difficult subject connected with gardening to write about than that of watering plants in pots. It is admitted by all who understand the matter that no definite rule can be laid down as to how often it may be necessary to do so. The circumstances and conditions are so varied under which plants are grown that it is impossible to lay down a rule in reference to watering that would with any degree of certainty apply to all of them. One thing, however, we may state with safety, that water should be given as soon as it is required, but not before. The difficulty, however, is to know the precise state of dryness, consistent with the welfare of the plants, at which the soil should be allowed to arrive at before water is given. This can only be learned by practical experience, and a knowledge of the amount of moisture necessary in the soil to maintain healthy and vigorous growth in the particular plants being operated on. I am inclined to think that in a general way more harm is done, especially to plants growing in large pots, through overwatering than what takes place through a deficiency thereof. If through overwatering or imperfect drainage the soil in a large pot becomes sodden and sour it is ten to one if ever it become sweet again while it remains in the same pot. No doubt by withholding water it will be got into a dry state, but it will always have a greater tendency to become sour afterwards than if it had not been overwatered previously. This should make us careful to guard against overwatering plants that have to remain in the pot any length of time, as the roots will never take so kindly to soil that has been once sour, although by care and attention to watering we may get it into what appears a fair condition of sweetness.

Then, the system of dribblets of water at a time is also a bad practice. By this mode of watering, the surface and a short distance beneath it is kept in a seemingly right enough condition as regards moisture, whilst further down in the pot the soil is so dry that the roots cannot derive any benefit from it. In the case of those plants requiring peaty soil, this system has been the death of many that were valuable. It therefore cannot be too carefully guarded against. If peat gets into a certain stage of dryness it is very difficult to get it moist again.

(To be continued.)

SOCIETIES.

Royal Horticultural, *December 8th.*—Orchids were certainly the most striking feature of the meeting on Tuesday last, while Chrysanthemums and fruit were also noticeable. A Silver Flora Medal was awarded to Sir Trevor Lawrence, Bart., M.P. (gardener, Mr. W. White), Burford Lodge, Dorking, for a large group of some of the finer species and hybrid garden varieties of Calanthes, including C. Burfordiense, C. nivea, C. Veitchii superba, and others. His group of Cypripedinm Leeanum and C. L. giganteum was also very fine. A similar award was made to Messrs. F. Sander & Co., St. Albans, for a mixed group of Orchids including Odontoglossum rosaceum, Cypripedium hybridum Pollettianum, C. Leeanum giganteum, and others. A cultural commendation was awarded to C. W. Lea, Esq. (gardener, Mr. Catt), Hallow, Parkfield, Worcester, for a splendid spike of Odontoglossum coronarium. Messrs. Pitcher & Manda, Hextable, Swanley, Kent, were awarded a Silver Banksian Medal for a large group of Cypripediums, including C. Maserecelianum, a fine form, C. Arthurianum, and some Lælias as well as Palms and Cycads. A Bronze Banksian Medal was awarded to Messrs. Collins & Collins, Cumberland Park Nurseries, Willesden, for a group of Cypripedium insigne and some Oncidiums. A fine spike of Schomburgkia Sanderiana, a rosy-purple species, was shown by Baron Schroder (gardener, Mr. Ballantyne), The Dell, Egham. Some cut flowers of Orchids and a large piece of Lælia albida were shown by Malcolm S. Cook, Esq. (gardener, Mr. D. Cullimore), Kingston Hill; also cut flowers by E. H. Woodall, Esq., St. Nicholas House, Scarborough. Dendrobium Macfarlanei and some Cypripediums were exhibited by C. Ingram, Esq. (gardener, Mr. T. W. Bond), Godalming. Messrs. Hugh Low & Co., Clapton, showed Cypripedium Leeanum Claptonensi; Mr. Prewett, Hammersmith, had Dendrobium superbiens; and Messrs. Lewis & Co., Southgate, had a small group of Orchids.

A collection of eight stands of fresh and beautiful cut blooms of Chrysanthemums was exhibited by Mr. Robert Owen, Castlehill, Maidenhead, including fine blooms of Lizzie Cartledge, Thomas Selwood, Henry Perkins, and others; and a single bloom of his magnificent Seedling incurved Japanese R. Owen which the Floral Committee very highly recommended. It could not receive an Award of Merit, only one bloom being staged. A Bronze Banksian Medal was awarded to Mr. W. Wells, 8, High Street, Redhill, for a collection of cut flowers of Chrysanthemums as grown for market. Mr. T. S. Ware, Tottenham, was awarded a Bronze Flora Medal for Christmas Roses, Iris Histria, and Narcissus monophyllus, all in fine bloom. A similar award was made to Mr. W. Whitely (manager, Mr. T. Godfrey), Hillington, for a group of cut flowers of incurved Chrysanthemums. Some nice Chinese Primulas were shown by Messrs. H. Cannell & Sons, Swanley. Mr. Simpkins, gardener to R. J. Measures, Esq., Camberwell, showed a yellow Pompon Chrysanthemum named Mrs. H. Simpkins, a curiously frilled variety received direct from Japan. Messrs. J. Veitch & Son, Chelsea, showed Begonia Winter Gem and some hybrid greenhouse Rhododendrons. Christmas Roses were shown by Messrs. R. Veitch & Sons, Exeter. Vriesia cardinalis, a pretty hybrid, was shown by M. L. Duval, Versailles. Some Poinsettias were exhibited by Mr. C. Turner, Slough, and also by Mr. W. Iggulden, Marston Gardens, Frome; Mr. G. Wythes, gardener to the Duke of Northumberland; and Mr. C. Ross, Welford Park, Newbury, also showed Chrysanthemums.

At a meeting of the Fruit Committee a Silver Banksian Medal was awarded to G. Hatfield, Esq. (gardener, Mr. H. Alderman), Morden Hall, Morden, Surrey, for a large collection of Apples in fine condition. A similar award was made to J. A. Rolls, Esq. (gardener, Mr. T. Coomber), The Hendre, Monmouth, for three huge Pineapples, two of them weighing almost 10 lbs. each. A dish of fruits of Benthamia fragifera was shown by R. G. Lakes, Esq., Trevarrich, St. Austell, Cornwall. A very ancient Apple named Croft Angry, or more correctly Croft-an-Righ, was exhibited by Miss M. Macknight, Malden Lodge, Wallington. A Cultural Commendation was awarded to Mr. W. Whitely for Tomatos. A Cultural Commendation was awarded to Mr.

Walter King, gardener to P. Crowley, Esq., Wadden House, Croydon, for two huge Citrons. Apples and Pears were shown by Mr. I. Voss, Finches, Lindfield, Sussex; Apple A. F. Barron was shown by Mr. C. Turner, Slough; an unnamed Apple from Germany was shown by Mr. A. Colbourn, Woolhampton, Berks; and Mr. E. S. Wiles, Edgcote, Banbury, showed some Onions.

This being the last meeting of the year, the chairman of both Committees received very cordial votes of thanks.

WHAT TO DO IN THE GARDEN.

Propagation of Stove Plants.—By the aid of a small frame placed in a convenient position over the hot-water pipes, a large number of stove plants may be rooted during the winter months, when work in the propagating department is by no means active. The ordinary winter temperature of the pit will be quite sufficient if a small frame of this kind is used and a bed of Cocoa-nut fibre placed in the bottom so that pots containing cuttings may be plunged and enjoy the advantage of bottom heat. Amongst the subjects that may be rooted at this season of the year are Dracæna, Pandanus, Gardenia, Curculigo, Ananassa sativa variegata and others of that class which the grower may possess and require stock of.

Camellias.—If flowers of these are wanted before they are likely to come into bloom naturally, some of the plants in which the buds are well forward should be placed in a temperature of 45° to 50° and the atmosphere kept sufficiently moist by frequent light syringings, especially on fine days. A certain amount of moisture is necessary to guard against the dropping of the buds, which is likely to ensue if the plants are put in a dry warm atmosphere.

Clivias.—The earlier of these plants are now coming into bloom, and the cultivator who prizes them according to their value, will bring them into heat in batches so as to prolong the season and at the same time not have too great a preponderance of them at any time. As they like a little heat in order to produce flowers of the best size, they should be kept where the night temperature is kept about 50° even if they are placed in a cooler house after the flowers are expanded or a little before. Weak liquid manure will prove very beneficial in developing the size of the flowers.

Chrysanthemums.—Where the cuttings are in proper condition a batch of each kind it is intended to grow next year should be taken off and propagated. Very little heat is necessary, and indeed no more may be given them than what they can get on the shelves of a greenhouse or Peachhouse. Comparatively little water will be required, but the sandy soil in which they are placed must not be allowed to get dry, otherwise the cuttings will flag so much that many of them will die. Old plants should not be huddled together merely because they are out of flower and waiting to be propagated. Cut down the old stems and stand the plants near the glass even if they have to be put in a cold frame. By this method only can a stock of healthy and robust cuttings capable of growing into robust plants be obtained.

Late Vineries.—In those cases where the leaves are still hanging on the wood in an unripe condition, steady firing for a time will be necessary to bring about the required state of things. Ventilation must also be given at all times to allow the escape of moisture; but the night temperature should at the same time be relatively low. Long rampant growths should be shortened at once.

Peaches.—A little heat may now be given in the earliest house during the day, with a little ventilation to prevent the undue excitement of the buds. The state of the borders as to moisture should be ascertained from time to time, otherwise the old evil of bud dropping will soon cause disappointment. When dry give a good watering with water heated to a temperature of 80° to 90°.

Cucumbers.—Plants now in a fruiting condition should be carefully attended to in the matter of heat and atmospheric moisture. During mild weather ventilation may be given, which will tend materially to keep the plants in health. Remove all fruits from the plants as soon as fit for use, and damp down all parts of the house without wetting the foliage of the plants.

ORCHID NOTES AND GLEANINGS.

Orchid Growers' Calendar.

THE absence of fogs this autumn in the neighbourhood of London has enabled Dendrobiums and Calanthes to make a good show in the houses. Last year it was seriously considered by some large growers whether these two genera were worth growing on account of their being so liable to injury from fogs; but, when we get a season like the present, or when the plants are grown in the country, they form two of the most useful genera of winter flowering Orchids we have. As the Calanthes lose their leaves less water will be required and manure water should be altogether withheld. Dendrobiums should be introduced into heat in batches to keep up the supply of flowers. Lycaste Skinneri is now flowering freely, and well repays for liberal treatment. After the plants are out of flower they should be turned out of their pots and have all materials not occupied by roots removed, and be potted in well drained pots in fresh material, consisting of equal parts of peat, sphagnum, and leaf soil. The plants should then be placed in an intermediate house, well up to the light, freely syringed overhead, and liberally supplied with water while making their growths. The addition of leaf soil to the potting compost will be the means of the plants making pseudo-bulbs nearly double the size; and, if the plants are kept exposed to light and air during the latter part of the summer and autumn to thoroughly mature the growths, the plants will flower freely. This Orchid is not always seen in such good condition as it should be, considering that it is one of the easiest-grown, when its wonts are suited, and the length of time it lasts in flower makes it a favourite with most Orchid growers.

Another Orchid that does in much the same compost as the foregoing is Cœlogyne cristata, which at the present time is throwing up its flower spikes. Before the flowers are expanded they are liable to get damaged if watered overhead, so that from now onwards until the plants are in flower care should be taken to keep the flower spikes from damp. Lælia autumnalis and its varieties are now very pretty, and while in flower may be kept rather dry. This Orchid, although it may be grown successfully in a pot, succeeds best as a basket plant grown in peat and sphagnum with the addition of a few pieces of charcoal. When making its growth it likes plenty of moisture overhead and at the roots, and at no time should the plant be allowed to become dry. The intermediate or cool house suits it admirably, as well as Lælia anceps and its lovely varieties. The plants should be overhauled yearly and all old material removed and replaced with fresh. At the turn of the year, as the plants are starting into growth, is the best time to perform the operation.

The lowest temperatures in the Orchid houses will now be reached. The cool house should he kept at 50° at night, unless in severe weather it may be allowed down to 45° at night. The Cattleya house from 55° to 60° at night, and the hot section at 65° at night, with a rise of 10° or 15° during the day, with sun heat.—*A. W.*

Lælia autumnalis alba.

JUDGING from the accounts of some concerning this white variety of L. autumnalis there are evidently good and bad forms of it. From what we have seen of it, the flowers are as large as those of the type, and apparently as durable or nearly so. Some allowance must always be made for albinos, because as a rule they are slightly less vigorous, and probably the flowers are a little more susceptible of injury in a damp and cold atmosphere, which should not prevail in houses where flowering Orchids are kept at this season of the year. The scapes grow 2 ft. to 3 ft. long, and bear three or four flowers each. The sepals and petals are pure white, and the lip likewise, with exception of a small yellow blotch in front of the two elevated ridges or plates on the disc, and another blotch of similar colour at the base of the column. A number of pieces are now flowering finely in the nursery of Messrs. B. S. Williams & Son, at Upper Holloway, and we saw it the other day in the nursery of Messrs. J. Veitch & Sons, Chelsea, where the flowers are quite up to the standard.

Epidendrum dichromum.

THE flowers of this pretty Epidendrum are borne in panicles on scapes 2 ft. to 3 ft. high, and are about the size of those of E. nemorale or E. prismatocarpum. The sepals and petals are rose coloured, but the three-lobed lip is altogether darker. The side lobes are purple, but the terminal one, which is bifid, is crimson-purple, varying in intensity, probably in different individuals. The species is a native of Pernambuco, from whence it was originally introduced in 1865. It is flowering with Messrs. J. Veitch & Sons, and requires only a moderately high temperature.

Cattleya Hardyana laversinensis.

SINCE its appearance in 1884, C. Hardyana has always been considered one of the finest Cattleyas in cultivation. The sepals and petals were of a bright rose-purple and paler at the base, while the side lobes of the lip, as well as the larger and much crisped middle one, were rich magenta-purple. Not the least striking feature of it was the two large golden-yellow blotches, one on each side of the throat. The Cattleya was considered to be a natural hybrid between C. Dowiana aurea and C. Warscewiczii (gigas), and was said to have been introduced with the latter, for which it was originally sold. The variety C. H. laversinensis appeared with M. le Baron F. de Rothschild, Château de Laversine, France, in August last. It differs from the type in having the sepals marbled with pink on a lighter ground, while the petals are much darker and more nearly of a uniform hue. The anterior lobe of the lip, judging from a coloured plate in *Lindenia, pl.* 305, is of a dark crimson, while the golden-yellow blotch on each side of the throat is very large and well displayed.

QUESTIONS AND ANSWERS.

*** *Correspondents are requested, in order to avoid delay, to address all communications to* "THE EDITOR" *or* "THE PUBLISHER," *and not to any person by name, unless the correspondence is of a private character. Telegrams may be addreesed "Bambusa London."*

RASPBERRY CANES.—*P.*: The difference in produce and quality depends upon the variety, and some have darker coloured stems than others.

NAMES OF PLANTS.—*Aberdeen*: Salvia Heerii.

CAMELLIAS DISEASED.—*W. Mason*: The plants are sick unto death, and you will have some trouble in getting them round. We suspect that although you planted them in a fresh bed of peat and loam, they have since made but few new roots, and there is the seat of the mischief.

WEEDS ON WALKS.—*S. W.*: A good old remedy is to apply salt to weedy walks, scattering it over the surface by hand, and making it sufficiently thick to be perceptible. Perhaps the best time to apply it is during dry weather in summer, when it gradually gets pulverised or crumbled down about the roots, and the first shower makes it soluble, and the roots of the grass and other weeds taking it up get destroyed. Some of the preparations for the purpose may be used, such as Smith's Weed-killer. It is of a highly poisonous nature, however, and great care must be exercised in not spreading or sprinkling it over the grass bordering the walk, nor the box or other plant edgings, otherwise they will get destroyed.

MILLIPEDES ON TURNIPS AND CARROTS.—*T.G.B.*: You can considerably mitigate the nuisance by trenching the ground deeply, thereby burying a large number of the creatures as well as their eggs. If the soil is deep and good the top spit may be put in the bottom of the trench, while the fresh soil is turned up. The badly injured Turnips and Carrots should be destroyed by burying them deeply or giving them to pigs. During the summer and autumn months, while the marauders are at their work, pieces of Turnip and Carrot may be laid about the ground by way of baits or traps, and if the Millipedes are plentiful large numbers of them may be collected and destroyed.

COMMUNICATIONS RECEIVED.—G. W.—R. D.—T. B.—F. W. B.—J. Forbes—C. B.—A. H.—C. B. G.—R. L.—W. F.—A. W.—G. S.—W. B. R.

TRADE CATALOGUES RECEIVED.

JAMES CARTER & Co., 237-8, High Holborn, W.C.—Select list of new Chrysanthemums.

ROBERT VEITCH & SON, Exeter.—Descriptive Catalogue of Alpines, Perennials, and other hardy Plants.

A. FINDLAY, MARKINCH, N.B.—New varieties of Potatos.

DICKSONS & Co., 1, Waterloo Place, Edinburgh.—Forest and Ornamental Trees, Shrubs, &c.

LONDON SEED TRADE.

December 7th, 1891.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a brisk trade in White Clover, Alsike, and Trefoil at advancing rates. Red Clover steady. Ryegrasses unchanged.

COVENT GARDEN MARKET.

December 9th.

FRUIT.—AVERAGE WHOLESALE PRICES

	s. d	s. d.
Apples... per ½-sieve	1 0	5 0
Canadian and Nova Scotian Apples per barrel	12 0	18 0
Cobbs... per 100 lbs.	30 0	35 0
Grapes .....per lb.	0 6	2 6
Pine apples. —St. Michael's, each	2 6	6 0
Peaches .....per doz.	0 0	0 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.
ArtichokesGlobe doz.	3 0	6 0
Beans, French, perlb.	0 9	
Beet..... per dozen	2 0	3 0
Cabbages ... per doz.	1 6	2 6
Carrots ... per bunch	0 6	
Cauliflowers,English, per doz.	3 0	6 0
Celery.....per bundle	2 6	
Cucumbers .....each	0 6	0 9
Endive, French, doz.	2 6	3 0
Herbs .....per bunch	0 2	0 6
Horse Radish, bundle	2 0	4 0
Lettuces ...per dozen	1 0	1 6
Mushrooms, p. basket	1 3	2 0
Onions.....per bunch	0 4	0 6
Parsley ... per bunch	0 6	
Radishes... per dozen	1 6	
Smallsalading,punnet	0 4	
Seakale ...per basket	2 0	3 0
Spinach, per strike ...	1 6	
Tomatos..... per lb.	0 9	1 3
Turnips .....per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Aralia Sieboldi ...doz.	6 0	12 0
Bouvardias...per doz.	8 0	12 0
Chrysanthemums,doz	6 0	12 0
— large .....per doz.	12 0	24 0
Cyperus .....per doz.	4 0	12 0
Dracæna term., doz.	24 0	36 0
Dracænaviridis,doz.	9 0	18 0
Epiphyllum per doz.	9 0	12 0
Erica Hymalis, per	12 0	18 0
Evergreens,invar.doz	6 0	24 0
Ferns, invar.,per doz.	4 0	18 0
Foliage Plants, doz.	12 0	60 0
Heliotrope, per doz.	4 0	6 0
Marguerites, per doz.	6 0	12 0
Mignonette, per doz.	4 0	6 0
Palms in variety,each	2 6	21 0
—scarlet .....per doz.	4 0	6 0
Poinsettia, ...per doz.	9 0	18 0
Roman Hyacinths, per doz.	9 0	12 0
Solanums...per doz.	9 0	12 0
Tulips.....per doz.	9 0	

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Acacia or Mimosa French per bunch	1 0	1 6
Arum Lilies, 12 blms.	4 0	6 0
Bouvardias, per hun.	0 6	1 0
Carnations,12 blooms	2 0	3 0
Chrysanthemums, doz. blooms	0 9	3 0
Chrysanthemums, doz. bunches	4 0	12 0
Eucharis ...per doz.	4 0	8 0
Gardenias 12 blooms	3 0	6 0
Heliotropes,12 sprays	0 3	0 6
Hyacinths, Roman, doz. sprays	9	1 0
Lapageria, 12 blooms	1 0	3 0
Lilac, French, per bunch	6 0	7 0
Lilium Harrisii, doz. blooms	6 0	8 0
Liliumsvar.,doz.blms.	1 6	3 0
MaidenhairFern,12bs.	4 0	9 0
Marguerites, 12 bun.	2 0	4 0
Mignonette... 12 bun.	1 6	3 0
Narciss, Paper White doz. sprays	1 0	1 6
Narciss, French, doz. bunches	4 0	8 0
Parme Violets, French, per bun.	3 6	4 0
Dark „ „ „	2 0	2 6
Pelargoniums, 12 sps.	0 6	0 1
—scarlet.....12 bchs.	4 0	6 0
Poinsettia, doz. blms.	4 0	9 0
Primula, double, hun.	0 9	1 0
Pyrethrum, doz. bchs.	2 0	4 0
Roses, yellow, dozen	3 0	6 0
— Red..... doz. blms.	1 6	2 0
— Saffrano...per doz.	2 0	3 0
— Tea ..... per dozen	1 0	3 0
Stephanotis, dz. spys.	4 0	8 0
Tuberoses, per doz.	0 6	0 9
Violets, English per bunch	1 6	2 0

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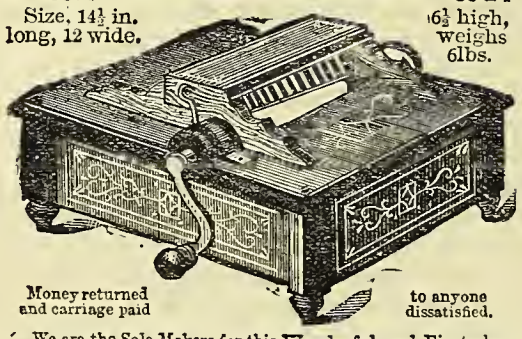

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6	Climbing Roses, own roots, 6 var., 1½ to 3 ft.	2 3
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13	Large-flowering Clematis, purple, &c. named	2 6
12	Tea Roses on own roots, best kinds, named	5 0
6	Mrs. Sinkins, new white Pink (12 for 1s. 10d.)	1 4
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6	Variegated Gold and Silver Ivies (12 for 4s.)	2 3
6	Ampelopsis Veitchii, small-leaved, self-clinging	2 0
12	Irish Ivies, strong plants, 2 to 3 ft. high	1 9
12	Pansies and Violas, best named kinds	2 3
12	Alpine Auriculas, lovely strain (25 for 2s. 6d.)	1 6
6	Named perennial Phlox, 6 var.	1 6
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6	Perennial Michaelmas Daisies, white, very large	2 0
12	Assorted plants, suitable for rockeries	1 6
100	Assorted hardy herbaceous and perennial plants	5 0
12	Iceland Poppies, pretty perennials	2 0
3	Dracæna indivisa, about 1 ft. high	2 0
6	Heliotropes, best kinds, well rooted	2 0
6	Large choice Greenhouse Ferns, A. Farleyense, tenerum, concinnum, latum, &c., 1 ft. high	3 0
12	Chrysanthemums, best named var. (25 for 3s. 6d.)	2 0
6	Ficus repens, strong, well-rooted plants	1 6
6	Perennial Pyretbrums (12 for 3s.)	1 9
6	Heliotropes, 6 distinct named	2 3
3	Double Tropæolums, Hermine Grashoff	1 9
6	Nicotiana affinis (sweet scented Tobacco-plant)	2 0
6	Fuchsias, 6 var., named	1 6
6	Delphiniums, mixed colours, light and dark	1 9
6	Pinks, alba fimbriata or Anne Boleyn (pink)	1 6
6	Saxifrages, 3 distinct kinds	1 9
4	Marguerites, white and yellow, named	1 9
6	Tuberous Begonias, excellent strain	2 9
6	Tree or winter-flowering Carnations	3 0
6	Perennial mauve Michaelmas Daisy	2 0
6	Sedums, in 6 var., named	2 0
6	Saxifrages, in 6 var., named	2 0
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6	Ivy Geraniums, best named vars.	2 0
6	Lavender or Southernwood, strong plants	1 6
6	Begonia Rex, bandsomely marked leaves	2 0
6	Christmas Roses	2 0
12	Perennial white Candytuft	2 0
12	Seedling Carnations, from double flowers	2 3
3	Passion-flowers, 3 vars., named	1 6
6	Lobelia cardinalis, intense red flowers, perennial	2 0
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12	Perennial Gaillardias, assorted colours	2 0
3	Sensitive-plants, from single pots	1 6
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40	Wallflowers, blood-red, purple, yellow, &c.	2 0
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20	Foxgloves, white and spotted	1 6
20	Antirrhinums, splendid strain	1 6
3	Erica Cavendishii, strong, well-rooted	2 6
3	Erica hyemalis, strong, well-rooted	2 0
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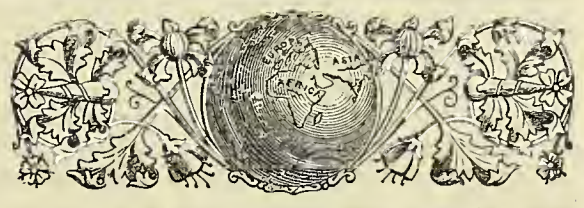

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

WEDNESDAY, Dec. 23.—Sale of Lily Bulbs at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, DECEMBER 19th, 1891.

THE ROYAL HORTICULTURAL SOCIETY'S COMMITTEES.—Although the ballot is in association with all forms of popular franchises an excellent thing, still we hardly looked for a suggestion that it should be employed in connection with the voting which of necessity takes place at the committee meetings of the Royal Horticultural Society. But it seems to have entered the heads of some persons that the voting for or against the granting of certificates to the respective subjects sent to the committees for adjudication is not free and unfettered, or impartial, because it is open and therefore given under pressure of some influence which favours some persons and harms others.

A more inexact idea could hardly be advanced, and could only grow out of a want of knowledge of the persons who constitute the committees, and their surroundings. So far as our judgment goes, and it is a very wide one, there is no form of evil in connection with the present system of open voting that would not be intensified by the introduction of the ballot. We believe that under the present system every award is made solely upon the merits

of the subjects exhibited, and if some firms or private growers get more certificates than do others, it is due entirely to the fact that they show at once most good things, and present them in the best condition.

We are convinced that, more than everything else, the cause of so much grumbling among provincial exhibitors at the society's meetings is to be found generally in a want of knowledge of the best things as known by the members of the committees to exist, and the generally indifferent style in which most provincial exhibitors present their new things for adjudication. It is useless for any exhibitor to show a new plant, however good or distinct he may know it to be, if he does not stage it in its best presentable condition, for the committees take nothing on trust. They must see it in a condition to warrant an award, or assuredly it does not get it. We have heard the complaint made several times that while the raiser of a new plant has shown it time after time and failed to get an award, the nurseryman who bought the stock got a certificate the first time of asking, and this has been held up as a sample of the assumed favouritism—or something else that has not been clearly defined—shown by the committee towards certain exhibitors, to the prejudice of others. But it was nothing of the kind, it was due entirely to the raiser being incapable of doing full justice to his own plant. Several instances of this kind could be brought to mind, and we believe the explanation to be as we have stated.

At the meeting of the committees last week it was stated officially that it had been suggested to the Council that the voting in future should be by ballot, and the Council very properly submitted the proposal to the committees for their opinion. The result was a unanimous agreement in favour of open voting, and we are glad that the Council took the step they did, because to have resolved on their own part to have forced secret voting on the committees without their approval would have been an act which the members might well have resented. We know that there is an undefined something about the working of the committees which causes dissatisfaction in many influential quarters, but whatever it may be, secret voting is clearly not the remedy for it. What we would suggest as the right means of disabusing the minds of exhibitors with respect to what is assumed to be favouritism, would be to carry the system of open voting a step further, and let every member who votes sign his name for or against an award whatever it may be, such signatures to be made on forms to be kept at the society's office, for any Fellow's inspection. That surely would be a satisfactory plan to everybody.

Wanted, a London Alphand.—Whilst Paris has just lost its Gardener-in-Chief in the person of the late M. Alphand, London still seems to be seeking for its horticultural director, and evidently has not yet found him. Just as in the old days of the Empire Baron Hausmann created the noble streets and boulevards of Paris, indeed almost reconstructed a great portion of that city, so was Alphand its garden and park reconstructor and planter, its horticultural head and good genius. There when the parks and gardens are almost exclusively under the control of the city council, there is ample room for the development of town horticulture on an unique and consistent method. The Corporate authorities of Paris spend almost lavishly when the beautifying of their famous city is concerned. In London our expenditure is rather niggard even in the royal parks, and we do not make our open spaces one half so attractive as they well may be.

In London we want an Alphand who is also a horticultural genius. Where is he to be found? Somehow horticulture with us—important an industry as it is to the community—has hardly held a position sufficiently exalted to enable it, or perhaps encourage it, to produce geniuses. We once had a Loudon and a Paxton. Those two names stand out pre-eminent because all others seem to have been mediocre, and yet perhaps from no fault of their own, but simply because their spheres have been restricted, their wings clipped, their ambitions checked through local repressive surroundings. When we think that a London Alphand cannot be found, it is not because our horticulturists are dullards. Very far from that; it is because what militates against the probability of a municipal genius being presented is the fact we have already shown, viz., that circumstances have been unfavourable to his production.

It would be, indeed, an anomaly that we should have all the chief parks and open spaces of the metropolis under government control and those of the less pretentious under municipal authority. It is evident that all should be under the same responsible head, and that such head should, beyond being a horticultural Alphand, also be a man of first-class business qualification. How eagerly do we look for the advent of our municipal horticultural Alphand.

New Varieties of Grapes.—The putting of two new Grapes into commerce the same season by the same firm, and by the same raiser, is an event of more than ordinary importance. We have plenty of varieties of Grapes—they are indeed legion. Still out of so many, how few relatively there are which stand out as first-class. When we have selected Black Hamburgh, Madresfield Court, Gros Colmar, Alicante, Muscat Hamburgh, Mrs. Pince's Black Muscat, and Lady Downe's we have fairly skimmed the cream of the blacks; whilst of whites Muscat of Alexandria, Mrs. Pearson, Forster's Seedling, and Golden Champion seem to be about the best. In any case when we have selected a dozen of the best what is left is nothing to boast of. The sorts mentioned are those which are generally grown and grown well; those unmentioned are specialty varieties, which some growers can do well, but which other growers cannot do at all. Thus it is made evident that, in spite of our possessing numerous varieties, the list of really good general Grapes is a short one.

The two new Grapes, the distribution of which Messrs. Cutbush & Son announced in our last issue, come from Appley Towers in the Isle of Wight. They were raised by the gardener there, Mr. Miles, and after a somewhat severe ordeal—for the honours were not granted the first time of asking—have been certificated by the Fruit Committee of the Royal Horticultural Society, and we believe that in this case no mistake has been made, but that the certificates have been worthily placed. The pair include a white and a black one, the former being named after the late Lady Hutt, who was Mr. Miles' employer, and the latter after Appley Towers, where it was raised. Both are seedlings from Black Alicante and Gros Colmar, and although neither of the parents enjoy high repute for flavour, yet the products of the cross, in addition to having been black and white, have enhanced flavour.

To put into commerce any farther, poor-flavoured Grapes would indeed be a misfortune, but the introduction of any which really have good flavour is indeed a gain. We do not want too much of the strong flavour of the Muscat in Grapes, because, when so pronounced, the palate is soon satisfied. A mild, pleasant-flavoured Grape, of which it is possible to eat freely, is far more enjoyable. We shall look for the future reputation of the new Grapes with considerable interest.

October Chrysanthemums.—The announcement made last week of the intention of the Committee of the National Chrysanthemum Society to hold an October exhibition of their special flower has met with the most cordial reception. The matter was much discussed privately at the recent December show of the society, and very strong opinions were put forth in favour of having a December show again next year instead of a September one, so that the funds of the society may not be frittered away in too many efforts. That in a year or two there will be, if continued, some remarkably fine displays of flowers in October there can be no doubt. In the month of September the shows are too dependent upon the early blooming varieties of the Chrysanthemum, too many of which have but little exhibition merit, and altogether fail to produce those fine displays which later and finer flowers give.

With regard to the success attendant upon the transferring of the old January shows to December there can be absolutely no question. The blooms in many of the stands were marvellously fine, eliciting surprise and pleasure on every hand. Such flowers as were found in the chief prize stands, and in the splendid collections set up by Messrs. Cibran, Owen, Jones, Cannell, and others, fully repaid all who visited the show, and amply justified the executive for making the change. Could we have now permanent shows held by the National Society in October, November, and December, we should find that the quality and abundance of blooms would expand at both ends, and that the earlier and later months would soon rival the centre month in flower production. Whilst the very early flowers, as a rule, are only fit for outdoor decoration and cutting uses, the very late ones are useful only for the latter purpose and are not fit to make exhibitions. The classes for bunches of from four to six flowers were most attractive. Some of the flowers were remarkably good and capitally set up. We want to see more of such classes at all our Chrysanthemum exhibitions.

The Royal Caledonian Horticultural Society has fixed the following dates for its exhibitions next year:—April 6 and 7, July 14 and 15, and September 7 and 8.

The Portsmouth Chrysanthemum Show in 1892 will be held on November 2nd, 3rd, and 4th.

The Brighton and Sussex "New" Horticultural and Mutual Improvement Society announces its first annual exhibitions, to be held in the Royal Pavilion on April 5th and 6th, and August 30th and 31st, 1892.

The Royal Horticultural Society's Journal.—Part III. of Vol. XIII. has just been published, bringing up the record of the Society's proceedings to September 22nd, and including also the papers read at the conferences on hardy summer-flowering perennials, and small fruits.

National Chrysanthemum Society.—With a view to promoting a pleasant evening's social entertainment for the members of this society it has been decided, unofficially, to hold a smoking concert at Anderton's Hotel, Fleet Street, on Friday, January 22nd. Further particulars will shortly be given.

New Plants Certificated in Ghent.—At the last meeting of the Belgian Syndical Chamber of Horticulturalists Certificates of Merit were awarded to Mr. Charles Vuylsteck, for a hybrid Cypripedium (Spicerianum x barbatum superbum); to Mr. L. Desmet, for Abutilon insignis, Duc de Malakoff fol. marmoralis; to Messrs. Duriez, for Asparagus retrofractus arborescens; to Mr. Moens, for Cypripedium insigne Moensi; to Mr. Jules Hye, for Cypripedium decorum; to Mr. Edward Pynaert, for Adiantum nebulosum; to Messrs. Boelens Brothers, for Cattleya Bowringiana; and to Mr. E. Eckhaute, for Dracæna Veitchii fol. var.

The Midland Counties Pansy Society is again at work for its 1892 exhibition, that of last year being of so very satisfactory a character that the committee are now preparing an extended schedule of prizes, which will be issued as early in the new year as possible. Intending subscribers are invited to communicate with the Hon. Secretary, Mr. W. Dean, Dolphin Road, Sparkhill, Birmingham.

Birmingham Gardeners' Association.—On the occasion of the last two meetings Mr. Charles Bick, gardener to Walter Chamberlain, Esq., read an excellent paper on "Evergreen trees and shrubs for town gardens," with examples of those which he has found from experience to do best in the Birmingham district. At the last meeting Mr. John Bluck, gardener, The Henburys, read a paper on "The Camellia and its varieties and cultivation," giving the details of his management of the monster specimen, double white, under his care, as well as smaller plants. Both papers were most instructive, and were well discussed.

"The Miniature Fruit Garden."—Horticulture, especially in so far as relates to fruit culture, both in the open air and under glass, owes an immense debt of gratitude to the memory of the late Mr. Thomas Rivers, of Sawbridgeworth, who during a long and and singularly active life gave an immense impetus to enhanced fruit production in this country. One of the most useful of the several valuable works which he contributed to the horticultural literature of his time was "The Miniature Fruit Garden," which after running through nineteen editions has just made its re-appearance in an enlarged and improved form. The Editor of the present edition, Mr. T. Francis Rivers, has considerably revised the selections of varieties most suited for various purposes, but otherwise has not found it necessary to make many alterations in the text, for, as he observes, "trees do not change their nature, and the rules for their cultivation in one year, if sound, must be the same in all succeeding years." We note the addition, however, of a chapter on "Insect Pests," by Mr. H. Somers Rivers. The work requires no commendation from us, its merits being amply proclaimed by the fact of its having reached the twentieth edition. Messrs. Longmans, Green & Co. are the publishers.

HARDY TREES & SHRUBS.

The St. Peter's Worts.

About six species of Symphoricarpus, popularly spoken of as St. Peter's Wort, are known to science, but few of them are seen in cultivation beyond S. racemosus, S. vulgaris, and the variegated variety of the latter. As in the case of most other hardy shrubs the most useful always come to the front and are propagated in preference to the others, which sooner or later drop out of cultivation. They are natives of North America, and some of them of the mountains of Mexico, the former being the most useful in this country. They are easily propagated from suckers, which they often throw up in great abundance. This habit of throwing up suckers is advantageous in some instances and disadvantageous in others according to the size of the garden and the ground at disposal.

S. racemosus.—For general purposes this is undoubtedly the most useful species, and the most ornamental. The flowers are rose coloured, and keep on expanding in succession from July to September. The berries are of the size of large Peas, and ripen in October, when they become white. Both from their abundance, their size, and peculiarly snow-like appearance, the plant is popularly and widely known as the Snowberry. Our illustration will serve to give those unacquainted with the plant an idea of its fruitful nature. The small flowers are represented in the lower right-hand corner of the figure, and the berries natural size in the lower left-hand corner. The upper portion of the figure represents a spray of fruit reduced; and the berries were drawn from specimens ripened last October. The berries hang on the plants for the greater part of winter provided severe weather does not drive the birds to eat them, and there can be no question as to their decorative value. The shrubbery is the most convenient place for this species in gardens and the more immediate vicinity. It is also extensively planted in coverts or copsewood where game is kept, both for the sake of shelter and the food it affords the pheasants. The flowers are also held in much esteem by bees. It has been suggested that by grafting the Snowberry on upright stems of Lonicera Xylosteum, or some allied plant of similar habit, an interesting little tree in the form of a standard would be the result. Its habit of throwing up suckers would then be overcome.

S. vulgaris.—The flowers of this species are red and yellow, and produced during August and September, while the berries ripen in December. Neither are, however, very abundantly produced in this country. The plant is valued chiefly for making small or low hedges, which are dwarfer and neater than those of the Privet. This need not, however, preclude the use of it in shrubberies, where it forms

Symphoricarpus racemosus.

neat bushes about 2 ft. or 3 ft. high. It branches very freely, and being of twiggy growth presents a neater appearance even than S. racemosus. The leaves are also small, about the size of Box leaves, but compactly and differently arranged. The variegated variety of this species is even more popular in gardens than the type, and has its leaves variegated with green and yellow, which adds considerably to their attractiveness. Both the type and the variety are very hardy, and are grown even in the far north; the former was introduced in 1730.

S. montanus.—The Mountain St. Peter's Wort is so called from its inhabiting the mountains of Mexico, at an altitude of 7,000 ft. to 8,000 ft., and that fact must account for its hardiness in this country. The leaves are almost evergreen, and not unlike those of S. vulgaris. The pinkish flowers expand during the months of August, September, and October, and are followed by white berries, which ripen in December. The stems are erect, close, and bushy, and the plant is neater in habit than S. racemosus, and requires to be propagated by layers.

S. occidentalis.—The flowers of this species are larger than those of S. racemosus, pink and densely bearded inside. They are produced in dense, drooping spikes from July to September, and the white berries ripen in October, and hang on during the winter months. The leaves are larger, more rigid, and more densely arranged on the stems than in the case of the Snowberry proper, and by those characters the two species are distinguished. Like the last named it seems to have dropped out of cultivation to a large extent.

Retinospora obtusa lycopodioides.

The typical R. obtusa is a moderately slow growing tree even for plants of this class, but the variety under notice is even slower. As the name implies it bears some fancied resemblance to a Club Moss, owing to the unusual thickening of all the twigs and shoots corresponding to the great crowding and singular arrangement of the leaves. Small plants have quite a dense habit of growth, and altogether different from what we are accustomed to see in the more typical forms of the species. Collectors would find it a distinct looking plant at all seasons of the year, for except a slight change in the colour of the young growths, the plant preserves much the same appearance all the year round. It was introduced from Japan in 1861, and proves hardy in this country as it resisted the severity of last winter without injury. In gardens it is often met with under the name of R. lycopodioides, and though only a form of R. obtusa, would not at first sight be recognised as such, seeing that it is more distinct than R. leptoclada. The Japanese Conifers of this group are very much given to variation, and the variety under notice must be regarded as a very singular form.

Cupressus nutkænsis pendula.

There are now pendulous varieties of a large number of the ornamental and other trees and shrubs grown in gardens; and it is curious to note how the different kinds vary in their mode of becoming pendulous. The pendulous Sequoia gigantea (Wellingtonia) is often a very scraggy looking plant with the main lateral shoots depending from the upright stem as if they were broken. The pendulous C. nutkænsis, on the contrary, carries its lateral branches horizontally or nearly so; but their branches are regularly decurved as if partly broken off and left hanging on the plant. A row of these pendent branchlets on each side of the horizontal ones hangs so gracefully, resembling a fringe or curtain, that the decorative value of the tree is considerable. The habit reminds one very much of Spruce trees as seen in the arctic regions, borne down by the weight of snow till they come to assume that peculiar habit permanently.

NEW & RARE PLANTS.

The undermentioned plants and flowers were exhibited at the meeting of the Royal Horticultural Society, on the 8th, and received certificates according to their value. The Orchids certificated on the same occasion are recorded on page 247.

Zamia integrifolia.—Two plants of this Cycad were exhibited by Messrs. Pitcher & Manda, Hextable, Swanley, Kent. One of them had three crowns and the other had five. The leaves were 18 in. to 2 ft. long, ascending and arching, pinnate, with the pinnæ linear, obtuse, ascending at an angle from the midrib of the leaf and again recurved at the tip. They are rigid in texture and of a deep green. The plants were grown in 24-size pots, and looked well furnished with foliage owing to the plurality of crowns. Their dwarf, compact habit would also tell greatly in their favour as decorative subjects. A First-class Certificate was awarded.

Vriesia cardinalis.—This hybrid Vriesia is the result of crossing V. Krameri with V. brachystachys, and was raised by M. L. Duval, 8, Rue de l'Ermitage, Versailles. The leaves are strap-shaped, suddenly narrowed to a point, of a bright shining green, and arranged in the form of a small vase. The flower scape rises to a height of 18 in., and is red in the upper portion where not covered with bracts. The upper portion is covered with large keeled, deep crimson-red bracts arranged in two dense ranks, giving the spike somewhat the form of the blade of an oar. The petals are yellow and tipped with green. The whole presents a showy appearance, and must be valuable for decorative purposes. A First-class Certificate was awarded it.

Chrysanthemum Henry Perkins.—In this we have an incurved Japanese variety of medium size; but very compact owing to the dense arrangement of the florets, which are fluted but not tubular, more or less twisted against the sun, pointed, and of a soft bronzy-red. The tips of the florets, especially on the reverse, are the colour of old gold, and this is best seen in the centre of the bloom. It is an English raised seedling of great merit.

Chrysanthemum E. G. Hill.—The blooms of this American variety are somewhat of the same style as Sarah Owen, but the florets are more decidedly

incurved, and golden-yellow with a bronzy reverse; but they behave differently in different blooms, and sometimes become more or less reflexed showing the upper and yellow surface only. The variety would of course be classed with the Japanese incurved, although so different from Henry Perkins.

CHRYSANTHEMUM THOMAS SELWOOD.—Yet another incurved Japanese sort is added to the list by the variety here named, and which was raised by Mr. Owen. The outer florets are spreading, while a large number of the inner ones are incurved covering over the centre. All are of a bright clear yellow.

CHRYSANTHEMUM MRS. J. S. FOGG.—The plant of this American variety is of good habit, and bears heads of good average size, and which may be classed amongst the Japanese reflexed. The florets are of a bright chrome yellow, much twisted and revolute at the edges, very compactly arranged, forming dense heads.

CHRYSANTHEMUM LIZZIE CARTLEDGE.—For description of this American variety see p. 194.

CHRYSANTHEMUM RIVELYN.—This is a true incurved, a sport from the yellow Mrs. Norman Davis, nd certainly a fine thing. The flowers are of large size for that type, and of a beautiful golden-bronze with a gold centre. The bronzy hue first makes its appearance at the base of the outer florets and gradually spreads upwards till the greater part of the bloom assumes that hue. All of the above mentioned six Chrysanthemums were exhibited by Mr. Robert Owen, Castle Hill, Maidenhead, who received Awards of Merit for them. E. G. Hill was also shown by Messrs. J. R. Pearson, Chilwell, Notts, who also received an Award of Merit.

CHRYSANTHEMUM MRS. H. SIMPKINS.—The flower heads of this decorative variety are about the size of those of Mrs. J. Carter, but they are of a much brighter yellow. Their leading characteristic, however, is the deeply lacerated florets, which are cut into three or four thread-like segments for three parts of their length. The bloom as a whole is nearly globular, and presents a curious but attractive appearance. The variety is likely to become popular for decorative purposes, as it branches and flowers very freely. The leaves are also finely and deeply five-lobed. A large flowering branch of it was exhibited by Mr. Simpkins, gardener to R. J. Measures, Esq., Camberwell, when an Award of Merit was accorded it.

The undermentioned subjects were exhibited at the Royal Aquarium on the occasion of the National Chrysanthemum Society's Early Winter Exhibition, on the 9th and 10th inst., and were awarded First-class Certificates.

CHRYSANTHEMUM E. D. ADAMS.—The heads of this Japanese variety are of great size and pure white with exception of the florets in the centre, which are yellow at least in the early stages, but may unfold and get white like the rest as the flower attains age. The spreading florets are twisted, and more or less interlaced with one another. The variety gives promise of being useful for exhibition purposes, and besides the certificate, received one of the prizes offered by Mrs. Myers for seedlings. It was exhibited by Messrs. Pitcher & Manda, Hextable, Swanley, Kent.

CHRYSANTHEMUM HENRY PERKINS.—For description of this incurved Japanese sort see above. It was exhibited by Mr. R. Owen, Castlehill, Maidenhead, who besides the certificate also obtained one of Mrs. Myers' prizes for it. He had only one bloom of the grand, new, incurved Japanese variety named Robert Owen, and was consequently debarred from taking a certificate for it, but a guinea, the highest award for a seedling offered by Mrs. Myers, was secured for it as the best seedling at the exhibition.

CHINESE PRIMULA KENTISH PURPLE.—The leaves of this variety are of the ordinary heartshaped form, but large, and deeply lobed with red petioles and vigorous. The flowers are very large, flat, and vermillion red (as seen by the dull light of the Aquarium) with a white line running round the five-angled, green eye. The variety was exhibited by Messrs. H. Cannell & Sons, Swanley, Kent.

CYCLAMEN QUEEN OF WHITES.—The heart-shaped and large leaves of this variety are furnished with large, isolated, grey blotches, which give them a certain decorative value. The flowers are also of unusual size, showing that the variety belongs to the Cyclamen persicum giganteum type, as distinguished from the smaller flowers of the more typical form. They are pure white, even to the mouth, with broadly obovate and rounded segments. A plant of it was exhibited by Mr. John May, Gordon Nursery, St. Margarets, Twickenham, Middlesex.

FLORICULTURE.

MIDLAND CARNATION AND PICOTEE SOCIETY.

We have been favoured with a copy of the first annual report of this vigorously managed and thriving young society, which in the course of a few months has attained proportions which its promoters never dreamt of. The society was designed not to supplant, but to supplement the work of such other associations as have for their object the popularisation and development of the Carnation and Picotee, and that its operations have not been regarded in any other light is evident from the fact that the veteran Mr. Dodwell, Mr. Turner, Mr. Douglas, Mr. Barlow, and many other noted growers from widely different districts gave the Birmingham show held in August their warmest support.

The cash account shows a balance in hand of £28 18s. 3d., which, with the increased financial support that has been promised, has enabled the committee to offer a liberal schedule of prizes for the coming year's exhibition. We note also that as the classes for single blooms originated by Mr. Robert Sydenham did not meet with general approval at the last show, the committee have decided at the next show to have one class for each colour and give four prizes in each class, but restricting the number of blooms which any exhibitor can show in each class to one. This arrangement should induce exhibitors to put their best strength forward in these classes, and so bring about a spirited competition.

VIOLAS V. TUFTED PANSIES.

MR. WM. CUTHBERTSON, of Messrs. Dobbie & Co., Rothsay, has published in a gardening contemporary the replies he has received from various growers as to the advisability of retaining or rejecting the name of "Tufted Pansies" for our Violas. I have in my correspondence with the gardening press and by private letters, ridiculed and condemned from the first, as misleading and incorrect, the designation of our decorative Violas as "Tufted Pansies," and, with the strong expression of opinion now given, I hope no one will now persist in using it; and I for one heartily thank Mr. Cuthbertson for eliciting and publishing this chorus of disapproval.

Violas are now very popular and their popularity is increasing, and I hope senders out of new varieties will give us only Violas of high class quality, bearing in mind that after all it is as a valuable early and continuous blooming border decorative plant we should look for its first qualification. We now have a long list of excellent kinds, and what we want are new shades of bright pleasing colours, retaining as much of the Viola character as possible, and in which there is improved form and good close habit. Those with long branching growths are objectionable, and not so floriferous as those of much more compact habit. —*William Dean, Sparkhill, Birmingham.*

ABOUT PEARS.*

THE history of the Pear, Pyrus communis, corresponds in no small degree with that of the Apple; it has been known and has been under cultivation from a period of remote antiquity. It is found wild in some parts of Britain, is a native of the southern peninsulas of Europe, and in fact almost the whole of temperate Europe. To assert positively that it is also Asiatic would be somewhat bold, as many of the seemingly wild varieties are probably no more than the remains of ancient cultivation. Some hundreds of years B.C., the culture of the Pear had considerably advanced amongst the Greeks. The Arcadians are said to have fed on Pears as well as Acorns. Axras is the old Greek name for the wild Pear, and the cultivated form was spoken of by the Greek poet Homer under the name of ogxne. In modern Europe, the north of France and Normandy in particular is considered the true Apple and Pear country. Further south, where the trees really come from, they do not thrive so well.

Theophrastus, writing on these subjects, recommended his countrymen to pay particular attention to the grafting and pruning of fruit trees. The instructions given for making trees more fertile and causing the fruit to be earlier are sometimes amusing; for to produce the first result the advice was to drive a Fir or Ashen peg into the body of the tree, and to produce the second to water them with new wine.

Many of the Greek and Roman superstitions have descended to ourselves, for even now we are sometimes seriously told by some persons that they have known or heard of such a thing as an Apple or a Pear being grafted upon a Black Currant or Elder bush to give them the colour of these respective fruits. It seems quite likely that the Pear as we have it to-day has come of three or four different ancestors. The primitive parent may be correctly imagined in the crude form of P. communis, still to be found in some places; but there can be little doubt that were the pedigree of the Pear in its best existing form within reach, it would also show the names of P. Achras, P. sinensis, and P. elæagnifolia.

The ancients had sour Crabs in their earliest form to deal with, but the Greek cultivators 300 or 400 B.C. had so improved the earlier forms that they could count nearly a dozen kinds of Pears much superior to the earlier ones; and the Romans, following their example, had just before the beginning of the Christian era, a list of about fifty sorts, some of which were much esteemed. Italy, according to Pliny, possessed thirty-six varieties in the time of the Cæsars. From this time down to our own, the progress of development has been slow but steady.

In the 16th century C. Lectier gives a list of about 300 Pears. Leroy, in his admirable work on the Pear, figures and describes 915 varieties. Dr. Hogg, in the last edition of the *Fruit Manual*, mentions over 1,500 sorts, of which he describes as distinct over 700.

THE WILD PEARS OF SURREY.

In a paper read before the Royal Horticultural Society, in 1871, by the late Mr. W. Wilson Saunders, some interesting facts are given regarding the wild Pears of Surrey. He says, "on the high ground west of Charlwood, the common Pear occurs, apparently wild in several localities. The trees are to be found chiefly in hedgerows and in the outskirts of woods and thickets, many far removed from any dwelling, and where there is no probability of their having been planted. They occur for the most part singly, and their character is much the same as that of the cultivated Pear when allowed to assume its natural habit, reaching from 20 to 30 ft. high, with a straight trunk of some 8 to 12 ft., then forming a spreading, somewhat elongated head of branches, of which the lower ones are more or less horizontal, the upper more or less ascending.

"The trees produce a strong reddish-coloured close grained wood, easy to work, which is used for furniture; turning a good colour by age and the application occasionally of a little oil.

"The trees are usually abundant flowerers and bearers of fruit, quite enlivening the landscape in the spring by their masses of white blossoms. I have had an opportunity of closely examining for several seasons successively many of these wild Pear trees at Greening's Farm in the district alluded to, and I have noted carefully the nature of the fruit produced. The result shows that not one of them can be called palatable when ripe, though some are excellent when stewed. The Pears are in many instances very juicy, with a sweet but overpowering astringent flavour, which few palates can endure.

"As to the orgin of the Pear tree in the Charlwood district, I have no facts to offer; many of the trees are very old, being known as full-grown trees to some of the oldest inhabitants from their childhood. There are no old establishments in the neighbourhood where the trees could have sprung from, the district being much covered with wood."

The cultivation of the Pear, though very early, does not seem to have begun so soon as the Apple; there is no mention of it that I am aware of in the Bible.

There are several points in which these, our two most important hardy fruits, differ, though they are so closely related to each other, which it may be interesting to note. In constitution the Pear is not so hardy as the Apple, nor does it accommodate itself so readily to different soils. The number of good Pears which can be kept throughout the winter is very limited, whereas in the Apple we have an abundance.

The tree is naturally more inclined to grow in a pyramidal form than the Apple, and when well developed a pyramid Pear tree is one of the most pleasing objects in nature. It differs also from the Apple in being longer from a seedling in coming to a bearing condition, then again under favourable conditions it is much longer lived, and attains a larger size. Mr. Edward Lees, in his little volume, "The Forest and Chase of Malvern," tells us that at Borland in Worcestershire there are Pear trees "as big

*A paper read by a Member of the Chiswick Gardeners' Mutual Improvement Association, on November 27th.

as oaks." The structure of the flower is similar, but the petals of the Pear are always pure white; the structure of the fruit is also similar, but the tissue usually contains woody or gritty matter which is not found in the Apple.

The pips are black, and in the Apple brown; another curious fact regarding the fruit is that twin Pears (two united) are quiet unknown, whereas twin Apples are often met with.

The rule in plants is for the ripe fruit to consist of the matured ovary. But the Pear is an exception to that rule, inasmuch as the ovary is the smallest portion of the fruit, and is popularly known as the core.

Botanically speaking the Pear is a fruit within a fruit.

The five cells of the core contain two black seeds or pips each, so that each Pear is destined by nature to produce ten more Pear trees. When we take into consideration the number of fruits borne by some trees, the possible offspring is something astounding.

(To be continued.)

ROSES FOR TOWN GARDENS.

Now that the planting season for these is at hand, a few notes upon the kinds most suitable for this purpose may be useful to many. Most persons who possess a bit of garden, however small, try to grow a few Roses. But the many unnatural influences at work, in and near to large towns, frequently causes a failure. This can be avoided to a remarkable extent by only planting such varieties as are recommended below, and which I have proved to be good Roses for town work.

In choosing Roses for this purpose, one must not go to the exhibition stands and select those kinds which most take their fancy; as many, in fact most, of the exhibition varieties are quite unsuitable for the purpose.

I propose naming a dozen Hybrid Perpetuals and a dozen Tea-Scented and Noisette kinds, with a few others of various classes, that are eminently were suited for town gardens.

Hybrid Perpetuals.

Abel Carrière: one of the darkest Roses grown, of splendidly strong and free growth; foliage handsome, with flowers well-shaped and large.

Baroness Rothschild: clear and bright flesh colour. In appearance this flower is very delicate, but in reality it is one of the hardiest, and also quite the best Rose during wet weather. Large and good form, but, unfortunately, it has no perfume.

Boule de Neige: a splendid pure white Rose, very free and of good habit.

Captain Christy: another very delicate flesh-coloured variety, but like the old Baroness Rothschild, it is one of the finest town Roses one could wish for. The foliage is a pretty crimson and rose colour, with a distinct metallic shading.

Duke of Edinburgh: very rich velvety-crimson, of first-rate shape and size, good growth, and one of the finest dark varieties.

Fisher Holmes: rich purple-crimson, of splendid size and shape, and a good grower.

Général Jacqueminot: bright scarlet-crimson; one of the freest flowering and sweetest scented Roses grown. This kind comes of a good size if left to open, while in the bud state it is excellent for buttonholes.

Henrich Schultheis: delicate pink, very large and full; free-flowering and sweet scented.

John Hopper: a well known old Rose; colour: bright rosy-crimson; excellent grower.

Jules Margottin: like General Jacqueminot, this is one of the very best for town work; colour, a glossy pink.

Baronne Prevost: deep salmon-pink, very large and full, rather flat, but an excellent and robust habited Rose, with most exquisite perfume.

Mrs. John Laing: deep pink, first-class shape; every flower coming good; sweet scented and very free blooming.

Tea-Scented and Noisettes.

Gloire de Dijon: buff, with an orange-coloured centre; very strong grower, will grow in any aspect, and is by far the finest Rose for any town garden. Everybody knows this grand old Rose now, and yet have never done praising it for general purposes.

Homère: blush on the edges, deeper in the centre of the flower; very free blooming, and one of the prettiest of button-hole kinds that will grow well in towns.

Madame de Tartas: soft rose, much brighter in its young state; a vigorous grower and very free blooming; I have counted as many as twenty flowers upon one truss of this variety.

Marie Van Houtte: pale yellow, coming with a beautiful rosy tint on the edges of the petals during autumn; very free in growth and flower, and one of the best.

Viscountess Folkestone: creamy pink, extra large and good; good habit and wonderfully free blooming, as well as sweet-scented.

Reine Marie Henriette: deep red, of very similar habit to Gloire de Dijon.

Aimée Vibert: pure white, flowering in immense clusters of tiny white flowers. The foliage of this kind is almost evergreen, and is a very glossy green.

Jaune Desprez: fawn colour, with a pink and fawn coloured centre; very strong growth and sweet scented.

Celine Forestier: pale yellow, small and very pretty; one of the freest flowering Roses of all.

Madame Lambard: deep red early in the season, but more often coming a pretty salmon-flesh colour towards mid-season and autumn; good grower, and an abundant bloomer.

Safrano: bright apricot colour, very free, and a splendid button-hole Rose; handsome foliage.

Gloire de Bordeaux: practically a pink Gloire de Dijon, and very good for town growers.

Japanese Roses.

These are among the best of the single varieties for towns. These Roses make splendid bushes, are very hardy, and carry fine green foliage. They flower as early as any, and the blooms are followed by hips as large as a medlar, and of most intense orange and scarlet colours. They are about the first and the last to flower; and all through the summer and autumn one can be sure of finding both flowers and fruit upon these.

Mrs. Bosanquet and the old *Blush China* are the two most serviceable among their class. Each of these are well worth room among any flowers.

Souvenir de la Malmaison is the best Bourbon variety for our purpose. This kind is a most delicate pinkish-white, very free blooming, and a fairly good grower.

Any of the above named kinds will, with reasonable attention, do very well in a town garden.—*Experience.*

SOILS, POTTING, AND WATERING.

(Concluded from page 232.)

I have observed, and others will have done likewise, that, on turning out a plant that has been potted in peat, the outside of the ball appears all right as regards the state of dampness, but on breaking into it a considerable portion towards the centre is found as dry as dust. Indeed, I have on more than one occasion wondered how it was possible for it to have remained so. This fact points to the necessity of giving at each successive watering a quantity sufficent to moisten the whole mass of soil contained in the pot. It is difficult to get some people to understand how much of a plants well-being depends upon the care taken in the matter of watering. I have met with some who on starting to water a varied collection of plants had no scruple about treating all alike, each pot in its turn getting filled with water without taking the trouble to ascertain whether the state of the soil demanded it or not. This may be considered by some an extreme case of careless watering, but I fear it is not of rare occurrence. Then there is the other class who have a peculiar liking for the dribblet system, and firmly believe in little doses often repeated. Of the two modes of watering this last one is the worst. If the drainage is good and the soil has been firmly packed in the pots in the first instance the former mode is not so much to be feared; but both systems are bad, and no one who practices either of them will ever become a first-rate plant grower.

I am inclined to think that many young gardeners do not give the amount of attention to this subject which its importance entitles it to. There are few amongst them who have been for any length of time at the profession who could not tell all about the proper ingredients necessary for forming a compost in which to grow a choice Pelargonium or rare Orchid, and yet in this every day matter of watering, there are not so many of them who can perform it with judgment, and to the greatest advantage of the subjects to which it is being applied. One thing should be kept in mind on each occasion that plants are watered, that is, the temperature of the water, which should not be below that of the atmosphere of the house in which the plants are located. In the case of stove plants, if the water is a few degrees higher it will be benefical to them.

I might here give a hint anent the watering of plants in dwelling houses for the benefit of any amateur friends who may be present. It is a general cry when getting a plant, how often should it be watered, and how much water should it get? It is impossible for anyone to say exactly how often the operation should be performed. Every thing depends on the situation of the plant in the room; if on the window-sill and exposed to the sun it will require water oftener than if it were on a table in the centre, but in either case it should never be given until the plant requires it, which can be easily ascertained by feeling the soil on the top. By carefully watching the plant, the most inexperienced can learn to keep plants well in a house. When watering I think it always best to soak them well in a sink or pail for a few minutes to be sure that when watered they are probably soaked through, and upon no account should the plant be set in a saucer of water. Should any water collect in such vessels it ought to be emptied out as soon as possible—it would soon rot all the roots if continually standing in water. The system of dribblets is equally bad in this case as in the others. How often we hear the story from our friends in cases where their plants do not succeed with them, "I have watered them every day and I cannot understand how they do not grow with me." In all such cases it is mistaken kindness, and a little consideration ought to show people the undesirability of so doing. Give a good watering, as I have directed when required, and there is not much fear but the plants will succeed well in the house. I was lately in a refreshment room where about a dozen table plants are kept, and, on passing a remark to a friend who was with me about the one standing on the table, within earshot of a waiter, that worthy at once lifted the common water bottle from another table and made the contents of it serve the whole dozen plants, thinking, I have no doubt, they had got sufficient for that day. I have no doubt their shabby appearance is attributed to the presence of gas in the room; although I am confident there is less harm done to them by gas than by inattention to watering.

A few words may be said about the application of liquid manners. After a time the plants will be found to have pretty well filled the pots with roots, and will begin to go back if not stimulated by the application of some artifical manure sprinkled on the surface of the soil and watered in, or by the more common method of dissolving it in water and applying it in that way, or by the application of farmyard liquid, the diluting of which should be very carefully watched, and should not at any time be given strong. I am a great believer in applying liquid manure weak and often. Using stimulants on plants is something like giving alcoholic or other stimulants to human beings, which is agreed by most people to be best kept in moderation. For instance, give an exhausted man for the first time a strong dose of whisky or any other stimulant and it will be found to do him more harm than good; but when applied weak it has the desired effect of, for the time, maintaining and strengthening him. The stimulants may in either case be increased in strength as the constitution becomes able to stand it, but should never exceed the bounds of moderation, and in no case should either clean or manure water be given until we are pretty certain that the application will be benefical to the plants. In using artifical manure in a dry state, especially to large plants such as Camellias or fruit trees in pots or tubs, care should be taken to thoroughly soak the balls with clean water before applying the manure. After this is done the manure may be applied and a slight watering given with clear water to carry it into the compost. This may be a little more troublesome, but anyone wishing the best results will not grudge the little extra labour that it entails. The same remarks have reference to the use of liquid manure, with this difference that it does not require washing in with clean water.

CHRISTMAS ROSES.

HELLEBORES have generally done well during the passing year, and are now throwing up blooms abundantly. The term Roses is perhaps rather inexact, but after all Hellebore flowers are as much Roses as are those of the Rock Cistus. Perhaps there is much more that is taking or pleasing about a name of this fanciful sort than is found in the Latin term of Helleborus niger; the latter affix especially very much helping to puzzle all who see the pure white flowers and do not understand that the application is rather to the roots and stems.

It is indeed fortunate for us that we have so hardy a plant as is this mid-winter-blooming Hellebore, and that it should produce such exceedingly pure white flowers. These could hardly come into bloom at a more desirable time than at Christmas, for they are to the poorest who have gardens just as accessible as to the richest. The plants not only need no warmth, but do not thrive well if placed in heat. They are also very impatient of transplantation, and as a rule will do best if left in the same spot for ten or twelve years at least. All that is needful whilst in bloom is that to preserve the flowers from frost, rain, snow, or dust, some simple form of protection should be given to them, and nothing is better than an old-fashioned handlight, or a tilted French cloche. We have several varieties of the Christmas Roses, the best of which are St. Bridid's, the Bath variety, and the good form known as Niger maximus.

The plants like a deep holding soil, but not too much of clay in it. During the summer, especially if the season be hot and dry, frequent soakings of water may be given advantageously. The roots go deep into the soil, hence in planting pieces, no matter how small, the soil should be first deeply moved, well manured, and so prepared for the plants, because it will be best for them that they remain where thus planted for several years. May the time soon come when Christmas Roses shall be in all gardens, large and small, nearly as common as are summer Roses.—*H. A. D.*

THE GLASTONBURY THORN.

THE reputed time of flowering of this ancient variety of the common Hawthorn is drawing nigh, and judging from the mild nature of the weather which we have been experiencing for some time past, it should be in flower at Christmas. But whether old or new style the legend does not seem to explain. The matter of eleven days however should make little difference seeing that it sometimes flowers in mild autumns, or if later, in January and February, when young leaves as well as flowers are developed to a greater or less extent. Botanically it is Cratægus Oxyacantha præcox, that is, the early flowering Thorn. If it really existed at the time the legend refers to its origin, its history must indeed be ancient. It is stated that when St. Joseph of Arimathæa and St. Philip were travelling in France as missionaries, about A.D. 63, the latter sent St. Joseph over to Britain to preach the gospel. On arriving at Glastonbury he set himself to build a church on the slope of a hill, in the neighbourhood of that place, and before doing so, he stuck his staff in the ground. It took root (so says the legend), grew to be a Whitethorn of great size, and flowered on Christmas day. If it existed as a large tree then, the variety must be close upon 2,000 years old at least. There is nothing improbable as to a natural variety having existed since that time, provided it can reproduce itself from seeds. But a tree flowering at midwinter would no doubt, in those days, excite sufficient interest among the ancient Britons to cause them to propagate and perpetuate it. The original tree to which the name Glastonbury Thorn was applied was stated to have existed till the time of the Puritans, who, in their zealous fury for reform, had it hewn down. Suckers or slips were however obtained from it and planted elsewhere, and we are now given to believe that the Glastonbury Thorns now in existence are the descendants of the original tree of that name.

The town of Glastonbury in Somerset has not always been known under that name, for the ancient Celtic population of that part of England are said to have called it Ynyswytryn, which the Romans ignored and substituted Avallonia. Our Saxon ancestors again changed the name on taking possession of the country after the departure of the Romans, spelling it Glæstingbyrig, which during the lapse of intervening years has become corrupted or changed to Glastonbury as we now spell it.

MARICA NORTHIANA.

IT is nearly a hundred years ago since this plant was figured in the *Botanical Magazine*, t. 654, on June 1st, 1803. It was gathered on the Island of Raza, in Brazil, near the mouth of Rio de Janeiro, by Sir Joseph Banks, and was introduced to English gardens by Mrs. North, via Lisbon, just about a century ago. A correspondent of THE GARDENING WORLD alludes to this plant as being quite a common window plant in the neighbourhood of Oldham, Lancashire. This is what he actually says of it:—"Marica Northiana is perhaps the most extensively grown of any plant in the neighbourhood. It is seen in every street, almost in every window, and in some windows half-a-dozen. It is seldom seen in flower, but when in bloom it is, of course, a gem. This remark refers also to all the Iris family. The leaves are sword-like, about 2 in. wide, and from 12 in. to 18 in. in length, arranged somewhat in the form of a fan, which gives it a noble appearance. My friend, Councillor James Wild, calls it the 'Oldham Window Blind,' not an unhappy designation" [THE GARDENING WORLD, *November 14th*, 1891, *p.* 164].

On looking over the ordinary nurserymen's catalogues one but rarely finds it mentioned. Here, however, is one description of it—a very good one it s, but erhaps the Oldham window gardeners would not care to pay from 7s. 6d. to half-a-guinea for their plants, which is the price asked for it in the list:—"An Iris-like plant, a native of Brazil. It has broad sword-shaped leaves, and the flower stems, which are flattened and leaf-like, bear singularly handsome flowers, which consist of three ovate, ivory-white sepals, spotted with brown at the base, and three yellowish petals marked with rich brown in the lower parts, and white veined with blue at the recurved tips. 7s. 6d. and 10s. 6d."

It is grown at Kew and in most other botanical gardens, and I may here mention has no connection with the name of the late Miss M. North, whose plant pictures at Kew are well known. Nicholson, in "Dictionary of Gardening," p. 328, says it is "a very handsome stove species, but rarely seen in cultivation." To this one may now add, "except as a window plant near Oldham," that is supposing the same plant is meant in both cases.—*Effendi W. Beigh.*

PITCHER PLANTS AT CHELSEA.

WINTER is usually a bad time to inspect a collection of Nepenthes or Pitcher Plants, because as a rule the pitchers often get into bad condition on account of the lowering of the temperature and the weak light which prevails at that season. Such is not the case at Chelsea, where Messrs. J. Veitch & Sons have the finest display one could wish to see, both with regard to the number of pitchers, their large size and rich colouring.

Nepenthes Dicksoniana is comparatively a new one, a hybrid, and from the first time it put in an appearance in public gave indication of being a fine thing from a gardener's point of view. The plant is of easy cultivation and the pitchers attain a huge size. Some we measured were 12 in. long exclusive of the lid, and 4 in. broad, with broad well-developed fringed wings. The ground colour may be described as a yellowish-green, richly blotched with crimson, and the blotches run together in masses. There were half-a-dozen of those large pitchers on a plant. The pitchers of N. Chelsoni are shorter, but much inflated, and heavily blotched with the same colour as N. Dicksoniana, but more especially on the upper half. N. Mastersiana is one of the best for general purposes on account of its dwarf habit and the freedom with which pitchers are developed. It is notable for its entire wings, and crimson-red cylindrical pitchers. N. Curtisii superba has also cylindrical pitchers, but they are richly blotched with crimson on a greyish-green ground.

Altogether different is N. Morganiæ, an American variety with short pitchers, widely inflated at the base, and of a uniform crimson-red, of a soft tint which makes it both showy and pleasing. A single plant in a basket bears twenty-two pitchers. A comparatively new kind named N. Burkei excellens is notable for its peculiar shape and the absence of wings. It may be compared to an hour glass, owing to the constriction in the middle of the pitcher making it wide at the base and top. The lower half is yellowish-green and the upper of a pale reddish hue, blotched and striped with crimson. The annulus or collar is wavy, of a rich brownish crimson, and much wider than in the type. There are about nine good pitchers to a plant. A very old and useful kind is N. Rafflesiana, so well known as not to require description. A single plant in a basket bears twenty huge pitchers. The shorter and more inflated pitchers of N. Hookeriana are densely covered with darker crimson blotches.

The long, cylindrical pitchers of N. distillatoria are drawn out into a long neck and are pale green suffused with red, and blotched with crimson just inside the neck. N. Northiana is a beautiful and interesting species with a yellow annulus, variegated with crimson. N. cincta is also cylindrical and crimson with small yellow blotches and markings. A yellowish-green variety is N. Veitchi, forming a strong contrast to the old but still comparatively rare N. sanguinea, having slightly fringed wings and of a light sanguineous red. More curious and interesting is N. albo-marginata, which has narrowly cylindrical pitchers, splashed and striped with brownish-crimson on a green ground. Its most striking peculiarity, however, is a white line round the upper end of the pitcher and just beneath the unusually narrow, crimson-brown annulus or collar, which here merely forms a ring.

CHRYSANTHEMUM VISCOUNTESS HAMBLEDEN.

WE are now in a position to give a figure of this handsome new, incurved Japanese Chrysanthemum, which adds lustre to a group, that is now greatly in the ascendancy for exhibition purposes. Judging from the number of fine varieties that have appeared at exhibitions and committee meetings during the last two months, we shall be confronted with many incurved Japanese on the show stands next year. Although the florets of Vicountess Hambleden are closely incurved, yet the bloom, as a whole, measures about 7 in. to 7½ in. across without taking into account any stray florets at the base, and which may assume a spreading direction. All the incurved florets are broad and of a delicate and charming, silvery, blush-pink. It is one of four seedlings raised by Mr. Robert Owen, Castle Hill, Maidenhead, from an American Variety named Miss Anna Hartshorn, and all the four proved distinct. The variety under notice he exhibited at the Floral Committee meeting of the National Chrysanthemum Society on the 24th ult., when a First-class Certificate was awarded it. Our illustration was taken from one of the blooms. This and Mr. Owen's other seedling, Robert Owen, which belongs to the same section, and which we shall illustrate in a future number, are unquestionably the two finest Japanese varieties ever seen at the Royal Aquarium, and we heartily congratulate our plodding, painstaking friend on their production.

CHRYSANTHEMUM NOTES.

JAPANESE CHRYSANTHEMUMS.

WHEN one comes to deal with the newer Japanese Chrysanthemums there is presented to view an enormous number that during the past three or four years have come to us direct from Japan, or from the continent and America. They come in shoals—a few very good ones, and many of indifferent quality; but English growers, instead of purchasing sets of the continental varieties as they used to do before any of them were seen in bloom, now wait until they can do so, and then acquire those they think likely to take a good position in collections.

I do not know how the English raisers of Japanese Chrysanthemums obtain their seed—probably by sending fine varieties to the south of France or Italy, or to Jersey, and obtaining seed there—but it is a fact that some very fine flowers are being produced in this country, and it does appear as if Chrysanthemum growers at home will soon be independent of foreign aid in obtaining new varieties, and we have had at the meetings of the National Chrysanthemum Society held in October and November seedlings raised in this country from seeds sown in February

and March last. This is making the Chrysanthemum practically an annual, and having it in bloom and producing flowers fit for exhibition nine months from the time of sowing. Some of the finest varieties of Japanese Chrysanthemums seen of late have been obtained in this way, and on Tuesday, Nov. 24th, Mr. Robert Owen, Floral Nursery, Maidenhead, exhibited some seedlings he had raised, among them one he had named Viscountess Hambleden, after the ennobled widow of the late Right Hon. W. H. Smith, M.P.—so distinct, and in every way so beautiful, as to be a source of wonder and surprise. Imagine a large, bold, broad-petalled, incurved flower ten inches or so in diameter, of a lovely soft pink hue, which suffuses its massive waxy-white petals, and one can get some idea of what this floral wonder of Mr. Owen's is like. It was unanimously voted a First-class Certificate of merit; indeed, it well deserved a double first class. Well might Mr. Owen be proud of his variety. Mr. Norman Davis, of Camberwell, and Mr. C. E. Shea, of Foots Cray—the latter an enthusiastic amateur cultivator—have also raised some very fine and promising seedlings. One named Lionel Humphrey, something of the colour of Violet Rose, is, I think, destined to take a high place in this section. I have instanced the two foregoing as illustrations of the good work being done by English raisers.

Since writing the above, Mr. R. Owen electrified the Chrysanthemum world by producing at the meeting of the Royal Horticultural Society on the 8th, and at the early winter show of the National Chrysanthemum Society the next day, that superb bloom of a seedling Japanese he named after himself, viz., Robert Owen. Readers of THE GARDENING WORLD will, in all probability, soon have an opportunity of seeing a picture of this superb flower. It seemed to sum up in itself all that we can desire in a Japanese Chrysanthemum. Its size, symmetry, fulness, its stoutness and breadth of petal, and its rich tint of bronzy gold, marks it as the floral product of the year in the Chrysanthemum world. One wonders that such a bloom could have been produced from a plant raised from seed sown in February last. But Mr. Owen is laying himself out for the production of seedlings. He has erected a house for the purpose. He commences to fertilise early in the season—he is far too shrewd a man to leave anything of this kind to chance or haphazard crossing—and he goes on with the work of fertilising until the middle of December. Mr. Owen is on the floral war path, and continental raisers will now have to be particular what they send us in the way of new varieties.—*R. D.*

CHRYSANTHEMUM VISCOUNTESS HAMBLEDEN.—*Nat. size.*

CHRYSANTHEMUM WILLIAM WESTLAKE.

I NOTICE in your last issue a letter referring to Chrysanthemum William Westlake, and stating that this variety is an old one, called Aigle d'Or. This is not true. William Westlake was shown and certificated at the centenary exhibition of the National Chrysanthemum Society as a new variety. I at once purchased the stock and distributed it the same season, and all who have had it have been unanimous in saying that it is one of the finest yellow exhibition "poms" we have. If this variety is Aigle d'Or, why did not the Floral Committee (a body of Chrysanthemum experts) detect it when placed before them, both as plants and cut flowers. Your correspondent first states that he has grown it under the style of Aigle d'Or, and then later on gives his opinion that it is a superior form of that variety. This is rather contradictory, for if it is superior to Aigle d'Or it cannot be that variety.—*H. J. Jones, Ryecroft Nursery, Lewisham, S.E.*

ALLOW me, in reply to Mr. C. B. Green's letter in your last issue, to state that I have not taken any active part in obtaining a certificate for the above; nor was I aware of the Hornsey—it should be Highgate—gardener's intentions, until the evening before he submitted it to the consideration of the Floral Committee of the N.C.S. I have no pecuniary interest in it, neither have I assisted in "rushing it into the market." Furthermore, I did not see any blooms of Mr. Green's which I "duly admired;" the admiration was on the other side, when he saw my blooms, which were, as he says, grown from cuttings which he supplied, but which were not taken from a plant grown on his premises. If your correspondent has "grown it for many years under the name of Aigle d'Or," why has he been running all over the place trying to find the name of it? I have seen William Westlake and Aigle d'Or shown side by side, and I maintain that they are distinct; the latter showing an eye when fully expanded, while William Westlake does not. Surely the committee of the N.C.S. are better judges than Mr. Green. The latter gentleman says "he was not aware he possessed so much valuable property;" the Highgate gardener was. Hence these tears.—*William Westlake.*

GARDENING MISCELLANY.

CLEMATIS FLAMMULA.

IT does not appear to be generally known that there are worthless forms of this plant (illustrated at p. 161), not worth growing. The best form has showy white flowers as sweet as a posy, but there are forms with dingy, greenish, fugacious flowers that emit little or no perfume. I for one should be very glad to know where the true white-flowered and sweet-scented Clematis Flammula vera can be obtained. It is rarely seen, but well deserves general culture.—*F. W. Burbidge.*

BOUSSINGAULTIA BASELLOIDES.

THERE are something like ten species of Boussingaultia, but apparently only two of them have been introduced. That under notice was originally introduced in 1835 and has greenish or yellowish-white flowers, which are by no means attractive individually, but taken in the aggregate they are pretty when produced in such quantity as they are at Hanger Hill House, Ealing, the residence of E. M. Nelson, Esq. whose gardens are under the management of Mr. E. Chadwick. Some growers have a difficulty in flowering this species of Boussingaultia, but Mr. Chadwick manages it admirably, flowering it regularly in the winter months. Nor is a stray raceme here and there all that he can obtain, for pieces of the stem a yard in length, bearing quite a profusion of flowers throughout their length, and forming garlands may be cut. The agreeable, and yet powerful odour of Hawthorn which the flowers possess, is not the least of their recommendations, as they may be arranged in vases mixed with other subjects in a cut state, where they will make their presence felt in the dwelling-room. Botanically this plant is the type of a tribe belonging to the Goosefoot family, and is curious in several respects, but particularly in having fleshy stems which thicken here and there, forming tubers, sometimes of considerable size, bearing buds on the thickened portions, which nearly as often terminate in slender shoots of the ordinary form, bearing leaves. The plant may be propagated to any extent and with the greatest facility by means of these tubers.

SELAGINELLA AMŒNA.

IN form and habit this is comparable to S. caulescens minor, but it is even neater and of a clearer or brighter green. The stems are three or four times branched, and closely covered with bright green foliage, so that on the whole they have a plumy appearance. They seldom exceed 6 in. in height, and are often dwarfer, for which reason a batch of plants in 48-size pots would prove useful for many purposes both in the stove, greenhouse, conservatory, or dwelling house when so required. It proves amenable for culture both in a high and a low temperature, and growers may be guided thereby in giving the plants the necessary treatment in order to harden them off for removal into the cool and dry atmosphere of dwelling rooms. If grown in a greenhouse, at least for a time, the stems and foliage acquire the necessary consistency to enable them to withstand a sojourn in a dry atmosphere.

TODEA BARBARA.

WHEN this is imported from its native habitats for the sake of its large size we are confronted with specimens weighing many hundredweights and sometimes almost a ton. This weight is due of course to the huge rootstock of interlacing fibres for which the species is noted. It has as many synonyms as the number of uses to which it may be put, and we meet with it under the names of T. africana (although not a native of that country), also T. arborea, T. rivularis, and T. Vroomi. Large old plants are handsome objects for greenhouses or conservatories, with bipinnate fronds 3 ft. to 4 ft. long, and of leathery texture, quite distinct from T. superba and T. hymenophylloides, which are classed amongst filmy ferns. Seedlings, on the contrary, are useful for decorative work in the small state, when the fronds are 9 in. to 12 in. long. Even at this stage they are quite leathery in texture, bipinnate, and somewhat triangular in outline. In this condition they are very useful for London work, as the leathery texture of the fronds enables them to exist with impunity in a dry atmosphere. The plant is a native of Australia and New Zealand. We noted a large batch of it in the nursery of Messrs. J. Veitch & Sons, at Chelsea.

BEGONIA DOUBLE JOHN HEAL.

IT may be remembered that the winter-flowering John Heal was obtained by crossing one of the summer-flowering tuberous types with pollen of B. socotrana. The experiment was repeated with singular and unexpected results. A single-flowered variety was operated upon, and this lends even more interest to the new acquisition, which has double flowers. The latter are about the same size as those of John Heal, but they are of a carmine rose, just a shade darker than those of the old variety. The sepals are numerous, without being in any way crowded, in colour resembling some Carnations, but wavy as seen in many other Begonias or Hollyhocks. The flowers, though double, are therefore neither lumpy nor ungainly, and are carried erect upon the stalks. The whole plant is as dwarf and neat in habit as is John Heal, and may be grown to perfection fn 48-size pots. We noted this new acquisition in the nurseries of Messrs. J. Veitch & Sons, at Chelsea the other day, and think it will prove even more attractive and desirable for winter flowering purposes than the single form.

ANTHURIUM LEODIENSE.

THIS is one of some hybrids obtained by hybridising A. Andreanum and A. Veitchii. The leaves are of great size, oblong, with a cordate base, and of a rich green, with a yellow midrib. In several of these characters, but especially in respect to shape and size, the leaves take strongly after A. Veitchii. The heart-shaped spathe is of a brilliant rose-red, and of large size, with a stout, cylindrical, greenish-yellow spadix arising at its base, and attaining a length of 6 in. The plant is therefore a useful decorative subject, either for the sake of its foliage alone, or that and its flower spathes combined. Being a strong grower, it requires a large pot and also plenty of room for its perfect development, as in the case of A. Veitchii. It may be seen in the unrsery of Messrs. J. Veitch & Sons, at Chelsea.

OSMUNDA REGALIS CORYMBIFERA.

THE more common name of this plant in gardens is O. japonica corymbifera, but the latter is merely a name applied to a dwarf and slender form of O. regalis, having the ends of its fronds strongly tasselled or crested. The fronds of a full sized specimen would be 12 in. to 15 in. long, but owing to their peculiar and gracefully arching habit they appear to be much shorter than they really are. Young plants are particularly beautiful, with slender, pale red petioles, and delicate light green fronds. They are easily raised from spores, as those know who grow them for market or for ordinary decorative purposes. Seedlings can be grown in very small pots, or shifted about to meet the convenience of the decorator under given circumstances. The shades of colour are more pleasing than in old plants, and the destruction of a young plant or two is immaterial seeing that they can be so readily raised from spores.

WINTER HELIOTROPE.

SUCH is the popular name very aptly applied to Petasites fragrans, also known as Tussilago fragrans. While making its growth in the summer time its claims to the attention of the horticulturist are few, and at that time may be reckoned valuable chiefly for covering the ground in partly shaded positions with its foliage. The shelter afforded by trees or bushes in the winter time well accords with the requirements of the plant, which is liable to have the bloom destroyed by sharp frosts. The usual period of flowering is February, but this depends greatly on the nature of the weather. The mildness which has prevailed throughout the autumn has had the effect of bringing it into bloom by the first or second week of this month. Notwithstanding the dullness of the weather and the absence of sunshine, the flowers are as strongly redolent of Heliotrope as one could expect at midsummer. The heads are by no means showy, owing to the absence of rays, and they are white, but appear tinted with lilac, owing to the dark colour of the anthers inside. The flowers are useful for mixing with more showy subjects for the sake of the grateful odour they give off.

THE QUINCE AND QUINCE MARMALADE.

AN evening paper informs us that the word marmalade is at any rate as old as the reign of Henry VIII., for it is on record that the King most heartily thanked her good ladyship for her "marmalade," which was made of Quinces. But according to Mr. Leo H. Grindon, Quince marmalade is of much greater antiquity, as the Romans manufactured Quince marmalade, boiling them with honey, and they called the preparation "melimelum," "mel" being the Latin name for honey. From this word, in course of time, came the Portugese "marmalade." We have it upon the authority of Sir Joseph Banks that the Romans had three sorts of Quinces, one of which was called Chrysomela from its yellow colour, and, as already stated, they manufactured marmalade by boiling them with honey.

The Quince appears to be widely distributed. According to the best modern botanists it is to be found in Italy, the South of France, Spain, Sicily, Algeria, Constantinople, Cashmere, and even in the north of India. From Phillips' work on "The Historical and Botanical Account of Fruits known in Great Britain," the learned Goropius maintains that Quinces were the golden Apples of the Hesperides, and not Oranges as some commentators have supposed. In support of his argument he states that the Quince was a fruit much revered by the ancients, and he assures us there has been discovered in Rome a statue of Hercules that held in his hand three Quinces. This, he says, "agrees with the fable which states that Hercules stole the golden Apples from the Gardens of the Hesperides;" and, further, we are informed, upon what appears to be good authority, that the Orange tree was unknown to the Greeks, and did not grow in those parts where the Garden of the Hesperides was placed by them.

The *Hortus Kewensis* is the authority for stating that the Quince was introduced to this country in 1573; but Gerarde, who was alive at that date, says it was often planted in hedges and fences in gardens in his time, and from this it may be concluded the tree was common long before the period above mentioned. Mr. Leo Grindon gives us something

more definite, and quotes Miss Wood, the author of "Letters of Royal and Illustrious Ladies," as relating an amusing anecdote as to the fondness for it of fickle and never satisfied Henry VIII. In 1539 the new Queen, Ann of Cleves, desired to engage a maid-of-honour. Lady Lisle, seeking to propitiate his Majesty in favour of her daughter Katherine, made him a present of some Damson cheese and some of this identical Quince jam, then called "Cotiniac." Whether the object was attained or not we are left in doubt. So acceptable, however, to the royal epicure were Lady Lisle's sweetmeats, that Anne Bassett, by whose hand they had been conveyed, writes offhand: "The King doth so like the conserves you sent him, that his Grace commandeth me to send to you for more, and that as soon as may be."

An old recipe for making Quince marmalade in the days of Queen Elizabeth reads as follows:—"Take faire Quinces, paire them, cut them in pieces, and cast away the core, then put into every pound of Quinces a pound of sugar, and to every pound of sugar a pint of water; these must be boiled together over a still fire till they be very soft, then let it be strained or rubbed through a strainer, or an hairy sieve which is better, and then set it over a fire to boil againe, until it be stiffe, and so box it up, and as it cooleth put thereto a little Rose water, and a few graines of Muske mingled together, which will give a goodly taste to the Cotiniat."

"The Quince," says Mr. George Bunyard, "delights in damp soil, and can therefore be planted on swampy land, or on pond margins, or odd corners on ordinary soil; a good watering with liquid manure will swell the fruit to a large size." I have seen in Kent Quince trees in exposed positions where it would appear to be difficult for a plant to flourish and yet doing well, and bearing remarkably fine fruit. But it is a very accommodating tree, and will do well in almost any soil. Mr. Bunyard recommends The Champion, an Apple-shaped American variety. Reay's Mammoth and Meech's Prolific, two other American varieties, are highly spoken of. But our old standard varieties are the apple-shaped, which is considered one of the most profitable to grow, as it bears abundantly and stews well. The Pear-shaped is drier and tougher in the flesh than the foregoing, and therefore of less value for culinary purposes; but it is not such a good keeper. For quality and flavour the Portugal Quince stands first, and it is preferred because the flesh becomes of a crimson colour when cooked. The tree is a strong grower, but is not such a good bearer as some of the foregoing; and as quantity is often preferred to quality, the Portugal is less grown. It is said to make the best stock to graft Pears upon.

The Quince as a ripe fruit is not eaten raw, but prepared in some way by cooking. It is stewed occasionally with Pears and other fruits; it is added to Pear and Apple pies, and manufactured into jam, jelly, or marmalade, and even into wine. But the housewife can also employ it in other ways, and I think the usefulness of the Quince is not enough regarded.—*R. D.*

THE NATIONAL AMATEUR GARDENERS' ASSOCIATION.

Members and friends of this association, to the number of nearly one hundred, celebrated its establishment—some ten months ago—by dining together on Tuesday evening last, at the Guildhall Tavern, E.C., under the chairmanship of Mr. T. W. Sanders, the President of the association. The dining room was very tastefully decorated for the occasion. A number of ladies were present; and besides the usual amount of speechmaking a capital musical programme was got through in good time. In proposing the toast of the evening, "Success to the National Amateur Gardeners' Association," the chairman warmly congratulated the members on the remarkable success which had attended their efforts during the few months the association had been in existence. It originated at a meeting of a few personal friends held in November of last year, who considering that none of the horticultural societies then existing specially met the circumstances and requirements of the *bona fide* amateur, determined to attempt the organisation of an association of amateurs for their common benefit. The success which had attended their efforts was beyond their most sanguine expectations. They had on their roll of membership at the present time nearly 250 persons, and their members were not confined to residents in the British Isles, for they had members in Australia, Japan, and Italy, and there could be no doubt that a few months hence would see the number doubled. The committee had under consideration a proposition to establish branches of the association in various parts of the country, and also to admit other amateurs' societies into affiliation. Their monthly meetings had been exceedingly enjoyable to the members, and of the greatest benefit to many who had attended them with the object of gaining information and advice; and the system they had adopted of giving marks to subjects exhibited by members according to merit had been found to work exceedingly well, and to create a great amount of interest among the members. Mr. Sanders concluded by remarking that although their annual subscription was exceedingly small, and it was advisedly made so, they had been able to meet all liabilities, and at the end of their first year would have a small balance in hand. They intended in every way to make the association of use to bona fide amateurs in looking after their interests, and he hoped all would do their best to bring in additional members.

During the evening the prizes awarded during the past season were distributed. Mr. H. J. Needs took the Silver Medal given for the highest aggregate of marks, and Mr. W. S. Sach, the Bronze Medal for the second highest, while Certificates of Merit were obtained by Mr. G. A. Maynard, Mr. D. B. Crane, Mr. J. S. Whaley, Mr. G. McLeod, Mr. E. F. Wicks, Mr. E. G. Neisigh, Mr. John Biddick, Mr. W. E. Kenny, Mr. L. Brown, Mr. M. Burgess, Mr. A. J. Foster, Mr. G. Hayward, Mr. H. Kerry, Mr. A. J. Launder, Mr. A. McWilton, Mr. Munday, Mrs. H. W. Percy, Mrs. Stevenson, and Mr. F. Watson. A considerable number of special prizes to be given next year was also announced.

ORCHID NOTES AND GLEANINGS.

Zygopetalum rostratum.

In general appearance this species bears some resemblance to those which in gardens are classed under Warscewiczella. The remarkable beak of the column, and to which the specific name refers, soon attracts the attention of the onlooker, and the large white wings of the column itself are no less remarkable. The spreading sepals and petals are linear-lanceolate, whitish at the base, and greenish yellow upwards. The lip on the contrary is very large and white with about ten lilac-purple lines radiating on to it from the curious toothed or ridged crest at the base, and which is marked in the same way. The plant as a whole is dwarf in habit, bearing a single flower on the scapes. To do it well this plant requires rather more heat than is generally given to the other species. It is now in season, and different individuals will keep up a succession for some months to come.

Odontoglossum Insleayi.

The large-flowered O. grande has mostly given place to O. Insleayi in its various forms, which may be seen in collections everywhere. When the first flowers expand after a twelvemonth's growth since the previous flowering, they have a fresh appearance which is very welcome at this dull period of the year. The reddish brown blotches or bars on a greenish yellow ground is characteristic of the type, but this is intensified to chestnut brown barred with yellow in the variety O. I. leopardinum, and O. I. pantherinum is characteristic by the whole lip being blotched with red on a bright yellow ground. The sepals and petals of O. I. splendens on the contrary are of a uniform ochreous-yellow, and the lip surrounded by a band of blotches on a bright yellow ground.

Cattleya maxima.

The flowers of this species are very distinct from any of the C. labiata type, but notwithstanding their beauty and variety the species is not particularly popular with cultivators. It blooms at various times during the autumn months, and has large flowers, but hardly such as would warrant the specific name, seeing that in several of the varieties or forms of C. labiata we have much larger flowers, particularly if the width of the segments is taken into consideration. The sepals are lanceolate, the petals oval-oblong, all greatly elongated and of a soft, satiny rose. There is a white variety (so-called) in which the sepals and petals are white, but the lip retains its usual markings. The latter organ is the most variable part of the flower, and although never showing the intense colouring characteristic of so many forms of C labiata, yet the distribution of the colour is very pleasing. This consists of lines of pale or dark purple, following the principle veins of the terminal lobe; sometimes the lines are very broad, of a deep rich purple, and traverse the whole of the lamina with exception of the margin, which forms a pale lilac border surrounding the rest, as in the garden variety known as C. m. peruviana. The species comes from Ecuador and northern Peru.

Park House, Cottingham, Hull.

It is immaterial at what season of the year I chance to visit Mr. David Wilson's lovely establishment, I am always impressed with its magnitude. During summer and autumn it is most delightful to ramble through the grounds, there is such variety, so much to interest the plant lover, as Mr. Wilson's collection of choice trees and shrubs is one of the richest in the East Riding, but at the time of my visit, October 29th, the great centre of attraction was the houses. Not only is there a rich and extensive collection of Orchids, but there are fine collections of Palms, Crotons, Dracænas, in fact all kinds of stove and greenhouse plants, far too numerous to be enumerated here. The Orchids noted in bloom were: Cypripedium insigne, C. i. Chantini, C. i. albo marginata, C. Harrisianum, C. calurum, C. Spicerianum, Dendrobium phalænopsis, D. chrysanthum, D. formosum giganteum, Cattleya Worocqueana, C. Bowringeana, C. maxima peruviana, Oncidium tigrinum, O. incurvum, O. Forbesi, O. crispum, Odontoglossum grande, O. crispum, O. Harryanum, O. pescatorei, O. Uro-Skinneri, O. Rossi majus, Pleione lagenaria, Calanthe Veitchii, C. vestita, C. v. oculata rubra, Phalænopsis amabilis, Lælia Perrini, and Vanda cœrulea, numerous representatives of each. Mr. Wright is the able gardener at Park House; he is an enthusiastic Orchidist, an excellent plant grower, and keeps well to the front as an exhibitor, as the Hull gardeners well know.—*J. McNab.*

Cypripedium Leeanum giganteum.

The upper sepal of this Cypripedium is the most conspicuous organ of the flower. It is nearly orbicular, somewhat wavy round the apex, very large, pale green in the lower half except at the edges and spotted with brown, while the upper half is white and spotted with purple along the midrib. The greenish-yellow petals are wavy on the upper edge, tinted with brown, and the midrib is of a dark brown. The lip is of a bright shining brown, which adds considerably to the lustre of the flower as a whole. The typical C. Leeanum, as is well-known, is a hybrid between C. insigne and C. Spicerianum, and partakes of the character of both parents, the influence of the latter, which was the pollen parent, being very marked. The variety C. L. giganteum is distinguished by the great size of the flowers, and the spotting is different both from that of the type and from C. L. superbum. It was exhibited by Sir Trevor Lawrence, Bart., M.P. (gardener, Mr. W. White), Burford Lodge, Dorking, and also by Messrs. F. Sander & Co., St. Albans, at the meeting of the Royal Horticultural Society on the 8th inst., when an Award of Merit was accorded in each case.

Calanthe versicolor.

The most striking feature of this Calanthe is the great size of the flowers, which are white with exception of some colour on the lip. The sepals are lanceolate; the petals oblong-elliptic; and the large lip is three-lobed, the side lobes being rounded and the middle lobe reniform, bifid. The throat is rose coloured and yellow lower down. The habit of the plant is similar to that of C. vestita, the pseudo-bulbs being leafless at the time of flowering. The scapes of the plants exhibited at the Drill Hall, Westminster, on the 8th inst. by Sir Trevor Lawrence, Bart., M.P. (gardener, Mr. W. White), Burford Lodge, Dorking, bore twelve to fourteen flowers each, and the great size of the latter compared favourably with the numerous other varieties and hybrids of Calanthes shown. An Award of Merit was accorded it.

Schomburgkia Sanderiana.

The species of Schomburgkia hitherto introduced into cultivation have purple flowers variously shaded with crimson, brown or dull brick-red, rarely white,

and barred with purple. The plant under notice is characterised by its deep warm purple flowers, the decided colour telling greatly in their favour. The sepals are spathulate, and undulated or wavy, while the petals are broader, and obovate spathulate. The three-lobed lip is folded over the column forming a sort of tube as in a Cattleya; the side lobes are rounded, wavy and deep purple; the middle lobe is bifid, toothed and deep purple. The tube is rose-coloured outside, and white within, with five shallow ridges running along the middle. A branching scape, bearing fourteen flowers, was exhibited by Baron Schroder (gardener, Mr. Ballantine), The Dell, Egham, at the last meeting of the Royal Horticultural Society on the 8th inst., when an Award of Merit was accorded it.

Cymbidium pulcherrimum.

THE habit of this species is similar to C. pendulum, but the flowers are much more attractive and comparable to those of some species of Crinum with regard to the distribution of the colours. The leathery leaves are narrowly linear, deep, shining green, and 18 in. to 20 in. long. The flower scape is pendulous as in C. pendulum, bearing a raceme of ten or more flowers according to the vigour of the plant. The sepals are lanceolate, and white with a rosy-purple midrib, the colour being equally well shown on both surfaces. The petals are shorter, but otherwise similar. The three-lobed lip has ovate lateral lobes striated on both surfaces with deep purple and crimson on the edge. The middle lobe is ovate, recurved and blackish-crimson with a creamy-yellow, triangular blotch at its base, while the column is also blackish-crimson. A large plant was exhibited by Messrs. F. Sander & Co., St. Albans, at the Drill Hall, Westminster, on the 8th inst., when an Award of Merit was accorded it.

Cypripedium Mastersianum.

THE upper sepal of this species is orbicular, of large size and white with a greenish patch at the base, and finely spotted with purple in the centre of the white. The petals are undulated on the upper edge, and yellow spotted with brown on the lower half, and tinted with brown on the upper half. The lip is more heavily suffused with brown on a yellow ground. Being of the same type as C. Leeanum, the parentage should be the same. The hybrid was exhibited by Messrs. Pitcher & Manda, Hextable, Swanley, Kent, at the last meeting of the Royal Horticultural Society on the 8th inst., when an Award of Merit was accorded it.

SOCIETIES.

National Chrysanthemum, *December 9th and 10th.*—The early winter exhibition—which has been substituted by this society for the mid-winter one previously held at the Westminster Aquarium—showed a decided improvement both in the size and the quality of the blooms exhibited; and the latter would no doubt have been better still provided the autumn and early winter had been drier. Cyclamens and Chinese Primulas were represented to some extent, but the Chrysanthemums were certainly the main feature of the exhibition, whereas such was not the case last January. The first prize for a collection of Chrysanthemums in bunches was awarded to Mr. H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham, who occupied the whole of one side of a table, setting up his bunches of flowers with their foliage, and interspersed throughout with Ferns and Palms. Some of his finer and larger blooms consisted of Etoile de Lyon, J. Stanborough Dibbins, F. A. Spaulding, and Mrs. E. W. Clark. Mabel Carter and Alice Carter were very striking decorative kinds with slender thread-like florets. The second prize was awarded to Mr. W. Wells, Earlswood Nursery, Redhill, whose flowers were smaller because grown for market purposes. His collection consisted of Japanese, incurved, Pompon, and single varieties. The bunches lacked the effectiveness of the first group owing to the absence of Ferns or other foliage plants, but the flowers themselves were fresh. Mr. F. Taylor, gardener to the Right Hon. Sir John Lubbock, Bart., M.P., High Elms, Farnborough, Kent, carried off the first prize for twenty-four bunches of Chrysanthemums, which were very fresh and of good size. Notable amongst them were Lady Lawrence, Gloriosum, Mrs. Forsyth, Pink Christine, Fleur de Marie, and Miss Margaret. The boxes were edged with Mahonia leaves. Mr. Wells was second, having fresh but smaller blooms, some in boxes and some in glasses. Mr. T. Brown, gardener to Mrs. Waterlow, Reigate, was third. For twelve Chrysanthemum blooms of large-flowering varieties, Mr. C. J. Salter, gardener to T. B. Haywood, Esq., Woodhatch Lodge, Reigate, carried off the first prize with a very fine lot, including Pelican, W. W. Coles, Madame Dubrieul, W. G. Drover, Lady Lawrence, Thunberg, and C. Underwood, all of which were fine. Mr. C. Cox, The Grange, Brickendon, Herts, came in second, showing Mrs. H. Cannell, Etoile de Lyon, and W. G. Drover, in good condition. The third prize was awarded to Mr. H. Shoesmith, gardener to M. Hodgson, Esq., Shirley Cottage, Croydon, who also had a good exhibit. The latter carried off the first award for twelve blooms of Princess Teck or any of its sports, showing large and wonderfully neat specimens of Lady Dorothy, Princess Teck, Hero of Stoke Newington, and Chas. Gibson. Mr. Peter Blair, The Gardens, Trentham, Stoke-on-Trent, was a good second with Lady Dorothy, Mrs. N. Davis, and Charles Gibson. Mr. W. G. Gilbert, gardener to B. le Neve Foster, Esq., was third with neat but smaller blooms. Mr. W. Wells had the best twenty-four bunches of Japanese blooms, which were well displayed with their foliage. Mr. J. Bridle, gardener to Falconer Jameson, Esq., Hessle, Hull, was second with shorter stems to his blooms; and Mr. J. Brown was third. In the class for twelve bunches of Japanese blooms the competition was good, and Mr. W. Lane, gardener to Miss Smith, King's Ride, Ascot, was first with fresh blooms of good average size. He was followed by Mr. C. J. Salter, who had a fresh lot of well displayed blooms with foliage; Mr. W. G. Gilbert was third. Mr. A. Newell, gardener to Sir Edwin Sanders, Fairlawn, Wimbledon Common, took the first award for six bunches of Japanese blooms; Mr. W. A. Searing, Oak Lodge, Sevenoaks, being second; and Miss R. Debenham, St. Peters, St. Albans, third. The first prize for a hall vase or epergne was taken by Mr. C. Ings, gardener to Sir Spencer Wells, Bart., Golders Hill, Hampstead, who had long stems to each flower set off with Asparagus foliage and dried grasses; Mr. A. Newell was second, and Mr. W. A. Searing third. Mr. John May, Gordon Nursery, St. Margarets, Twickenham, was the only exhibitor of Cyclamens in the open class, and his group exhibited a good mixture of colours. Where nurserymen were excluded, the first prize was awarded to Mr. David White, gardener to Mrs. Farnell Watson, Redlees, Isleworth. Mr. J. Bateman, gardener to Miss King, Southwood, Sydenham Hill, had the best twelve Chinese Primulas, but they were all of one variety, though well flowered; Mr. C. Ings was second, apparently with the same variety; and Mr. A. Newell was third with smaller plants of several varieties. Messrs. W. Cutbush & Son, Highgate, were the only competitors for a collection of flowering, berried and foliage plants, showing Palms, Calanthes, Heaths, &c., very effectively.

A considerable number of exhibits were shown in the miscellaneous class including a collection of Chrysanthemum blooms in bunches, well displayed on stands, and a group of Chinese Primulas from Messrs. H. Cannell & Sons, Swanley, Kent. Messrs. Pitcher & Manda, Hextable, Swanley, had a large group of Cypripediums set up with Palms, Cycads and Ferns, as well a collection of Chrysanthemum blooms including many seedlings. The firm was awarded one of the prizes offered by Mrs. Myers for seedlings. Mr. R. Owen, Castle Hill, Maidenhead, exhibited a fine collections of Chrysanthmum blooms, and was awarded two of Mrs. Myers' prizes for a seedling named Robert Owen, and another prize for another of his seedlings. (For certificates see under New and Rare Plants.) Messrs. Wm. Clibran & Son, Oldfield nurseries, Altrincham, had four stands of Chrysanthemnms and some in glasses. Mr. Norman Davis, Lilford Road Nurseries, Camberwell, had some stands of Chrysanthemums as grown for cut flowers, and they were in good condition. Some trained specimens of Chrysanthemums were shown by Mr. W. Wesker, gardener to A. Heaver, Esq., The Elms, Upper Tooting. Twelve very large blooms of Etoile de Lyon were show by Mr. J. Waldie, gardener to J. Bigwood, Esq., The Lawn, Twickenham. Three large and well-bloomed plants Epiphyllum truncatum were shown by Mr. A. Newell. Mr. G. Carpenter, gardener to Major Collis Browne, Broad Oaks, Byfleet, showed six fine blooms of Mrs E. W. Clarke. Silver Medals were awarded to Messrs. H. Cannell & Sons, to Messrs. Pitcher & Manda, to Mr. R. Owen, and to Messrs. Clibran & Son, for their exhibits.

WHAT TO DO IN THE GARDEN.

Foliage Plants for Christmas decoration.—Palms will be very much in request at Christmas time, and amongst those that are specially suitable for this purpose are Howea Forsteriana, H. Belmoreana, H. australis, usually known as Kentias, also Cocos Wedelliana, Geonoma gracilis, Seaforthia elegans, Areca lutescens, and others of that graceful type. If the leaves are in any way tender by being grown in a hot and moist atmosphere they should be somewhat hardened in a cool and dry greenhouse for a few days. Dracænas and Crotons of many kinds will also be found useful, as well as Aralias, Pandanus, variegated Pineapple, and others of that class, all of which should receive similar preparation to the above.

Poinsettias.—In view of the necessity of using pot plants of Poinsettias in dwelling houses at Christmas time, it will be desirable to transfer them from the stove to a cooler house for a few days, previous to taking them to the dwelling house. This treatment will give the bracts greater rigidity and firmness, and enable them to stand better in a dry, cool atmosphere without flagging. If the present mild weather prevails, the plants will not suffer very much from cold for the time they are required indoors.

Forced Bulbs.—Those who took the precaution to have a number of the early-flowering kinds of bulbs, including Roman Hyacinths, Duc Van Thol Tulips, and Dutch Hyacinths potted up in autumn, will be able to have a good supply of them at Christmas time, without resorting to hard forcing. Their durability when removed from the forcing pit will all depend upon the degree of heat to which they have been subjected. As soon, therefore, as they are sufficiently forward they should be transferred into a cooler house where they can receive ventilation and get their tissues hardened before required for use in dwelling houses.

Agapanthus umbellatus.—Large pieces of this plant when getting too large for their pots may be pulled into two or four pieces according to requirements, and repotted, using good fibrous or turfy loam for the purpose.

Liliums.—The consignments of imported bulbs should be potted up as soon as received, to prevent their wasting by getting dried up. Use a compost consisting of fibrous loam with a little peat and plenty of silver sand. No water will be required till the bulbs commence to grow, and previous to that the pots containing them may be stood in some cool place out of the reach of frost.

Early Vinery.—With the mild weather which has prevailed for some time past, little heat has really been necessary to keep up the requisite temperature, and the shoots will now be progressing favourably. The night temperature may be allowed to run up to 65°, when the bunches can be distinctly seen, with a rise of 5° early in the day, to take advantage of the light. On bright days give ventilation when the temperature rises to 70°, doing it gradually so as not to admit a body of cold air all at once. Syringing the rods and foliage may be continued till the bunches are on the point of expanding, after which they should be kept dry till the berries are set.

Orange Trees.—Where the fruit is still green, the trees should be kept in a house with a night temperature of 65°; but after it is ripe the trees may be stood in a house containing ripe grapes, where the temperature and the dry atmosphere will be suitable to their requirements, and the fruit will keep good for two months if so desired.

Rhododendron Beds.—Where the practice of lightly digging over the soil is followed the work should be accomplished at once, so as to bury the fallen leaves of trees. A good plan also would be to spread a layer of partly decayed leaves over the surface before digging. In case it should not be considered desirable to dig about the roots, the leaves should be raked off for the sake of neatness, and a good layer of decayed vegetable mould spread over the surface.

Fruit Trees.—Push on the pruning of these with all convenient speed, as the mild weather is favourable to the operation when it is sufficiently dry overhead to stand out of doors. Pear and Plum trees on walls, especially if old, frequently require a thinning out of the spurs so as to encourage a more vigorous growth of those that remain. Crowding is productive of weakness by the foliage in summer shading the wood and preventing its proper ripening, as well as the development of good wood buds.

Obituary.

With much regret we have to announce the death on the 6th inst., at St. Albans, Kennoull, Perth, of Mr. John Anderson Anderson, in his eightieth year. Mr. John Anderson was for many years well known and greatly respected in the nursery trade as the proprietor of the famous nursery business carried on by him at Perth, under the original style and title of Dickson & Turnbull. He was born on November 3rd, 1812, his father being a leading official in the Customs House at Greenock, and his uncle Archibald Turnbull, a partner in the firm of Dickson & Turnbull. John Anderson went to Perth about 1829 or 1830, and set about acquiring a knowledge of the nursery trade with great determination. He entered most thoroughly into every working detail, and soon obtained a thorough mastery of his profession. An earnest seeker after useful knowledge himself, he also as freely imparted knowledge to others, and all his life displayed a marked aversion to anything savouring of selfishness. There were certain genera of plants in which he took a special interest, notably Conifers, of which he possessed a vast store of information, and which caused him to be regarded as a trustworthy authority by the many land-stewards, foresters, and gardeners doing business with the Perth Nursery, as well as by his brother nurserymen.

Mr. Anderson was one of the leading promoters of the Scottish Aboricultural Society, which has done so much good in promoting the diffusion of sound knowledge on forestry matters in the north, and general horticulture also found in him an earnest and consistent supporter. On his uncle's death in 1875 the business was left equally to John Anderson and his sister, Mrs. Turner, but he was the acting partner until the autumn of 1883, when, infirmity creeping on him, he resolved to retire from business, and disposed of it to Mr. John McLeod, nurseryman of Crieff, who now carries it on. Mr. Anderson was in a sense a character, but known also far and near as a warm-hearted, generous man, and the soul of honour in all business matters. For several years past, owing to the natural decay of his physical powers, Mr. Anderson has been in a measure cut off from the horticultural world, but the good name he has left behind will not readily be forgotten by those who knew him best. He has left a widow and two sons.

Our Irish friends will be very sorry to hear of the decease of Mr. Ambrose Balfe, who only lately resigned the secretaryship of the R.H.S. of Ireland. He was well known, and much respected by amateurs as well as professional gardeners, and for many years edited the horticultural columns of the *Irish Farmers' Gazette*. Originally intended for the Church, he elected to become a gardener, and in his early years was connected with the College Botanical Gardens, Dublin, along with the late Dr. Mackay and Mr. John Bain, A.L.S. Amongst other friends he there made were Wilkie, of Phœnix Park, Mr. Charles Moore, now of Sydney, Fraser, a celebrated landscape gardener, and also Mr. Ninian Niven, father of the late Mr. Niven, of Hull. Mr. Balfe was an acute botanist, and knew garden plants extremely well. He died at his residence on the 8th inst., aged seventy-seven years.

QUESTIONS AND ANSWERS.

*** *Correspondents are requested, in order to avoid delay, to address all communications to* "The Editor" *or* "The Publisher," *and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa London."*

Names of Plants.—*E. W. M.*: 1, Polystichum aculeatum; 2, 3, and apparently also 5 are young plants or seedlings of Polystichum aculeatum. The Holly Fern (P. Lonchitis) is much more rigid in texture; 4, Nephrodium dilatatum; 6, Doodia aspera. —*J. Battersby*: 1, Polystichum aculeatum var.; 2, Selaginella Braunii, often but erroneously called S. Wildenovii in gardens.—*F. Lee*: 1, Jasminum nudiflorum; 2, Habrothamnus elegans; 3, Viburnum Tinus.—*A. J. B.*: 1, Cupressus macrocarpa; 2, Thuya occidentalis; 3, Retinospora plumosa aurea; 4, Cupressus nutkænsis; 5, Senecio grandifolius.—*A. Kemp*: 1, Eupatorium riparium; 2, Eupatorium odoratum; 3, Sparmannia africana; 4. Libonia penrbosiensis.

Names of Fruits.—*L. M.*: 1, Jolly Beggar; 2, Golden Noble; 3, Easter Beurré; 5, Seckle; 4 and 6, too much bruised to be recognised.

Chrysanthemum Mademoiselle Pepee.—*G. Potts:* The variety of which you sent us blooms, although not mentioned in the catalogue you speak of, is, nevertheless, recorded in the centenary edition of the National Chrysanthemum Society's catalogue, where it is described as a violet-rose, Japanese variety. For decorative purposes, and especially at this dull period of the year, we certainly consider it worth growing, notwithstanding its being delicate or weak in its early stages. The blooms are very full in the centre, and the violet-rose florets tipped with silvery-white, which adds considerably to their general appearance. The stems being only 2½ ft. high would render the plant suitable for greenhouse and conservatory work. Taking all things into consideration, we would not discard it for this kind of work so long as it gives the same satisfaction as in your case. The smaller blooms sent us are as suitable for decorative purposes as the large ones.

Increasing Cyperus Alternifolius.—*J. Alexander*: If you cannot get a sufficient number of plants for your work by the ordinary method of division, you should propagate from the flowering shoots, by cutting off the top, and inserting it in light sandy soil in a propagating pit. Small plants will arise at the base of the flowering branches, and when sufficiently rooted may be taken off and potted separately. Plants raised in this way remain dwarf for a much longer period than those produced by the division of old plants.

Salt and Soot for Meadow Land.—*Omega*: The best time to apply these ingredients to grass, land or meadow is in the spring or early summer, just when the grass begins to grow.

Books.—*Omega*: The book best suited to your requirements is *A Manual of Botanical Terms*, by M. C. Cooke, price 2s. 6d., and published by W. H. Allen & Co., 13, Waterloo Place, Pall Mall, S.W. This gives the botanical terms with their derivation and meaning, but not the pronunciation. Nicholson's Dictionary of Gardening gives the pronunciation and also the derivation of the names of plants, but it is of course a more expensive work. Baines' book on the culture of stove and greenhouse plants is the best that you can get on the subject. It is published by John Murray, Albemarle Street, W.—*P. Cogger*: Johnson's *Elements of Agricultural Chemistry and Geology*, 6s. 6d., and Sutherland's *Hardy, Herbaceous, and Alpine Plants*, 7s. 6d. Both are published by Blackwood.

Mignonette for spring flowering.—*Amateur*: During mild weather like what prevails at present, the pots of seedlings will do well enough in unheated pits or frames. Should severe weather intervene it would be necessary to remove the pots to safer quarters, say the shelves of a greenhouse, where they will be near the glass. This is of the greatest importance wherever the plants are kept, in order to prevent the seedlings from getting drawn. Comparatively little water will be necessary for some weeks yet until the days begin to lengthen; but you must always be guided by the condition of the soil as to whether watering is necessary or not. Towards spring water more frequently with weak dilutions of liquid manure. Thin out the plants before they get in any way crowded in the pots, and stake when it becomes necessary to prevent the plants tumbling about. Do not in any way attempt to force the plants by applying more heat than they get in a greenhouse.

Currant Bud Mite.—*Ribes*: Your best plan would be to remove at once all buds that appear unusually swollen and burn them so as to destroy the contained mites. If the plants are very badly affected the plantation should be uprooted and destroyed by burning, taking care not to plant Black Currants in the same ground for a number of years. Owing to the way in which the mites are protected in the galls there is no getting at them with insecticides, hence the severe measures which we recommend.

Communications Received.—W. F.—J. W.—G. P.—A. McK.—D. J.—T. F. R.—W. D.—A Yorkshire Gardener.—H. & S.—R. B.—P. R. B.—W. D. —E. C.—R. O.—W. T.—F. W. B.

TRADE CATALOGUES RECEIVED.

James Carter & Co., 237-8, High Holborn, W.C. —Seed Catalogue for 1892.

John Laing & Sons, Forest Hill, S.E.—Flower and Vegetable Seeds, Begonias, etc.

Monne & Hoepker, Ahrensburg, near Hamburg, Germany.—Special trade list of German seeds.

Sutton & Sons, Reading.—Amateur's Guide in Horticulture for 1892.

W. Wells, Earlswood Nurseries, Redhill.—Special list of Chrysanthemums.

LONDON SEED TRADE.

December 15th, 1891.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report market for all Clovers seeds firm, with a brisk demand for Alsike at full prices, owing to shortness of supplies. Rape seed dearer. Ryegrasses steady.

COVENT GARDEN MARKET.

December 16th.

Fruit.—Average Wholesale Prices

	s. d.	s. d.		s. d.	s. d.
Apples... per ½-sieve	1 0	5 0	Grapes .....per lb.	0 6	2 6
Canadian and Nova Scotian Apples per barrel	12 0	18 0	Pine apples. —St. Michael's, each	2 6	6 0
Cobbs... per 100 lbs.	30 0	35 0	Peaches .....per doz.	0 0	0 0

Vegetables.—Average Retail Prices.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Horse Radish, hundle	2 0	4 0
Beans, French, per lb.	0 9		Lettuces ...per dozen	1 0	1 6
Beet..... per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages ... per doz.	1 6	2 6	Onions.....per bunch	0 4	0 6
Carrots ... per bunch	0 6		Parsley ... per bunch	0 6	
Cauliflowers, English, per doz.	3 0	6 0	Radishes... per dozen	1 6	
Celery.....per bundle	2 6		Small salading, punnet	0 4	
Cucumbers .....each	0 6	0 9	Seakale ...per basket	2 0	3 0
Endive, French, doz.	2 6	3 0	Spinach, per strike ...	1 6	
Herbs .....per bunch	0 2	0 6	Tomatos..... per lb.	0 9	1 3
			Turnips .....per bun.	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Aralia Sieboldi ...doz.	6 0	12 0	Foliage Plants, doz.	12 0	60 0
Bouvardias...per doz.	8 0	12 0	Heliotrope, per doz.	4 0	6 0
Chrysanthemums, doz	6 0	12 0	Marguerites, per doz.	6 0	12 0
— large .....per doz.	12 0	24 0	Mignonette, per doz.	4 0	6 0
Cyperus .....per doz.	4 0	12 0	Palms in variety, each	2 6	21 0
Dracæna term., doz.	24 0	36 0	—scarlet .....per doz.	4 0	6 0
Dracænaviridis, doz.	9 0	18 0	Poinsettia, ...per doz.	9 0	18 0
Epiphyllum per doz.	9 0	12 0	Roman Hyacinths, per doz.	9 0	12 0
Erica Hymalis, per	12 0	18 0			
Evergreens, invar. doz	6 0	24 0	Solanums...per doz.	9 0	12 0
Ferns, invar., per doz.	4 0	18 0	Tulips.....per doz.	9 0	

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Acacia or Mimosa French per bunch	1 0	1 6	Mignonette... 12 bun.	1 6	3 0
Arum Lilies, 12 blms.	4 0	6 0	Narciss, Paper White doz. sprays	1 0	1 6
Bouvardias, per bun.	0 6	1 0	Narciss, French, doz. bunches	4 0	8 0
Carnations, 12 blooms	2 0	3 0	Parme Violets, French, per bun.	3 6	4 0
Chrysanthemums, doz. blooms	0 9	3 0	Dark " " "	2 0	2 6
Chrysanthemums, doz. bunches	4 0	12 0	Pelargoniums, 12 sps.	1 0	1 6
Eucharis ...per doz.	4 0	8 0	—scarlet.....12 bchs.	4 0	6 0
Gardenias 12 blooms	3 0	6 0	Poinsettia, doz. blms.	4 0	9 0
Heliotropes, 12 sprays	0 3	0 6	Primula, double, bun.	0 9	1 0
Hyacinths, Roman, doz. sprays	6	1 0	Pyrethrum, doz. bchs.	2 0	4 0
Lapageria, 12 blooms	1 0	3 0	Roses, yellow, dozen	3 0	6 0
Lilac, French, per bunch	6 0	7 0	— Red..... doz. blms.	1 6	2 0
Lilium Harrisii, doz. blooms	6 0	8 0	— Saffrano...per doz.	2 0	3 0
Liliums var., doz. blms.	1 6	3 0	— Tea ..... per dozen	1 0	3 0
Maidenhair Fern, 12 bs.	4 0	9 0	Stephanotis, dz. spys.	0 6	0 9
Marguerites, 12 bun.	2 0	4 0	Tuberoses, per doz.	0 6	0 9
			Violets, English per bunch	1 6	2 0

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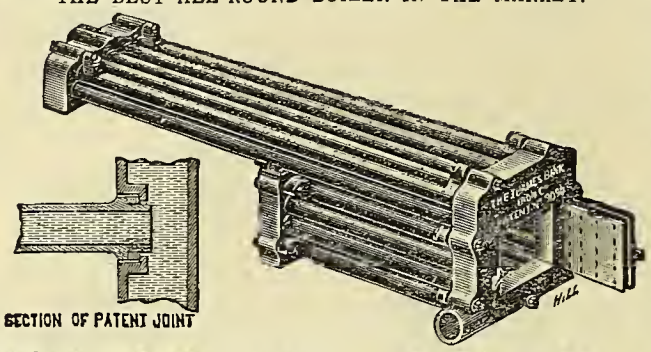
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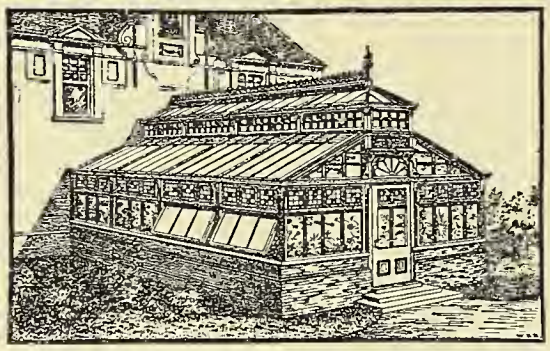

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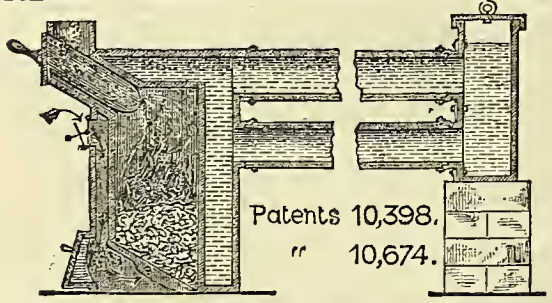

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In addition to the above, a Paper by Mr. H. Shoesmith is also included in my new Chrysanthemum Catalogue, which also contains the most complete list of new varieties ever brought together, and embraces selections from all the known Chrysanthemum world.

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The Gardeners' Royal Benevolent Institution.

NOTICE IS HEREBY GIVEN that the ANNUAL GENERAL MEETING of the Members of this Institution will be held at "Simpson's," 101, Strand, on FRIDAY, the 15th JANUARY NEXT, to receive the report of the Committee of Management; to elect the usual officers, to transact general business, and to place thirteen pensioners on the funds, SEVEN of whom will be elected by ballot.

The Chair will be taken at THREE o'clock, and the ballot will close at FIVE o'clock precisely.

The voting papers have all been issued, but should any subscriber not have received a copy early intimation is requested to the Secretary.

GEORGE J. INGRAM,
Offices, *Secretary,*
50, Parliament Street, S.W.

For Index to Contents see page 265.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

WEDNESDAY, Dec. 30.—Sale of Dutch Bulbs, Palms, &c., at Protheroe & Morris' Rooms.
FRIDAY, Jan. 1, 1892.—Sale of Established and Imported Orchids at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, DECEMBER 26th, 1891.

TECHNICAL HORTICULTURE.—There may be much or nothing in a name, but in any case we are not going to fall out over it. It may be proper to term such teaching of gardening "technical," as is found in books and in classes, but to our mind all teaching is technical which instructs, as all garden practice must instruct, in the very elements or rudiments of horticulture. Just now, very interesting and we hope useful efforts are being put forth by some of the County Councils to promote a knowledge of horticulture—or if it be thought preferable we will call it gardening—among the cottagers, allotment holders, and generally working class element in rural districts who desire to obtain a wider knowledge of gardening in its best aspects.

Generally the result of these efforts have been very satisfactory, the attendance at the various centres good, and the auditors exhibiting in the lectures the deepest possible interest. Naturally it is very difficult in lectures of this sort to give very capable demonstrations of a practical kind. In any case the most that can be done at the first is through the aid of clear but elementary expositions and diagrams to lead up to wider knowledge later. Gardening is undoubtedly best taught by practice, but we have no public schools in which the science

can be thus effectively demonstrated. Our best private schools of horticulture are found in good class private gardens in nurseries, and in the market plant, fruit, and vegetable gardens. These, however, are accessible only to the few, and only also to bona-fide workers. But in the majority of cases, so far as County Council efforts at technical instruction are concerned, the students or auditors at least have opportunities to put the theories taught them in the lecture room into practice, more or less, in their small plots of ground.

It may be said that we do not want a nation of gardeners, and that is so in the same way that we do not want the nation to be entirely dependent upon any other vocation. But it does happen that there is no trade which can be followed as a mere partial recreation with such exceeding pleasure and benefit to all as gardening. Therefore, although a nation of professional gardeners is not desired, we do wish to see the nation attached to gardening as a recreation and having concerning it good practical knowledge. To produce that result the efforts now being put forth will largely help.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—In a recent issue we pleaded the cause of the Gardeners' Orphan Fund, and now ask further for the kindly consideration of our readers at this Christmas season for the much older institution, the Gardeners' Royal Benevolent. The one provides for children, the other for those of our profession who, having gone through many years of often hard probation, are now getting into the sere and yellow leaf of life, and in some instances to a condition of second childishness.

The next annual election of pensioners on the Benevolent fund takes place early in the new year, and it would seem that out of a list of no less than thirty-five applicants or candidates for help in their old age only thirteen can be elected. That will leave twenty-two out in the cold very literally, and to suffer the pangs of disappointment. Probably some know beforehand that their success on first asking is very doubtful. But it is not so easy in some cases to be assured that really the most meritorious applicants will be successful now. Certainly six out of the thirteen come on the fund by right, having been subscribers for a certain number of years. That is a matter of such importance that it seems to be a pity far more of those who may be looking forward to benefiting from the Institution do not place themselves in the same position.

Possibly the payment of one guinea per annum to entitle them to that privilege or right, proves to be too exacting, and perhaps it would be far more readily met were it possible to make the payment of such annual subscription by instalments either quarterly or half yearly. Did a very much larger number of those who eventually may desire to become annuitants also become subscribers, then very much more encouragement would be given to honorary subscribers to help whilst some effort at self-help was shown. However, we do earnestly hope that at this Christmas season the claims of the Gardeners' Royal Benevolent Institution will receive hearty consideration.

CHRISTMAS PRODUCTS.—Somehow, no matter the time of the year, we seem always to have in our markets and shops some description of garden produce, while even though Christmas falls in mid-winter it would seem as if the supplies were almost unlimited. Let us take flowers for instance, and see what is now on offer in almost plenty. Chrysanthemums, a wealth, Camellias, Gardenias, Eucharis, Carnations, Hyacinths, forced Lilac, Narcissi, Christmas Roses, Tea Roses, Violets, Orchids, and many other things. To this list may be added plants in pots, both flowering and foliage in great abundance, with Holly and Mistleto, and evergreen branches in profusion. Such are some of the elements gardening produces for Christmas delectation.

Then of fruit we have Apples, Pears, Grapes, Pines, Tomatos, Nuts, &c., for if of these the supply now is limited yet there seems to be a profusion none the less, and what may be our deficiencies other and more favoured countries make up. We have now a wondrous wealth of fruit sent us from all parts of the world, all mostly green and dried, and thus it happens that even at Christmas the shops and markets literally reek with abundance, and the purchasers are in a comparative state of bewilderment as to what to purchase. There is no lack of vegetables either, of those which are ordinarily in season. Potatos, Coleworts, Cabbages, Turnips, Carrots, Spinach, Celery, Endive, Lettuce, &c., are plentiful, and forced or from abroad come Dwarf Beans, Tomatos, Cucumbers, Mushrooms, &c.

The aspect of our garden produce markets and shops at this festive season may well make us proud, not merely of national but of international Horticulture. Still we could wish that far more of material could be produced at home. Some day perhaps we shall materially expand our insular capacities, but for the time of year it is too evident that such capacities must chiefly be artificial.

CHRISTMAS 1891.—We offer to all our readers very hearty Christmas goodwill and kind wishes. The usual holiday and festive season comes to us at the close of the year, and at a time when nature at least is most restful. It is at a time when, even better than at any other period of the year, men may rest from their labours, even if for ever so short a time, for soon the sun of the new year will rise, the days of the coming season will expand, and once more work, hard work, will be the order of the day.

It would seem as if we were to have a cold, frosty Christmas time, but between the period of writing and publication there is plenty of time for a change. Frost may be transformed into rain, or the present lower temperature may become soft and mild. Generally we believe a dry, cold Christmas time is the most acceptable. All who wish to enjoy the festival can certainly do so better when it is somewhat frosty than when it is mild and wet. We have had so much of rain during the year that it would be no matter for surprise if the year should go out moist. Gladly, however, will we wish to see a long truce to the rainfall, as for some time to come our needs have been more than satisfied.

Christmas time to gardeners comes very much as a resting place in the long journey of life. There is very little of rest it is true, indeed with many of the craft there is really no cessation from toil, because artificial growth is created even when nature is most at rest. Still it is generally a restful time, and for that reason is heartily welcome; very soon after comes the usual annual movement in vegetation, the spring and summer cycles soon follow, and we are again right into the thick of the work almost before it is conceivable. Well may we wish to make the most of the Christmas rest and holiday, for it is after all short and flecting, just as it where a temporary stoppage of the mill wheel, and then again, it will commence its long revolution. May the rest time be a pleasurable one to all readers, may it be the precursor of a bright prosperous new year, and therefore again most heartily do we wish for all our friends a happy Christmas.

The Parks Appointment.—We understand that the question of appointing a superintendent for the London Parks, has been shelved for the present, the General Purposes Committee of the County Council having postponed further consideration of the subject for an indefinite period.

Mr. William Leith, a late foreman to Mr. Lambert, at Onslow Hall, succeeds Mr. Townsend, as gardener to T. R. Greatorex, Esq., Mytton Hall, Shrewsbury.

Mr. James Whitehead, Barming House, Maidstone, has been nominated by the council of the Royal Agricultural Society as its representative on the provisional committee for organising the Great International Fruit Show of next year.

Mr. A. Porteus has been engaged to succeed Mr. A. Wright as gardener to E. H. Watts, Esq., Devonhurst Chiswick.

Gardeners' Royal Benevolent Institution.—The annual general meeting of the subscribers to this institution will take place at "Simpson's," 101 Strand, on Friday, January 15th, at 3 p.m. An election of seven pensioners will take place the same afternoon. At 6 p.m. the annual Friendly Dinner will take place, and those who intend to be present should make early application for tickets (7s. 6d. each) to Mr. G. J. Ingram, 50, Parliament Street, S.W.

Ealing Gardeners' Mutual Improvement Society.—At the weekly meeting of members on the 15th inst., Mr. G. Cannon presiding, the paper read was on the subject of "Villa Gardening," being the first prize essay by Mr. A. Pentney, foreman at Hanger Hill House, in the competition originated by the late Mr. J. Thornhill Harrison. A number of interesting plants were exhibited by various members.

Veitch Memorial Prizes.—At a meeting of the Trustees of the Veitch Memorial Fund held on the 18th inst. it was decided to offer Veitch Memorial medals and prizes for the year 1892 as follows:—At the Temple show of the Royal Horticultural Society, on May 27, a medal and prize of £5 for the best six hardwooded greenhouse plants in bloom. At the special exhibition of Orchids at the Royal Botanic Gardens at Manchester, to be held in June, a medal and prize of £5 for the best hybrid Orchid already in commerce; and a medal and prize of £5 for the best hybrid Orchid in bloom *not* in commerce. These medals and prizes can be competed for by amateurs and their gardeners only. It was also decided to award a silver medal to Mr. William Watson, of Kew, and a similar medal to Mr. John Heal, of the Royal Exotic Nursery, Chelsea, as a recognition of their skill as hybridisers and cultivators.

The Queen and Horticulture.—The gold medal of the Royal Botanical and Horticultural Society of Manchester having been awarded to her Majesty the Queen for her exhibition of fruit at the recent show in that city, Mr. Bruce Findlay, the secretary of the society, recently proceeded to Windsor Castle and presented the gold medal, of which he in acknowledgment has received the following letter:—"Windsor Castle, December 16, 1891. Sir,—I am commanded by the Queen to convey to the members of the Royal Botanical and Horticultural Society of Manchester the expression of her Majesty's thanks for the gold medal which the society has awarded to her for the fruit exhibited by her Majesty on the occasion of the last exhibition there, and to express her Majesty's satisfaction that the Apples and Pears sent from the Royal gardens should have been so highly approved of by the society.—Believe me, yours faithfully, J. C. Cowell. Bruce Findlay, Esq., Secretary of the Royal Botanical and Horticultural Society of Manchester."

A Potting Competition.—A somewhat novel competition took place recently in the Madison Square Garden, New York. Three prizes were offered for the greatest number of plants potted in a workmanlike manner in one hour. The "plants" were really Arbor vitæ cuttings, and the pots used were 2-in. of

the old style, and without rims. Each of the competitors had a helper to keep him supplied with empty pots, and to remove the trays when filled. The winner of the first prize was George Martin, who neatly and well potted 1,277, his work being done at the rate of 21·28 per minute. The second prize winner potted 1,115; and the man who took the third award potted 1,238, but his work was so poor that the judges felt they could not place him higher.

Gardeners' Orphan Fund.—At a meeting of the committee, held on the 18th inst., the honorary secretary announced the receipt of the following special contributions:—Proceeds of concert organised by the Chiswick Gardeners' Mutual Improvement Society, £20; collected at the Leighton Buzzard Chrysanthemum show, per Mr. J. Smith, Mentmore, £20 10s; Mr. Matthew Todd, by sale of fruit and flowers, &c., at the Edinburgh Chrysanthemum Show, £20; total of amounts collected in a dozen money boxes, £18 5s. 6d. The committee very carefully examined the applications of some thirty candidates, and, all being regular, were ordered to be placed on the voting list for the next election. January 4th has been fixed as the last day on which applications can be received, and the committee will meet again on that day.

Primula Forbesi.—M. de Vilmorin, of Paris, sent to the last meeting of the Scientific Committee growing plants and cut flowers of this new species. It was discovered by Abbé Delanay in the province of Yunan, China, growing wild in marshes and Rice fields, where it is practically an anuual. The plants were raised from seed received from the Abbé, and under cultivation proves to be a most perpetual bloomer. It much resembles P. obconica in the succession of flower stems, but otherwise is quite unlike it in appearance. The flower stems are very slender, and bear several (3-6) whorls of flowers, which, individually, resemble those of P. farinosa. It has produced but few seeds as yet, possibly requiring a high temperature. It does, however, well in a cool house. The specimens appear to be all of the long-styled form, which may possibly account for the paucity of seed. A vote of thanks was given to M. Vilmorin for his interesting contribution.

Lectures on Botany at Liverpool.—At a meeting recently held of the Woolton Gardeners' Mutual Improvement Society, Mr. R. G. Waterman announced that the County Council had, in reply to a request of the Committee, allotted the sum of £30 for a series of botanical lectures in connection with the Lancashire and Cheshire Association for the extension of university teaching. The committee have further been successful in securing the valuable services of Mr. R. J. Harvey Gibson, M.A., F.L.S., F.R.S.E., Lecturer on Botany at University College, Liverpool, who will deliver eight lectures on the "Geographical Distribution of Plants," illustrated with lime-light views. The total estimated expenses will approach £40, or £10 above the grant, which is to be met by a small charge for season tickets for admission. The lectures will be open to the public who it is hoped will support this beneficial work, which has our heartiest good wishes.

Sevenoaks Gardeners and Amateurs' Mutual Improvement Society.—A well-attended meeting of this society was held at the Dorset Arms Hotel, on Tuesday the 15th inst., and a capital lot of vegetables, were exhibited by Messrs. A. Farmer, J. Buckland, G. White, and G. Dubbery, in the gardeners' class, and by Messrs. Waghorn and Wolfe amongst amateurs the prizes being awarded in the order named. A First-class Certificate was awarded to Mr. W. Searing for cut blooms of Chrysanthemums. The initial business being over, Mr. Searing opened a discussion on the culture of the Chrysanthemum, handling the subject in a very able manner. Chemical manures, when and how to apply them, etc., were discussed at some length by Messrs. Smith, Hughes, Hoadley, Potter, Buckland, Farmer, Cooke, etc., the general opinion being that drainings from the farmyard or cowshed were preferable to chemicals. All the questions put to him were satisfactorily answered by Mr. Searing, and a vote of thanks was passed to him for his excellent address.

THE CHICAGO EXHIBITION.

The accompanying illustration represents the front elevation of the Horticultural Hall, which will be a conspicuous feature at the World's Fair in 1893. The building is situated immediately south of the entrance to Jackson Park from the Midway Plaisance, and faces east on the lagoon. In front is a flower terrace for outside exhibits, including tanks for Nympheas and the Victoria regia. The front of the terrace, with its low parapet between large vases, borders the water, and at its centre forms a boat landing.

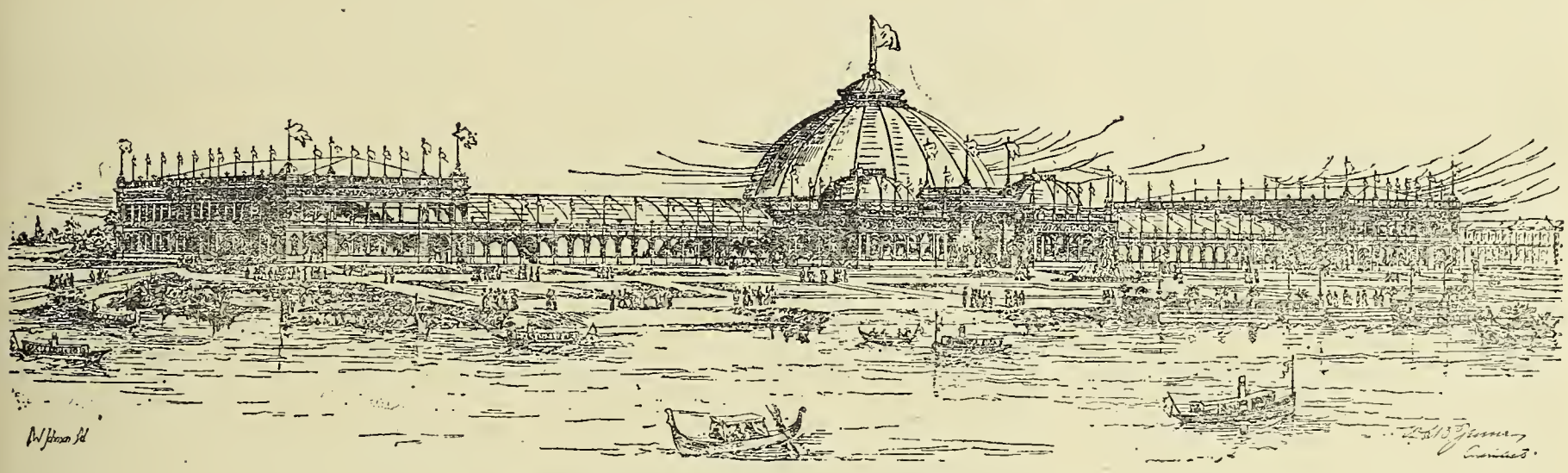
The building is 1,000 ft. long, with an extreme width of 286 ft. The plan is a central pavilion with two end pavilions, each connected to the centre pavilion by front and rear curtains, forming two interior courts, each 88 ft. by 270 ft. These courts will be beautifully decorated in colour and planted with ornamental shrubs and flowers. The central pavilion is roofed by a crystal dome 187 ft. in diameter and 113 ft. high, under which will be exhibited the tallest Palms, Bamboos and Tree-ferns that can be procured. On the roof round the dome, an elaborate display of roof-gardening will be made. It is expected that this will not only be pleasurable to visitors, but will afford valuable suggestions that will be utilized by persons who live in large cities and are deprived of door-yards and lawns. There is a gallery in each of the pavilions. The galleries of the end pavilions are designed for cafes, the situation and the surroundings being particularly well adapted to recreation and refreshment. These cafes are surrounded by an arcade on three sides, from which charming views of the ground can be obtained.

In this hall will be exhibited all the varieties of flowers, plants, Vines, seeds, horticultural implements, etc. Those exhibits requiring sunshine and light will be shown in the rear curtains, where the roof is entirely of glass and not too far removed from the plants. The front curtains and under the galleries are designed for exhibits that require only the ordinary amount of light. Provision is made to heat such parts as require it. In the centre of the building will be a miniature mountain, 70 ft. high, upon which will grow giant Tree-ferns and Palms, and other vegetation, finding there a congenial home. A mountain stream will dash from one declivity to another and play hide-and-seek with the foliage. Beneath this rock-mountain will be a cave, 80 ft. in diameter and 60 ft. high, brilliantly lighted by electricity, where, during the whole six months of the Exposition, the experiment will be tried whether plants will grow under electric light as well as under sunlight. The exterior of the building is in staff or stucco, tinted a soft warm buff, colour being reserved for the interior and the courts.

The following particulars with reference to this section of the Columbian Exposition are taken from a paper by Mr. James Dredge, published in the *Society of Arts Journal* for December 11th:—"Opposite the wooded island in the lagoon, will be created the Horticultural Building, a great conservatory, 1,000 ft. in length, and 287 ft. in maximum width. The general features of this building are to be a central dome, 187 ft. in diameter and 113 ft. high. At each end is a large rectangular pavilion, and these wings are connected with the central rotunda by the main body of the building, each side of which is divided into two courts, 88 ft. wide by 270 ft. long. The courts facing the wooded island are constructed entirely of iron and glass, and will be used for especially tender plants. The rear courts, while they will receive abundance of light, are not entirely glazed; they will be specially adapted for fruit-growing exhibits, which may require a cool temperature.

"A large section of the courts will be devoted exclusively to the exhibition of Orange culture in California and Florida. The central dome will be chiefly given to Palms, Bamboos, Tree Ferns, Cacti, Eucalyptus, &c. Ten miles of 1¼ in. pipe will be required to heat the dome alone, and a still greater length will be wanted for the high temperature courts. The ground floor of each pavilion will be chiefly used for fruit exhibits, collections of seeds, and horticultural appliances. Broad galleries will run around these pavilions about 25 ft. above the ground. The greater part of this area will be used for cafés and restaurants, and as the architectural treatment of the buildings includes an exterior arcade running around three sides—this arcade being extended to the upper storey in the pavilions—an additional amount of open-air space will thus be obtained, whence some of the most attractive views in the grounds will be seen. It is the intention of the chiefs of the horticultural department to encourage the best possible displays of all meritorious exhibits in the various groups of pomology, viticulture, floriculture, culinary vegetable, seeds, arboriculture, methods and appliances of horticulture, &c. As the available space is very limited, a careful selection will be made of the objects accepted.

"The classification of this department will embrace everything of professional interest to horticulturists, whether they are engaged on a large or a limited scale, and there can be little doubt but that the display will give us as great an impetus to the gardeners' art as did the similar but much more limited exhibit at the Centennial Exhibition of 1876. Already the applications for space in this conservatory from the United States alone would fill the building several times over, and a system of the most rigid selection is therefore necessary. From Australia and New Zealand, from Latin America, and from China and



The Horticultural Hall at the Chicago Exhibition.

Japan, applications are already arriving; the most curious exhibits from the last-named country will be the dwarf fruit and other trees, over a century old and not more than two feet high. Many of the states and territories have arranged to make a complete herbarium of their flora, and wax models of all their fruits; it is the intention of the chiefs of this department to make a great collective exhibit of these objects.

"I think that there is every reason to suppose that this section will receive very warm and practical support from English horticulturists. Not only is our pre-eminence in the art fully recognised in the United States, but the importation of plants is not saddled with the heavy taxation that applies to most other objects to that country; in fact, all plants intended for indoor cultivation, for the production of cut flowers and for decorative purposes, are admitted free. In the same way many garden seeds are equally unencumbered, and, as will be seen from the following list of exports for 1890, a very large trade is done in them by seed producers in this country:—

UNTAXED EXPORTS.

	Value.
Flower and other seeds.....	£67,000
Trees and plants.....	114,100

TAXED EXPORTS.

Bulbs.....	73,730
Garden and agricultural seeds..	60,400
Plants, &c.....	934,990

"It will be within the remembrance of many persons who visited the Centennial Exhibition at Philadelphia in 1876, that the Rhododendron displays made by British growers gained the wonder and admiration of millions of American visitors; this exhibit laid the foundation for a large and constantly growing trade in this particular shrub, and I was recently informed by one of the chiefs of this department in Chicago—an eminent horticulturist—that, despite the advance that has been made in America in this branch of culture, we still maintain the lead that we had nearly twenty years ago. In 1876 there were less than a thousand nurserymen in the whole of the United States; this number has been increased more than fourfold at the present time, and the trade in America with cut flowers and decorative plants is enormous. At the beginning of this year there were 4,659 floriculture establishments in the United States, with nearly 39,000,000 square feet of glass. The value of these establishments is about £8,000,000 sterling, while the value of the plant sales during 1890 amounted to nearly £2,500,000 sterling, and that for cut flowers to nearly £3,000,000. With this very extensive business, with the acknowledged fact that we, as floriculturists, are far in advance of the United States, and with the very favourable conditions that exist, there is every reason to suppose that in this department, at least, British exhibitors may go to Chicago without the least doubt as to the commercial success of their undertaking.

"Before dismissing the Horticultural Building, it may be added that extensive grounds will surround it; that these grounds will be laid out in the most elaborate manner, and be adapted for flower displays which will also form exhibits. The art of carpet bedding has been carried, according to our more sombre eastern ideas, to theatrical extravagance in the United States, and while one cannot but admire the ingenuity which tortures foliage plants and brilliant flowers into 'Gates Ajar,' terrestrial globes, canoes, sundials, and the like, the British landscape gardeners will probably be content with admiration, and refrain from imitating these curious triumphs of floral decoration."

SOME FRUITING HOLLIES.

HOLLY berries seem anything but plentiful this year, and although quantities are making their appearance in the markets, they have no doubt been collected over wide areas. The heavy and reckless pruning to which the trees are subjected in supplying the London markets must affect their fruiting powers in succeeding years, but independent of this the trees do not fruit equally freely every year any more than in the case of fruit trees generally. Apples, Pears, and Plums bore excellent crops during the past summer, so that, considering the fruitless condition of the Hollies, different agencies must have been at work and must be held responsible for the differences in the two cases. We hear little of the prognostications of the old weather prophets this year about an approaching severe winter, because of the relative scarceness not only of Holly berries, but of wild fruits generally. Notwithstanding this scarcity of food for the birds, we are by no means assured that the winter will be a mild one.

The ornamental value of the Holly is well recognised whether in fruit or not, but there can be no doubt that all the green-leaved varieties which bear fruit are greatly improved thereby. Fruiting Hollies, if they happen to have variegated leaves, sometimes lose much of their effect, because the scarlet berries are never seen to better advantage than against a background of dark green foliage. The yellow and white fruiting varieties of the common Holly come under the same rule, and they are seen to the best advantage only when planted in association with the red fruiting sorts, so that the colours may be contrasted.

Even in the common European Holly (Ilex Aquifolium), all plants or trees do not fruit alike, as some of them bear male flowers only. It would be well therefore if fruiting trees are desired, to take grafts from trees that are known to fruit well, so as to make sure of getting the right sorts when the trees attain a large size, and get into bearing condition. When grafts however are taken from fruiting trees, they often come into bearing when yet quite small, and that is more than can be expected from trees raised from seeds. Besides the typical form there are others differing in habit as well as in the form of the leaves, and which would be desirable in a collection. The Weeping Holly (I. A. pendula) has long, drooping branches which sweep the ground and in most years bears fruit, sometimes very heavily. The broad-leaved Holly (I. A. platyphylla) is also fruiting fairly plentifully this year, and in fact seems to compare well with any other kind. The berries are globose or oblate, bright red and very large. The leaves are broadly oval, bright green, shallowly and distantly spiny-serrate, and on young and vigorous plants attain their greatest magnitude. The leaves of I. A. Moonlight are large and ovate, of a bright green with paler veins, and are strongly spiny. The uppermost ones on tall specimes are often quite entire reminding one of the poet Southey's tree. The berries are bright red.

There are several narrow leaved sorts which are as interesting from the character of the foliage as from their berries, including I. A. ciliata, having lanceolate leaves, sharply serrate with small spines. The berries are relatively large and bright red, while the small size of the leaves does not conceal the fruits. A most singular looking tree is I. A. crassifolia, with lanceolate, rigid leaves of great thickness appearing quite succulent, and of a dark opaque green, the margins are furnished with strong and deep senatures, but they are hardly to be considered spiny. The red berries are oblate or flattened on the top as if partaking of the same abnormal character as the foliage. There are several varieties of Holly with thick leaves, but none perhaps more marked and peculiar than in this case.

The varieties with fruit of other colours than the normal red are interesting, more especially when grown in proximity to the others for the sake of contrast. The yellow-fruited Holly (I. A. fructu-luteo) is perhaps the most common of the varieties grown, because their fruits are differently coloured from the rest. A tree of it in full bearing has a very striking effect. Intermediate between this and the type is the orange-fruited I. A. fructu-aurantiaco, which has elliptic-ovate, undulate and strongly spiny leaves. The yellow fruited variety has leaves similar to the type, but somewhat less spiny. Then there is a white-fruited variety named I. A. fructu-albo; and to complete the series a black-fruited one, namely I. A. fructu-nigro. There are therefore fruits of five different colours in the common Holly alone, but some of then would be difficult to obtain. Cultivators however would do well to propagate and encourage their dissemination in collections.

There are several exotic species of Holly which fruit with tolerable freedom in this country, and are otherwise interesting on account of their different foliage. Foremost amongst these is the Minorca Holly (I. balearica) which modern authorities consider a mere form of the common one. It is readily distinguished by its ovate leaves being almost without spines, and of a lighter green. The American Holly (I. opaca) has ovate, almost flat, opaque green leaves, and rather deeply spiny at the margin. It is therefore strikingly different from our Holly, and grows apparently with equal freedom. The globose berries are of medium size and bright red. The Himalayan I. dipyrena has long lanceolate leathery leaves of a dark green with short spines. The tree is of pyramidal habit, grows rather quickly, and is quite hardy.—*F.*

GREENHOUSE RHODODENDRONS AT CHRISTMAS.

ONE great advantage of growing hybrid greenhouse Rhododendrons is that they may be had in bloom at any time of the year, and if a large collection is grown, some or other of them will be in bloom all the year round. After flowering, the plants commence to grow again; and if it is considered desirable that they should complete their growth, and make preparations for flowering again, it is necessary that the plants be kept in a growing temperature, say that of an intermediate house. Considering their great importance as decorative plants, and also the value of the flowers in the cut state for various purposes, greenhouse Rhododendrons are worthy of a house to themselves, specially devoted to their cultural requirements. Cultivators would soon find what treatment best accorded with their wants, and their response to this in the quantity and continuous production, would amply repay for the trouble incurred and the space devoted to them.

We have inspected the collection of Messrs. J. Veitch & Sons, Chelsea, at various times of the year, and never found them entirely out of flower. We had the pleasure of seeing them quite recently, and had evidence that there would be plenty of bloom at Christmas. The varieties of the Java type are the most showy and useful for all general purposes, on account of the great size of the flowers, and their extremely varied character in various respects, besides the wide range of beautiful colours.

JAVA TYPE.

All of the undermentioned varieties which are described are comparatively new kinds, and some of them are only just being put into commerce. The improvements which have been effected in recent years is considerable, both in the size and colour of the flowers, so that many of the new kinds are valuable acquisitions. Many seedlings which come into bloom now have to be discarded if they do not come up to the standard of merit, as space cannot be afforded for their retention and propagation. Luteum Roseum, now two years old, has large flowers of a beautiful rose colour, lightly shaded with yellow, with a purple line joining the base of the segments. Those of Jasminiflorum carminatum are of medium size and carmine with a long tube. It is a very floriferous kind. Minerva, a last year's production, has very large, apricot-yellow flowers lightly shaded with red in the throat. Of the same size is Princess Beatrice, having large blush flowers lightly shaded with red in the throat. A beautiful flower is Rose Perfection, of large size, and clear rose with a white tube and throat. Hercules is notable for the size of its flowers, which have six or seven segments instead of the usual five. They are of a rich apricot colour shaded with salmon, but more especially in the throat. The variety has been certificated, as likewise Ajax, which is quite new and bright cerise with a rose throat. It is certainly fine.

The first pure white variety of this type which has been obtained is that named Purity, having flowers of medium size. Imogene, on the contrary, has large creamy-white flowers with red stamens. Ophelia is a beautiful salmon coloured flower with a rose throat and broad emarginate segments. Another grand type is Lord Wolseley, with very large, rich orange flowers shaded with purple in the throat. Favourite has similarly large flowers, of a bright pink shaded with red at the base of the segments. The trusses are also of great size, so that the variety is hardly likely to belie its name. Indian Yellow describes its own colour, and the flowers are large with rounded segments. Very floriferous is Apollo, with orange-red flowers and a long, wide tube.

Besides the above new kinds we also noted many of the choice old kinds in flower. Description in their case is unnecessary, seeing that they are so well known to cultivators of this class of plants. Some of these were Princess Royal, Alexandra, Duchess of Edinburgh, Maiden's Blush, Princess Frederica, &c. The above, as is well known, have

single flowers, but the double-flowered type was represented by Balsamæflorum carneum, B. album, and B. aurem, all of which last a longer time in flower than the singles, and are valuable on that account where great stress is laid upon the duration of the flowers.

MULTICOLOR TYPE.

Another group characterised by their much smaller flowers, is known as the Multicolor type, from one of the parents being of that name. The plants are dwarfer, more compact in habit and more floriferous —quite small plants often being wonderfully laden with bloom. The leaves are smaller, lanceolate and more of the Azalea type than those of the Java varieties. They are also more erect in habit, and the leaves longer in proportion to their width. The colours of the flowers even here are varied, and often characterised by bright, and sometimes of intense, shades of red or crimson. Other colours are rose, blush, pink, rose with a red throat, carmine, and yellow shaded with red in the throat. Though smaller generally than those of the Java type, yet the flowers of some varieties are of wonderful size. They are useful for buttonhole and bouquet work in the cut state.

ABOUT PEARS.

(Continued from page 242.)

THE great Pear tree at Garmouth has borne, as a single crop, the incredible number of 28,600 fruits. Multiply this by ten and you have the possible offspring of this one tree for one year. This is taking for granted that they were all perfectly fertilized and all sown, a very unlikely circumstance indeed. I have tried to work out an average of the number of perfect seeds, but must confess I have failed to fix on one, as they vary so much in number. I was not satisfied at all, at any rate it would not be more than one half the possible.

France and the Channel Islands produce the best and largest Pears that come into the market. Jersey I believe has produced the largest Pears ever grown, they have been priced in Covent Garden at 15s. per dozen. One shilling each is not considered extraordinary by some growers; in going through one of the Jersey strongholds in Pears, the proprietor pointed out to me several trees the fruit of which he counted as so many shillings. These large fruits are not profitable to grow, as to obtain them very few can be left on the trees.

France undoubtedly has made great strides in the cultivation of the Pear, which is clearly shown by the many excellent varieties we have bearing French names. Amongst our continental brethren I think Belgium comes next. We have also many good Pears from America, and last but not least comes the British raisers, amongst whom must be mentioned Thomas Andrew Knight and Thomas Rivers; to these two gentlemen Pomological Science owes a heavy debt for many lessons.

Now, coming to the more practical part of my paper, I intend to treat it under three headings: Propagation, Cultivation, and Varieties.

PROPAGATION.

Pear trees can be increased in a variety of ways; the most important are grafting and budding. Increase from cuttings and layers is not generally adopted. Seed is largely sown to obtain stocks, on which to work improved and well-known varieties. Budding is most generally practised by the trade growers, as it possesses several distinct advantages. Especially is it suitable for propagating new varieties, as a plant can be obtained from every well-matured bud. It has also the advantage of being performed in the summer, when other work is not so pressing, and if any fail to *take* they can be grafted in the following spring. The chief points to be observed in budding are to have the scions and stocks in good working order. In preparing the buds the wood should come out clean, without injuring the buds in the least. The bark of the stock must lift freely when the handle of the knife is inserted; and the whole when bound up must be air-tight.

Grafting is a very ready and sure method of propagation, and it is especially useful in renovating old trees or worthless varieties, which can be headed down and grafted with improved ones. There are several forms of grafting, but the one known as tongue grafting is the most suitable for young trees, and wedge grafting for old specimens. The essential points in grafting are to get the cambium layers of the stock and scion together; they *must* fit on one side of the stock at least, or no union will be formed. The cuts should be clean and bound up before they have time to dry. The graft should be kept moist and air-tight by some of the several waxes or clays until the union is formed.

With this brief and incomplete reference to propagation I dismiss the subject as time will not allow of my dealing more fully with it.

THE QUESTION OF STOCKS.

The most important question of stocks next demands attention, for they exercise a great influence on the trees worked upon them. Sufficient attention is not paid by all gardeners to the stocks on which their trees are worked, and serious mistakes sometimes follow, by trying to train a tree to a form for which the stock is not suited. These are not so varied as in the case of the Apple, the Quince (Cydonia vulgaris) and the common Pear being the only two used to any extent

The Pear stock undoubtedly is the most natural for the Pear; on it the tree attains the greatest size and age. It is therefore well adapted for orchard trees or where there is plenty of headroom, as it is a strong grower and capable of carrying a large tree. The object in using the Quince as a stock is to obtain a dwarfer and more fruitful growth, to have the roots nearer the surface, and therefore under control, and, as a rule, most varieties come to a bearing condition sooner on the Quince. The dwarf habit of this stock makes it suitable for trees which have to be planted in a limited space. Owing to its surface rooting habit it is well adapted for situations where the subsoil is unfavourable, as the roots of the Pear stock would enter the cold, damp subsoil and draw unsuitable nourishment for the tree. The Quince roots can easily be kept close to the surface, and therefore much warmer than those of the Pear stock, which will cause a better ripening of both fruit and wood. The fruit is often larger and higher coloured when grown on the Quince; this is partly caused by the check the sap receives on its down journey by coming in contact with the vessels of the Quince; the same result can be obtained by ringing and ligatures.

(To be continued.)

DECORATIVE ROSES.

WE may, I think, without fear of contradiction, regard the Tea-scented Roses as the very best and most desirable for decorative purposes. They have certain characteristics which pre-eminently fit them for this purpose. They are of handsome appearance, and as decorative in autumn as in early summer; they are of free growth; they bloom freely; and they can be depended upon.

There is now a large group of Roses partaking of the type of Gloire de Dijon, that it is now customary to group together and designate Dijon or climbing Tea Roses. It is not too much to suppose they have sprung from the popular and favourite old "Glory." They give us our finest pillar and climbing Roses; they are varied in colour, though they lack the hues of bright scarlet and crimson found among the hybrid perpetuals. For covering walls in particular they are excellent, and, indeed, for all the uses to which climbing Roses can be put; and they also possess the important character of forming huge flowering shrubs and bushes, and can be most effectively used in shrubbery planting.

These Roses are grown at Cheshunt on wired walls, and against these strong shoots can be laid in for covering in case of bad weather. These walls are composed of a central row of posts some 8 ft. out of the ground. Small cross-bars of iron about 2 ft. apart up these posts serve to spread two sets of wires, making a hollow wall up which Marechal Niel and other Noisettes, and Madame Berard, Gloire de Dijon and other strong growing Teas are trained, so as to make a double screen of Roses. In November a few straw-mats are covered over the top, and removed when it is safe to do so. They are also employed in spring to protect from night frosts after the Roses have broken into growth.

For ordinary bush growth in gardens, the Tea-scented are preferable. They are our real autumnal Roses, and including as they do most of the light coloured ones, the yellow fawn-buff and the best whites are most effective. Some of the best are Marie Van Houtte, one of the most useful of Teas; Hon. Edith Gifford, fine late in the season; Jean Ducher, Madame Lambard, somewhat variable early in the season; Perle des Jardins, a full rich yellow Rose; Souvenir de Gabrielle Drevet, Souvenir de Therese Levet, and Caroline Kuster. This does not exhaust the list, but I am giving the names of some of the most serviceable for the purpose we have in view.

These Tea-scented Roses are on the whole much hardier than is generally supposed; they will bear exposure to severe frost, and yet break into growth freely in spring and be in bloom by the middle of June; they will go on blooming until the end of October or even later if the weather keeps open. The superiority of Tea-scented Roses over most others employed for garden decoration becomes especially conspicuous late in the season, and this lies in what is generally regarded to be the greater ability of the Tea-scented varieties to resist the attacks of mildew and red rust, the latter pest especially being hardly ever found upon them; and the full meaning and advantage of this all who have ever seen their Rose trees leafless, even as early as the middle of August through the ravages of these troublesome fungi, will readily appreciate.—*R. D.*

SCOTTISH NOTES.

EXCHANGING AT THE TERM.—I read with much interest "Diosma's" comments on this subject in your issue for December 12th (p. 227), and entirely agree with him as to the rottenness of the system, for justice is not done to either master or man. Like "Diosma," I was second inside in one of the best places in the north of Scotland, and having been there two years, desired to improve my position. My master wrote on my behalf to an Edinburgh firm, and the reply he received was to the effect that was to send them my testimonials in advance, call at their place early on the term day, and they would see me all right. I followed their instructions with the result that I had to stand in their seed shop from 9 a.m. to 3 p.m., cold and wet, before I got any attention. They were all too busy to notice a poor journeyman with no influence at his back. I was struck with amazement at the number of young lads sent out to the best places in the country, while older and more experienced hands were left out in the cold. I know of two places where the gardeners had serious thoughts of sending back the lads which were sent to them, for fear of a wigging from their employers for engaging such young hands. Surely it would not be impossible for such an enlightened body of men as gardeners to devise a system which would enable them to get men by private arrangement. Gardeners would then know what they were getting, and the young men would know where they were going before leaving their old places. Such an arrangement would be infinitely preferable to the present one.—*R. P. B.*

EXCHANGING AT THE TERM.—I was very pleased to see in your issue of December 12th, a young man calling attention to the many disadvantages of the system which exists in Scotland by which young gardeners obtain situations. No doubt there is a great deal of room for improvement, and, as it is a matter of vital importance to masters as well as men, it might be beneficial to have both sides of the question fairly discussed to see if a more satisfactory arrangement cannot be come to. I was in Edinburgh on the term day (and a most miserable day it was), and was in one seedsman's shop for a considerable time, and so had a good opportunity of seeing how matters stood. About half-past nine young men began to come in in a semi-drenched condition, and in a short time the shop was crammed, and there they had to stand waiting till their names were called to appear before some head gardener who was wanting a man. As far as I could gather from what I saw and overheard the whole system seemed to be a very one-sided one, altogether in favour of the employer. Should a young man have the audacity to make the slightest objection to the chief's terms he was coolly told if he was not pleased he must step aside as there were plenty more to be got, the result being that probably an inferior man obtained the situation. Thus it will be seen that though a man may have first-class testimonials they will count as nothing in his favour unless he is prepared to sink his own independence of mind and simply accept a place on terms laid down to him, whether suitable or not. I do not for a moment wish to encourage young men to be over-fastidious in their wants, but I do think that they should have a certain amount of consideration. I leave it for others to suggest what measures could be adopted that would be beneficial to both parties, and that before another term time comes round a more satisfactory arrangement will be in force is the wish of—*Father Christmas.*

CHRISTMAS AND CHRISTMAS DECORATIONS.

All sorts and conditions of men hail with delight the approach of the festival of Christmas. To the poorest and most wretched, it seems to be a season of hope, if not of realisation. It is a period of the year which has the promise of happiness, and to the young it is a time which brings with it some of the most pleasing recollections of their lives; and it is also a time calculated to make a deep and lasting impression on the young mind. It is the one great festival of the year; a time of feasting, rejoicing, and merriment, when houses and churches are decked with evergreen, a practice which originally signified a time of gladness, and when we look at the bright berried Holly, the Laurel, Mistleto—green and flourishing in the depth of winter, when the lives of other plants have become suspended or died out—some evergreen appears to be a natural emblem indeed.

In a curious tract, published about two centuries ago, is the following passage: "The rooms were embowered with Holly, Ivy, Cypress, Bay-laurel, Mistleto, and a bouncing Christmas log in the chimney." The poet Gay, who lived over 250 years ago, made allusion to the subject:—

"When Rosemary and Bays, the poet's crown,
Are bawled in frequent cries through all the town,
Then judge the festival of Christmas near,—
Christmas, the joyous period of the year,
Now with bright Holly all the temples strew;
With Laurel green and sacred Mistleto."

One can quite understand how it was Gay alluded to the Mistleto as sacred, for the old ideas of the ancients had descended to Gay's times; in Druidic times, the Mistleto was regarded as a divine gift of peculiar sanctity, only to be gathered with befitting ceremonies on the sixth day, or at latest on the sixth night, of the sixth moon after the winter solstice, when their year commenced. The Druids held nothing to be more sacred than the Mistleto, and whenever Mistleto was found upon the Oak they believed it was sent from Heaven, and as a sign by God himself as having chosen that tree.

In an old poem on Christmas, published a century ago, appears the following passage:—

"From every hedge is plucked by eager hands
The Holly branch with prickly leaves replete,
And fraught with berries of a crimson hue;
Which, torn asunder from its parent trunk,
Is straightway taken to the neighbouring towns,
Where windows, mantels, candlesticks, and shelves,
Quarts, pints, decanters, pipkins, basins, jugs,
And other articles of household ware,
The verdant garb confess."

Stow, in his *Survey of London*, says that against the feast of Christmas, every man's house, as also their parish churches, were decked with Holly, Ivy, Bays, and whatsoever the season of the year afforded to be green. The conduits and standards in the streets were also garnished in the same manner.

The waits, which, at this time of the year with their merry music make glad (or discordant) the stilly night, it had been presumed meant watchers, who were not merely night guards, to tell the hours of the night or state of the weather, but minstrels of the King's court who paraded the streets to prevent depredations. The Christmas minstrels were honoured with the name of the royal watchers. They, too, were called waits. The word wait is common to all Teutonic languages—to the German, Dutch, Danish, Swedish, &c., and is the same as the Anglo-Saxon *Weccan*, to wake, and *Waccian*, to watch. At a later period the term waits was restricted to the bands of minstrels kept in London and other large cities; and mention was frequently made of them in the pageants of the times.

The history of Christmas carols appears to have succeeded those of the waits. Carol signifies a song of joy. They were not always of the religious character they have assumed in our time, but often sadly ludicrous and blasphemous, and formed the festal songs of Christmas. The carols, which are now chanted in the streets by a few boys—too often, as far as the scholars in our elementary schools are concerned, with an utter absence of harmony—were formerly sung in palaces by men of the highest dignity. Leland mentions that when Henry VIII. kept his court at Greenwich, the dean and royal chaplains sang him a carol after the first course.

On Christmas Eve, as soon as it was dark, candles of an uncommon size, such as we are now accustomed to see in shops at this season of the year, were lighted up. The same thing was done on Christmas day in honour of the Orient, or "Sun of Justice." With these candles was associated the Yule log or Christmas block, which was laid upon the fire to illuminate the house and, as it were, to turn night into day. Flowers were held in high veneration during the festive season, the favourites of which were the Rosemary, the Bay, the Holly, the Laurel, and the Mistleto, because, green and enduring, they formed a striking contrast with the appearance of Nature at that time of the year.

Mumming is an old Christmas custom now fast dying out. Originally it consisted in changing clothes between men and women, and when dressed in this way going from one neighbour's house to another partaking of Christmas cheer, and making merry in disguise. In Oxfordshire mumming or mummers is said to be still common. Some wear masks, others dress themselves up with hay-bands tied round the arms and bodies, and black their faces. In Yorkshire the mummers dress themselves in elegant clothing at Christmas time in the villages, but seldom colour their faces, except with a little red to heighten the colour on the cheeks.

Christmas presents is an old practice, and in the old times chiefly took the form of presents to their children. To these gifts a *rod* was frequently added, that they might be more easily governed, by the prospect of conviction in the event of their doing wrong.

Christmas sports are various also, but they assume less importance year by year, and the festival is now important as furnishing an occasion when the members of a family gather under the roof tree and unite in celebrating the annual recurrence of so inspiring a season.

Does the Cadenham Oak still exist? An Oak tree in the village of Cadenham, near to Lyndhurst in the New Forest, which had the reputation of always budding on the moving of old Christmas day, and that day alone. The reason why no leaves were seen after old Christmas day was that large parties used to assemble every year round the Oak on that morning, and regularly strip from it every appearance of leaf, and carry them away as memorials of its extraordinary precocity.

The Glastonbury Thorn which flowers at Christmas or very early in the new year, is another case. I have had trees sent me from Glastonbury in December budding, and which expanded their flowers quite early in January, but after being planted for a year or two lost this precocity.—*R. D.*

CHRISTMAS FLOWERS AND FRUITS AT COVENT GARDEN.

One Christmas is very much like another, and, provided always we had the much-talked-of and seasonable fall of snow, the similarity would be more complete. Even amongst fruits and flowers there is great conservatism, so that when our earth has made another revolution round the sun, Christmas arrives again with much the same flowers and fruits in greater or less quantity and fineness. In the case of fruits we are guided very much by what is in season, and to some extent that holds good with the flowers, but a large proportion of them are urged into growth and bloom by artificial means in order to meet a demand. Here again the grower is guided by the public taste, and cultivates only the few plants most in request; and herein lies the conservatism amongst flowers and fruits.

Flowers.

White flowers enjoy a most extensive popularity at all seasons but more particularly in winter. The kinds grown to meet the public demand may be had long before Christmas, and often many weeks afterwards; indeed, many subjects give the impression of being perpetually in flower from one year's end to the other. Amongst these are Eucharis, white Camellias, Richardias or Trumpet Lilies, white Bouvardias, Lilium longiflorum eximium, best known as L. Harrissi, Tuberoses, white Azaleas, Roses, &c., Lily of the Valley, white Lilac, white Cyclamens, paper white Narcissus, Roman Hyacinths, and Freesias refracta alba, enjoy a season of many months' duration. For the supply of Freesias we are indebted to the fruit growers of Jersey and Guernsey, who plant the tubers very extensively on the borders of their early vineries, and so obtain the bloom in enormous quantity. Chrysanthemums, the queen of autumn flowers, may still be had in great abundance, and amongst white kinds none appear to be more plentiful than Lady Selborne and Ethel. Lady Lawrence, when grown for cut flowers, has a bold and telling appearance on account of the breadth and bold character of its florets. The above will give a fair idea of the kinds of white flowers sold singly, made into bunches or extensively employed in wreath-making, not only in Covent Garden, but also in the florists' windows, whether large or small.

Coloured flowers are less plentiful at this season than in summer, when in better accord with the weather. None are brighter perhaps at present than Poinsettias, with their gorgeous bracts, and Euphorbia fulgens. Yellow, pink, and salmon tinted Tea and Noisette Roses are most held in esteem. Less often do we see red ones at this festive season. They are perhaps most largely used in buttonhole making. Yellow, pink, and crimson Chrysanthemums may be noted, including Mrs. H. J. Jones, generally spoken of as the yellow Ethel. Single and double Violets in compact bunches are very plentiful and prominent, at 4*d.* a bunch, or 6*d.* as a buttonhole when mixed with other flowers. Carnations are chiefly represented by Miss Joliffe, which seems to enjoy almost a perpetual popularity. Scarlet and pink Bouvardias are used in a variety of ways, often in the making of sprays along with red, yellow, pink, and white Roses, Lily of the Valley, Violets, and dried Grasses. Everlastings, generally called Immortelles, may be seen dyed in a variety of unnatural colours. Dried flowers of some Cape weed are wired separately and sold at the rate of 2*s.* 6*d.* per hundred under the name of Cape Everlastings. Early Tulips and Roman Hyacinths may be seen in baskets or pots of fanciful shapes.

Orchids are perhaps seldom abundant at Christmas, but at present they are represented by Cypripedium insigne, Odontoglossum crispum, Dendrobium nobile, D. Wardianum, Calanthe Veitchi, C. vestita, Lælia anceps, and Phaius grandifolius, most of which are just in season, while some of the more common are hardly ever out of season. They are, however, employed in a variety of ways.

The usual Holly, Mistleto, Cherry Laurel, Mahonia, Ivy in various colours, and other greenery, together with the usual Norway Spruces for Christmas trees, keep arriving in quantity. Somehow or other Holly berries do not seem particularly plentiful this year. Other odds and ends are Laurestinus in bloom, Rose Hips, and Asplenium Adiantum-nigrum, termed French Fern, no doubt referring to the source from whence it is obtained, although it is as much a British as a French wilding.

Fruits.

Amongst Apples the American King of Tomkins County is amongst the most showy, but Newtown Pippin is evidently the most plentiful of the two. Golden Russets are also plentiful at 3*d.* the pound, and the same price holds good for English samples of Blenheim Orange and King of Pippins, while Ribston Pippin in fairly fine condition fetches 4*d.* Pears from the Channel Islands as usual have a tempting appearance, including Guernsey Chaumontel, Glou Morçeau, and Easter Beurré. Their size and fine colour place them amongst the choicest of their kind at this season of the year. Hothouse Grapes are represented by Gros Colmar, Alicante, and Muscat of Alexandria, which range from 2*s.* to 3*s.* per pound, for samples of ordinary quality. Amongst foreign fruits perhaps none are more effective or finer than the St. Michael Pineapples, which vary from 6 lb. to 9 lb. in weight, the latter being certainly fine samples of open-air culture. Medium sized fruits range from 10*s.* to 12*s.* each. West Indian Pineapples have been driven out of the markets by those of St. Michael production, and which are stated to have been grown by cultivators who went out from this country to take their culture in hand. Melons are plentiful and of great size, but different in appearance from our hothouse varieties. The miniature but sweet Tangerine Oranges vary from 1*s.* a dozen to 1*s.* 6*d.* per basket of thirteen fruits. Medium sized samples of St. Michael Oranges sell at twelve for 6*d.*, while the larger Florida Oranges often fetch 2*d.* apiece.

The Custard Apple from Madeira generally makes its appearance in greater or less quantity, but is not in any way an attractive, although a curious fruit. Bananas are both plentiful, good, and reasonable in price. Pomegranates and Medlars, the latter at 6*d.* per pound, also claim their votaries, notwithstanding their lack of any attractive colour. American Cranberries sell at 1*s.* per quart, and appear up to the standard of former years. Their culture in this country is more often talked of than attempted, although quite practicable and worthy of attention in the peaty and boggy districts of Ireland. Tomatos of small size and moderate quality fetch from 10*d.* to 1*s.* per pound.

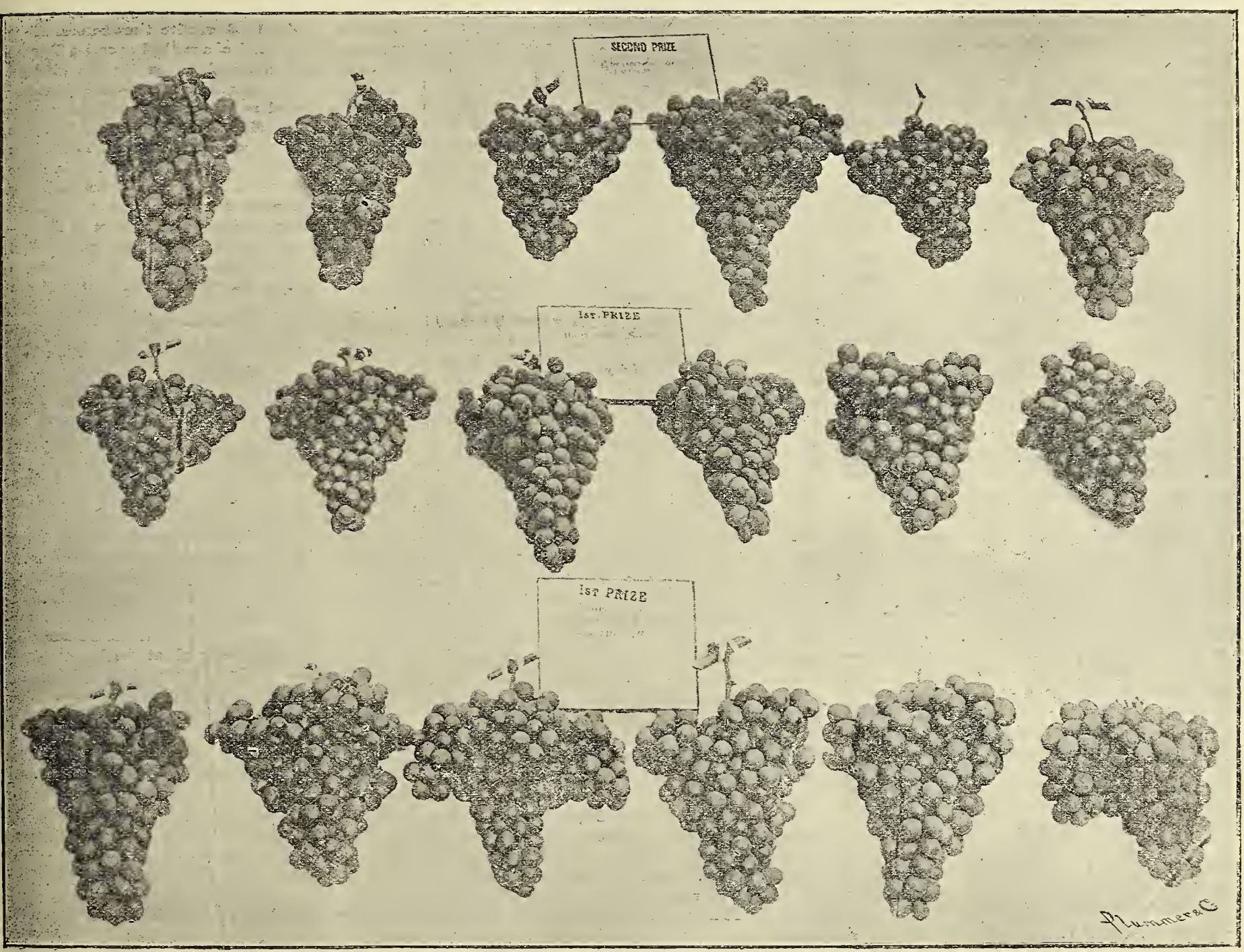
Nuts of various kinds seem as plentiful as ever, including Coco-nuts, Almonds at 4*d.* or 6*d.* per pint, Brazil Nuts at 5*d.* per pint, or 6*d.* per pound, Cob-nuts and Filberts, 8*d.* to 9*d.* per pound, Hazel-nuts 3*d.* per pint, Spanish Chestnuts at 6*d.* per pound, and Walnuts at 9*d.* per pound, or 2*s.* per hundred.

Royal Horticultural Society's Meetings in 1892.—The following are the dates of the committee meetings and shows for the forthcoming year:—January 12th; February 9th (annual general meeting); March 8th and 22nd; April 12th and 19th (National Auricula and Primula Society's show); May 3rd and 17th; 25th and 26th (Temple show); June 7th and 21st (National Rose Society's show); July 12th and 26th (National Carnation and Picotee Society's show); August 9th, 23rd and 24 (exhibition and conference on Begonias, Apricots, and Plums at Chiswick); September 6th and 20th; October 4th and 18th; November 1st and 15th; December 13th.

BLACK GRAPES.

In our last issue we discussed the merits of certain new and old Grapes; in the present we are enabled, by the courtesy of some Scotch friends, to give an illustration of certain varieties of Black Grapes which figured conspicuously at the Great International Fruit Show in September last. We may say that the whole of the bunches illustrated were staged by one grower—a man who has made his mark in this particular department of gardening during the last few years, but whose name—by reason of his own excessive modesty, that of his employer, or perhaps of both—we are not at liberty to mention. We regret this the more because his triumphs at Edinburgh were honestly won, and where honour is due there ought to be no false modesty in proclaiming it. However, it is with the Grapes that we must most concern ourselves, and a superb lot we can assure our readers the eighteen bunches illustrated represent. We cannot of course say that on the score of mere size of bunch they have not been excelled. A statement of that kind would certainly not be true, because larger bunches have often been seen at Edinburgh and elsewhere; but judge them as a whole—for neatness of outline, perfect thinning, the grand size of the berries, their perfect colour and bloom; consider them as the production of a man who grows a comparatively small quantity—and no one could say that they were not of the highest order of merit, and their grower worthy of all praise.

The central four bunches in the top row represent one each of four varieties, which are (taking them from left to right) Madresfield Court, Gros Maroc, Alicante and Black Hamburgh, and all first-rate. The bunches in the second row represent three varieties (still reading from left to right), viz., Black Hamburgh, Alicante and Gros Maroc, the two last-named being especially fine. The first bunch in the top row, formed with the first in the third one a very handsome pair of Madresfield Court, the next pair being large, solid bunches of Black Hamburgh, not large in berry, but well coloured and carrying a beautiful bloom. The pair next succeeding are Alnwick seedling, beautifully finished; and the last bunches in this and the top line make another pair of Gros Maroc, perfectly developed and grandly coloured. The prize cards indicate the position they held in the estimation of the judges, and the justice of the awards was not questioned.



Varieties of Black Grapes Exhibited at Edinburgh.

RIVINA AURANTIACA.

The garden name of the plant above given refers to the colour of the fruit, which may be described as of a bright apricot-orange. The flowers are small, white, and produced in racemes from the forks of the branches, although in the early stages they appear in the axils of the leaves, but really terminate the shoots to which they belong. The fruit for some time after it is formed and increasing in size is white, but ultimately deepens to the colour above described when mature. The leaves are ovate, or more or less cordate at the base, and pubescent or downy as in R. humilis. For winter decoration it is valuable for contrast with the red berried kinds. The cultural treatment it requires is precisely identical with that of the commoner Rivinas. A few seeds of each should be sown at once, if not already done, with the view of raising a stock of young plants for next year's work. This is better than going to the trouble of raising plants from cuttings.

THE VEGETABLE GARDEN.

Brussels Sprouts.

Although I have picked many fair crops of useful Sprouts from spring sown plants raised in the open without protection, yet they were rarely so early, firm, and abundant as those from seed sown early in February under glass, then pricked off and grown on for several weeks under the influence of plenty of light and air. If the plants are pricked out in frames, the sashes should be removed as soon as free growth is apparent, and, if started in boxes placed in other cool structures, we afterwards turn them out at the foot of a wall or other place of shelter, where wire netting is placed over them for a time to ward off tresspasing cats or other possible accidents. Here they must be well attended to with water, otherwise valuable time and labour already expended on them may be lost. Our earliest breadth of plants thus raised last spring were planted out with balls of soil about the middle of May, and, despite the untoward weather which has intervened, the crop in every respect has been perhaps the best we ever gathered.

Successional plantations are fairly serviceable from seed sown in the open, but a batch of 200 bought in plants, which we expected to come in autumn, sown early were very disappointing, fully 50 per cent. of them having bolted. The remainder of them are bearing firm, if not very large Sprouts, which will afford a useful supply for a few weeks later in the season.—*D. M., Ayrshire.*

Broccoli.

A breadth of Sutton's Winter Mammoth was planted at the same time as our earliest Brussels Sprouts, the plants being raised in the same manner and which have rendered us good service.

Some of the leading authorities on vegetable culture have indicated their approval of the practice of trenching the ground preparatory to the planting of Broccoli, but one of the most notable cultivators in the United Kingdom has recorded a contrary system as preferable and also productive of highly satisfactory results. His method consisted in making holes with a crowbar on land which had not been wrought with a spade for a considerable time previously, and inserting the plants therein without further preparation than possibly a thorough hoeing. We adopt the system annually of planting our crops for spring cutting on ground from which some other crop has been newly cleared without digging, being of the opinion that the plants are safer during severe frost than if growing in comparatively loose soil. The position which plantations occupy is also important. While a large percentage of plants on a south aspect were destroyed by last year's frost, a plantation occupying an eastern aspect, and shaded before midday by an adjacent tall plantation of trees, entirely escaped, and rendered us good service late in the spring. The action of strong sunshine on plants which have been frozen the previous night generally puts an end to them.—*D. M., Ayrshire.*

THE TOMATO.

The following remarks are condensed from a paper read by Mr. W. Rowland, at the meeting of the Exeter Gardeners' Mutual Improvement Association, on the 16th inst.—"I intend, in this short paper, to give my own personal experience, both with regard to my successes and failures. It is well known in the fruit department a failure with the Grape crop is about the worst thing that can happen to a gardener; the same I think can be said in the vegetable department with regard to the Tomato. One stands in amazement when he thinks of the rapid strides this vegetable has made in public estimation; forty years ago it was practically unknown to the general public, and plants were only to be found in a few private gardens, where, as a rule, they were grown as much for their ornamental nature as for their use. Now every one knows the difference. The first Tomato plant I ever remember seeing was growing uncared for in the moist bottom of a gravel pit. Apparently the seed had been carried there by a bird in the same manner as we see the Gooseberry bushes growing practically wild in the woods. I remember the plant had a splendid crop of fruit, also the first impression I had on tasting the fruit. Since I have become better acquainted with this plant the remembrance of seeing it growing in such poor soil has shaped my own mode of cultivation to a certain extent.

"Now I will try to explain my mode of treatment year by year, since I have taken a special interest in them, giving both the good and the bad results. About six years ago Mr. Brock had erected a span-roof house, and the thought struck me it would be a capital house for Tomatos. The house is 8 ft. high, with a 3 ft. path in the centre, and a bed on each side 4 ft. wide. The beds are not heated, but were filled up to within a foot of the top with soil that was taken out of the path. Having procured plants of the old large red variety and potted them in 5-in. pots and placed the pots on about 2 ins. of ashes in a line about 18 ins. apart, I covered the pots with a ridge of loam, top-dressing with loam. The result exceeded my most sanguine expectations. The plants began to fruit so low on the plant that they rested on the ground. As the fruit began to swell, I gave them plenty of liquid manure, the result being very little foliage to cut away and plenty of good fruit. For two years I kept to the plunging-in-pot system and had good results. I may add that I kept to the large red, selecting the best fruit for seed. After this the large red variety began to get too common, and I started with other sorts. At the same time I gave up the plunging-out system and planted out in the usual way. The result was that the plants grew so rapidly and made so much gross wood that I had to stop the copious waterings I had been in the habit of giving. Then it was I first became acquainted with the Tomato disease, which made its appearance directly I stopped the water supply. For the first time Tomato growing was a failure.

"The following year I tried the planting out system; again failure was the result. In the beginning of this year I thought failure the third time would never do. I must return to my first plan. So I started very carefully with four sorts, including Sutton'sEarliest of All,which I find very much like the old large red, Hathaway's Excelsior, Dedham Favourite and a very fine variety I had from Winslade. Instead of one row of plants in each bed I planted two, taking care to plant the bed the north side of the house first, so that the plants gained the full light from the south, side. Atterwards I planted, or, rather, plunged out the pots on the south side of the house, taking care not to let the plants starve before plunging out. The thought of the dreadful Tomato disease came over me, so I determined to be very careful in airing. In fact, I left the ventilator open day and night; at night about ½ in. at top, and the same at the sides, so that the air was kept fresh and moving. The plants started capitally, and began to set freely at the base. When the fruit got the size of marbles I began to feed and water freely. I also top-dressed, to make the soil level between ridge and ridge. The first manuring I gave was one of native guano, which I scattered plentifully between the plants; then with the hose I gave them a perfect deluge of water. The next time I used Thomson's vine manure, well drenching it in. The third and last manure I used was Peruvian guano, which I sprinkled about in the same manner as the other manures, but taking the precaution to have the hose running at the same time to prevent the guano burning the roots, which were by this time running luxuriantly. A friend coming in at the time exclaimed that I had ruined the house of plants, as all the roots must perish. Result—a better house of Tomatos I never saw, and all free from disease.

"Keep the plants in a perfect state of health by carefully looking after the airing and watering. Wherever the shutting up system is practised then the disease is invariably present, and since I have left the ventilators open a little night and day I have had no disease.

"My experience in open-air culture has not been great. Several years I planted out, but, I think owing to the lightness of our soil, I could do nothing with them. This year, for the first time, I tried plunging out in pots. The result was that I cut from the open by the middle of August and had a succession till October, not cutting a single Tomato to ripen in heat, as many have done this sunless summer."

In the discussion which followed, Mr. Lansdale said he had tried a good many varieties of Tomatos for outdoor growing, but had always found the best to be "The Challenger," which he had from Messrs. Veitch,—Mr. G. C. Crabbe endorsed Mr. Lansdale's remarks as to "The Challenger" variety. —Mr. Ebbutt (Winslade Gardens) said whatever variety of Tomato they grew the principal thing they would want was a firm, strong loam to grow them in. With regard to disease he said he believed it generally came from indifferent management. As to water and temperature, he believed they could deluge Tomatos and get fine fruit as long as they had a good firm soil to start with. The temperature should not be less than 50°, and should be between that and 60°.—Mr. A. George (of Heavitree, and late of Bicton Gardens) said by growing the plants in 10-in. pots and placing these on a hard surface they would get sure growth.—Mr. P. C. M. Veitch spoke as to the cultivation of outdoor Tomatos. His method was to pot them hard from the first, and when they were planted out to plant in nothing but loam. This resulted in an extraordinary crop. There was not a sign of disease—he believed simply because the plants had no manure whatever about them. He thought under this system of growing the plants were very much less liable to disease out of doors. With regard to disease indoors, a good many had said it was due to stagnant air, and this was no doubt so to a certain extent; but he thought disease was also in a good many cases due to alternative temperatures at the roots. He had read of a method of curing Tomato disease. This consisted in putting the diseased plants into temperature of over 80°.—Mr. Hope said he had not heard anyone say whether one variety was subject to disease more than another. As varieties of Potatos were thus subject, he thought it possible that the Tomato might be also. Mr. Hope referred to the old red Tomato, and remarked that it was unfortunate that there was a prejudice against it among fruiterers, on account of its corrugated form, as it was still one of the best varieties. The yellow Tomato was also one against which he believed there was a prejudice, but it was also a very good variety.

THE PERILS OF THE WINTER.

It is when the frost comes keen and piercing, as we are now experiencing it, that the troubles of the amateur who endeavours to grow a few half-tender plants in a cold house may be said to take a serious form. Let him neglect the watering pot for a time, and so endeavour to keep every plant as dry as possible about the roots. The most tender things should have the warmest part of the house, or shall I say that portion of it farthest removed from the reach of frost. A spirit lamp burning by night, if not by day, will help to reduce the volume of frost if it does not exclude it; as a matter of course the great difficulty with lamps of this kind is to distribute the warmth, which gathers immediately about the lamp. That style of oil stove like Rippingill's, which has pipes of water added, is decidedly advantageous, because the hot water can be sent a yard or two away from the stove; and as a handy protector newspapers are of great value, laid over the plants funnel wise, so that the sides of the papers can fall below the level of the bottoms of the pots. The protection is all the more secure if the tenderest subjects, often the most prized, can be entirely wrapped up in paper while the frost is keenest. Do not let anyone despise the homely newspaper as a protection for plants from frost.

Let the amateur never forget that the roots of most plants form the most vulnerable point of attack. Many plants will come through a severe winter with success, though maimed and wounded in their branches, if frost can be kept from the roots. That is a point well worth remembering. Then Cocoa fibre refuse can be used with great advantage, by placing plants in small pots inside larger ones and filling up the space between the two pots with Cocoa fibre refuse. Or a number of plants can be stood in a box, and the space between the pots filled up with Cocoa fibre, thus making a dry and cosy bed.

Above all things have the soil about the roots as dry as possible, consistent with maintaining the life of the plants. It is of no use starving a plant to death for lack of moisture in endeavouring to protect it from frost.

I throw the foregoing out as suggestions of a seasonable character. Other precautions will suggest themselves to the attentive reader. I do find among lovers of plants generally this one dominant feeling, that they attach far more value to plants they have brought with safety through the perils of a winter, even though they bear traces of some injury received during the sharp tussle, than to those which may come into their possession in early spring, unharmed, fresh, and vigorous.—*R. D.*

CHRYSANTHEMUM NOTES.

CHRYSANTHEMUM VIRGINALE.

LET me recommend this white-flowered Anemone Pompon to those in search of a good late blooming variety. It is a free grower, has a grand habit, is a profuse bloomer, and pure white. There is a house full of it now in great perfection at Mr. T. B. Haywood's, Woodhatch, Reigate. Mr. Salter, the gardener, informed me that it was one of the best he knew for decorative work, and it is coming in valuable for Christmas.—*Rusticus.*

THE ENGLISH SEEDLINGS.

I HAVE greatly admired the clever engravings of new Chrysanthemums which have appeared in your pages, and especially the one published last week. I have also read and re-read the descriptive notes of the new English seedlings with the greatest interest, and cannot help offering my congratulations to the artist, the genial "R. D.," and the practical evolutionist of Maidenhead, all of whom may be said to be quite "up to date," and I thank them and you for keeping us provincials in touch with the most recent floral acquisitions. French raisers have too long had a monopoly of the business of raising new varieties, and while we are undoubtedly indebted to them for many grand novelties, we have certainly paid them also for a vast amount of rubbish, and therefore I hail with pleasure the advent of the English seedlings. We are evidently entering a new era in the development of the Chrysanthemum, and the idea of treating the flower as an annual, may not prove to be so far fetched as it seems, for who knows how soon Mr. Owen or someone else may be in a position to offer seeds. It seems to me that in the near future we shall be able to order a packet of Chrysanthemum seeds with our other spring requisites. What a day that will be for the "Mums" and the "Mummers"! I hope that Mr. Owen's success will lead him to prosecute the good work with renewed energy. I have not seen his "Robert Owen," but from what I have read, I should judge that as an incurved Japanese, and Mrs. Robinson King as an incurved to be the two finest productions of the year.—*A Yorkshire Gardener.*

CHRYSANTHEMUM WILLIAM WESTLAKE.

WITH reference to this so-called new variety and the manner in which it has been put upon the market, permit me to take exception to the correspondence of Messrs. H. J. Jones and William Westlake in last week's issue. I am very glad, however, that my former communication has had the desired effect, viz., to elicit a somewhat spirited controversy, by which means the public in general, and the interested parties in particular, may thus be put into possession of the facts. The problems for solution may be conveniently apportioned under two heads; (*a*) is William Westlake identical with Aigle d'Or? and (*b*) is the manner in which it has been brought before the public justifiable?

I will deal with Mr. Jones' contention first, viz., that the plants in question are not identical. To this I will merely remark that his published statement does not correspond with his private opinion, for I hold a letter from him in which he states that he is not quite so certain as to the identity; but that he will obtain Aigle d'Or, grow it side by side with William Westlake and let me know the result. So far, so good. The fact of its having obtained a certificate is immaterial to the point at issue, as I not only possessed the stock prior to that event, but have freely distributed it amongst my friends, nurserymen, and gardeners in the vicinity of Acton, Chiswick, Ealing, etc. That Mr. Jones should feel rather sore in this matter is natural enough, for if he has purchased the supposed stock he has now a right to question the *bona fides* of the gardener of whom he obtained it. Mr. Westlake's quibble *re* the "admiration" episode is beside the mark—it does not call for comment, except that one does not usually solicit cuttings of a plant he does not admire. I here reiterate my former conviction that I shall still continue to believe that William Westlake is synonymous with Aigle d'Or, until reasonable evidence can be produced to the contrary.

In respect to question number two, it is perhaps more difficult to deal with, inasmuch as no one can positively assert what are the motives which actuate another mind. Mr. Westlake disclaims mercenary ones; I accept his rejoinder; but, please compare the former portion of his letter with the latter—there he assumes a virtue, here he denies it, and thus runs counter to his own astuteness. It is quite evident that Mr. Westlake is a man of the world—I'm not.—*C. B. Green, Acton, W.*

IT is rather amusing to read Mr. C. B. Green's account of this variety. First he says his opinion as regards it is very unfavourable, and then he goes on to say that his impression is that it is a superior form of Aigle d'Or. It is most certainly a superior variety to that in every way, and being so why should it not get a certificate? If superior varieties are not wanted, then, pray, what are we to aim at? Surely the National Chrysanthemum Society's Floral Committee are sufficiently qualified to judge of the merits of Chrysanthemums, especially when plants are put before them. This should be sufficient to show why the so-called gardener at Hornsey did not recognise it as Aigle d'Or, but having grown it three years side by side with Aigle d'Or before putting it before the Floral Committee, I convinced myself that it is not that variety but totally different, and surely after all this time it cannot be said that it was rushed into the market. As regards consulting Mr. Green, I think that nothing can be more free than a gift, but perhaps this is where the boot pinches. I might mention that the chance was alike open to Mr. Green as to myself to obtain the certificate when he had the variety (if he ever had it) in his own hands. One word in conclusion, should Mr. Green ever have the good fortune to get a new variety or a so-called superior form of any variety, I would suggest that he should keep a tight hand on it and watch his own interest, so that he may not be caught napping, or he may find himself grasping at the shadow while the substance has gone, even as in this case.—*T. L. Turk, Highgate.*

[Our correspondent is entitled to reply to Mr. Green's statements, but comment on his notions as to what is fair between man and man would seem to be superfluous.—ED.]

GARDENING MISCELLANY.

BEGONIA WINTER GEM.

THE dwarf habit and the brilliant colour of this winter-flowering Begonia again commends itself to the attention of cultivators who desire to have something bright in their houses during the winter months, and have the command of stove temperature, such as is necessary in the case under notice, or at least an intermediate temperature. The flowers are rather larger than those of B. socotrana, which was one of the parents, of a different shape, and brilliant scarlet colour. The flowers hang on the plants until they wither, a peculiarity which does not apply to the summer-flowering and tuberous race, nor indeed to the bulk of other Begonias in cultivation. The leaves are orbicular and peltate, that is, having the stalk inserted in the middle as in B. socotrana, but they are sometimes divided at the base even on the same plant, as is habitually the case with most species and their improved forms and hybrids. We recently noted a batch of it flowering in the nursery of Messrs. J. Veitch & Sons, Chelsea. The plant is easily propagated by cuttings as well as by the small tubers or bulbils which are given off at the base of the plant. The brilliant colour of the flowers of this hybrid should secure a place for it in every garden.

NÆGELIA CINNABARINA.

IN gardens this is generally grown under the name of Gesnera cinnabarina. Both the foliage and the flowers are highly ornamental, but more particularly the former. The leaves are roundly heart-shaped, and of a rich velvety-green, but densely covered with flame coloured hairs, which add greatly to their lustre. The flowers are red with exception of the throat, which is pale yellow and beautifully spotted with red. The inflorescence is short and compact. We noted a batch of several species and varieties of this class of plants some time ago in the nursery of Messrs. H. Cannell & Sons, Swanley, Kent, and the subject under notice was one of them. It is a native of Mexico, from whence it was introduced in 1856. By starting this late in the season, say about midsummer, and then giving the annual repotting just when the young growths are well started, the flowering period may be prolonged till far into winter.

MEDINILLA CURTISII.

THE general appearance of this species is entirely distinct from the well-known M. magnifica, or even the less common M. amabilis. The plant is altogether smaller, and may therefore be grown in stoves and other houses where space is a serious consideration. The branches are slender and twiggy, furnished with elliptic or lanceolate-elliptic deep green leaves. The branches of the inflorescence are coral-red, while the calyx and the base of the petals are tinted with pink. The rest of the petals is of a delicate pearly white, and the effect of the contrast is to considerably enhance the ornamental value of the flowers. The anthers are violet, and show off to great advantage by contrast with the white background. The panicles of the flowers are erect not pendulous, as in M. magnifica, but even while the flowers are still in bud they are beautiful in their pink and pearly-white shades. We noted some flowering specimens the other week in the nursery of Messrs. J. Veitch & Sons, at Chelsea. Its flowering at this dull period of the year recommends it to the attention of cultivators for winter-flowering purposes.

WINTER-FLOWERING DECORATIVE PLANTS AT HIGH TREES, REDHILL.

THESE are extensively and well grown at High Trees, large quantities being required for cut flowers and decorative work during the winter. A grand batch of all the best late Chrysanthemums includes what I call good useful decorative plants, grown as bushes, naturally producing fine trusses of useful sized flowers for cutting purposes. Double white Primulas: a house full of these in 48 and 32 pots are now likewise in perfection—free flowering and well grown; they are invaluable for cutting from at all times. Zonal Pelargoniums are also well grown here, and for free flowering, bright, useful colours cannot be excelled. A division of one of the houses full of these is very attractive; another division contains between 200 and 300 excellent examples of that charming old plant Poinsettia pulcherima; they vary in size from 9 in. to 2 ft. in height, clothed with foliage to the pot, and throwing enormous bracts for 48 size pots, many measuring 18 in. across. Distributed amongst them on a groundwork of Fern are dozens of Calanthes, viz., Veitchii, lutea occulata, and rubra: well grown, and with fine arched spikes hanging gracefully amongst the Poinsettias, produce a grand effect. The other plant houses contain a grand collection of Palms, Crotons, Dræcenas, and other useful decorative plants, and all are in the best possible condition. There has been a marked improvement in all departments here since Mr. Goldsmith has been in charge.—*Rusticus.*

RUELLIA HERBSTII.

THE stems of this sub-shrubby plant are 18 in. to 24 in. high at flowering time, but unfortunately are liable to lose their lower leaves. The latter are oblong-elliptic and of a light shade of green. The flowers are produced from the axils of the upper leaves, and are strikingly distinct from those of any other in cultivation. The lower portion of the tube is slender, pink, and 2 in. long; above this it is sharply bent, almost at right angles to the rest, strongly inflated, and rose purple slightly tinted with violet. The short lamina consists of five emarginate, almost equal, white segments, and the anthers are also white. The species is a native of Brazil, and, like most others of its class, requires a stove temperature. The flowers look prettier by contrast with those of the red-flowered kinds in cultivation, or with the Libonias and Sericographis, which are so much grown for winter flowering. Some plants may be seen in the Begonia house at Kew.

APPLE HAMBLEDON DEUX ANS.

THE word Hambledon refers to a village of that name in Hampshire where this variety of Apple was raised. Deux ans means two years, and is considered to apply to the habit this variety possesses of fruiting only once in two years. The fruit is large, greenish-yellow on the shaded side, and dull red where exposed, beautifully striped with bands or splashes of a brighter hue. The greenish-white flesh is rich and brisk in flavour, although not very juicy,

and, as the fruit keeps in good condition up till May, the variety is valuable on this account. In some parts of Berkshire, including the Apple districts of Wallingford and Brightwell, the variety is well known, and cultivated to some extent. Although generally spoken of as a culinary Apple it may also be used for dessert purposes.

NERINE MANSELLI.

THERE are now several hybrid Nerines under cultivation, including that under notice. It was raised between N. flexuosa and N. curvifolia, the influence of the latter being seen both in the size of the flowers and the character of the foliage. The flowers are of a warm rose with a deeper red midrib, fading to carmine with age. The segments are possessed of a peculiar satiny gloss when seen at their best; they are wavy above the middle, thus showing the influence of N. flexuosa. The broad, strap-shaped leaves are of a glaucous green, about 1 in. or more in breadth, and developed at the same time as the flower scapes. The value of the plant for decorative purposes is greatly enhanced by its flowering at this dull period of the year, and, when in bloom, a greenhouse temperature is sufficiently high for it.

BEGONIA HAAGEANA.

AT a casual glance this bears some resemblance to B. metallica, of which it seems to be a giant form. It is altogether a finer plant, however, with broad, half heart-shaped leaves, which are hairy on the upper surface and of a bright red beneath. The flowers are produced in large cymes, and are white, with a boss of bright red hairs on the back of the outer sepals near the base. Owing to the crowded state of the hairs in the half-expanded state of the flowers, they appear of a dark red at that stage, but when the large sepals attain their full size the hairs get more scattered, and the flowers then appear altogether lighter in hue. By keeping the plant in a growing state, it keeps on flowering almost all the year round. It is a comparatively recent introduction, and if gardeners generally knew its value for horticultural purposes they would give it preference to many other subjects which they now grow for winter decoration.

ORCHID NOTES AND GLEANINGS.

Cypripedium macrochilum.

As the name implies this Cypripedium is notable for the size of its lip. It is a hybrid, having Uropedium Lindeni and Cypripedium for its parents. Now, as is well known, the first named of the two parents has a long, narrow, flattened lip resembling the petals and entirely without a pouch. The hybrid under notice agrees more with C. Roezli, but has even a larger lip. The upper sepal is yellow with green veins. The petals are linear, pendulous, 6 in. to 7 in. long, yellow at the base, and pale rose for the rest of their length. The long lip is somewhat compressed on the sides, and suffused with a soft rose on a straw-yellow ground. On the claw is an arch or Λ-shaped line of large green blotches. The length of time during which the plant keeps in bloom is remarkable. We noted the plant the other week in the nursery of Messrs. J. Veitch & Sons, at Chelsea.

Cypripedium Media.

THE parents of this hybrid were C. Spicerianum and C. hirsutissimum, the progeny showing the influence of both. The upper sepal is pale green at the base, suffused with purple upwards on a white ground, while the uppermost portion is pure white; the midrib, however, is purple, as is generally the case where C. Spicerianum is one of the parents. The petals are somewhat deflexed, suffused with brown on a yellow ground spotted with black, while the apex is pale purple, and both edges ciliated with coarse hairs. The characters of the petals point unmistakably to C. hirsutissimum. The large lip is of a dull purple, and the staminode is violet-purple, the latter fact recalling C. Spicerianum to some extent. On the whole the upper sepal is the most conspicuous and showy organ of the flower. The plant is one of the newer hybrids raised in the nursery of Messrs. J. Veitch & Sons, at Chelsea.

Lælia anceps Var.

WE are in receipt of a flower of L. anceps in very fine condition (notwithstanding the inclement nature of the weather) from Mr. James Brown, gardener to R. B. White, Esq., Arddarroch, Gareloch Head, N.B. In several respects the flower closely approaches L. a. Dawsoni and L. a. Sander's var. The sepals and petals are pure white, and the latter are very broad and ovate-lanceolate, closely approaching L. a. Dawsoni in this respect, although not quite so rhomboid. The lip also is of good proportions, and pure white with exception of a pale purple blotch in the middle of the terminal lobe, the yellow ridge along the centre, and radiating purple lines at the base of the side lobes, as well as three purple lines on the lower portion of the crest. The purple lines in the throat are rich and well defined, adding much to the general appearance of the flower. We consider it a variety of great merit even if it comes too close to the varieties above mentioned to merit a special name.

Lælio Cattleya Pallas.

THE parentage of this fine plant is Cattleya Dowiana and Lælia crispa, between which it is intermediate. The sepals are of a soft lilac, and of the usual size and form. The petals are broader and darker, and reflexed at the sides, that is, they are longitudinally folded backwards, and much crisped at the edges, which characters are leading features of Lælia crispa. The lip partakes more of the character of Cattleya Dowiana in its large size and rich purple lamina, with a broad, lilac, much undulated and crisped margin. The purple throat is also much lined with orange. We noted a flowering specimen recently in the nursery of Messrs. J. Veitch & Sons, Chelsea, where it made a bold display in the large Cattleya house, where the bulk of Cattleyas are now resting.

WHAT TO DO IN THE GARDEN.

Foliage Plants for the Conservatory.—Plants of a tolerably hardy nature, that is which can live in a moderately low temperature, will be found very useful at this season of the year to add to the display produced by flowering plants. Some of the more suitable of the plants of this class are Eurya latifolia variegata, Coprosma Baueriana variegata, with its shining green leaves edged with a broad band of white, Ophiopogon Jaburan variegatus, Aspidistra lurida variegata, Aralia Sieboldi variegata and others of that class which may suggest themselves to the cultivator. By mixing these amongst the flowering subjects a pleasing effect may be produced.

Winter-flowering Subjects.—The number of these at the command of the cultivator is now very great, and if preparations have been made for a good display at Christmas there should now be an abundance of material, including Sericographis Ghiesbreghtii, Libonia floribunda, Richardia africana, Bouvardias, Tree Carnations, Chinese Primulas, Camellias, Chrysanthemums, Reinwardtia (Linum) trigyna, Cinerarias, Eupatoriums, Begonias, and various kinds of forced bulbs, so well known as hardly to require comment.

Basket Plants.—In span-roofed houses of sufficient height, a pleasing and varied effect is produced by the aid of hanging baskets. The choice of plants for this purpose in winter is more limited than in summer, yet a few of them can be turned to good account. Foremost amongst the plants that may now be used are Ferns, including Adiantum cuneatum, A. gracillimum, A. assimile, A. æmulum, and several others, also a number of the Davallias, Woodwardias, Nephrolepis, Platycerium, &c. Others that suggest themselves are Asparagus plumosus nanus in the dwarf state, Begonia insignis, B. glaucophyllum splendens, Nepenthes, Selaginellas, etc.

Lachenalias.—The foliage of these plants should now be coming away strongly, and should be freely exposed to light either in pits or on the shelves of a greenhouse. Ventilation is also a matter of the greatest importance to these plants if they are expected to make vigorous growth and to flower freely later on. The temperature of a greenhouse will be sufficiently high in the early stages of growth, and if it is considered desirable to hasten their flowering, then put them in an intermediate house, well lighted, and freely ventilated on all favourable occcasions. Baskets planted with bulbs should be hung up near the glass.

Peaches.—With the mild weather which has prevailed hitherto, there has been no difficulty in keeping up the requisite temperature in the early house, which, if started about the beginning of November, should now be advancing visibly. With sunshine the temperature during the day may be allowed to run up to 65° or 70°, at the same time ventilating freely when the outside temperature is such as to warrant it. A second house may be started at once, if the requirements of the establishment necessitate it. See that the soil of the borders is sufficiently moist, and if not give a good watering with water heated to a temperature of 85°.

Cucumbers.—Like other plants kept in a growing state, Cucumbers have been much benefited by the mildness of the winter and the relatively good light. Overcropping should, however, be avoided if the plants are expected to keep in bearing till the early spring sown batch comes into bearing. All fruits should be removed from the plants after they attain a useable size in order not to overtax the energies of the plants. When the soil in which they are planted approaches a condition of dryness give a good watering with liquid manure heated to a temperature of 85° or thereby. This will give the roots a fresh stimulus, and enable the plants to go on bearing.

French Beans, Peas.—A top dressing to French Beans in full growth will now prove very beneficial and enable them to produce a heavier crop. Have the soil warmed in a hothouse or by placing it near the hot water pipes before using. A sowing of some early variety of Pea may now be made in pots or on turves, so that they may be shifted into cooler houses, by way of hardening off, preparatory to planting in a warm, sunny border later on.

Asparagus, Potatos, &c.—For the forcing of Asparagus a temperature of 60° to 70° will have to be kept up, and, if done by means of fermenting manure, the linings of the pit will have to be attended to and more added as the heat declines. The same applies to Potatos, Carrots, Radishes, and other subjects which are being forced by means of manure.

Potatos for forcing.—Every grower has his own particular favourite which he uses for forcing purposes. Some time previous to their being planted, the sets should be placed in some warm position under the stages of a greenhouse or vinery, to encourage the development of the eyes, as many of them are liable to go blind and cause disappointment when it is too late to remedy the matter. The manure should also be prepared some time before the beds are made up.

Obituary.

WITH sincere regret, which will be shared by a very extensive circle of horticultural friends, we have to record the death—at his residence, Newton Villa, Chester, early on the 17th inst.—of Mr. WILLIAM ALFRED DICKSON, aged 54 years. Mr. Dickson had patiently borne a long and trying illness, and the deepest sympathy is felt for Mrs. Dickson and her young family of six children. His death is indeed to them an irreparable loss, and his absence will be keenly felt in the councils of the great nursery and seed trading company now carried on under the title of Dicksons Limited, and of the nursery branch, of which he may be said to have been the active head. Mr. Alfred Dickson was a son of the late Mr. James Husband Dickson, who founded the old nursery and seed business at Chester, which for so many years was carried on by Messrs. James Dickson & Sons, and he leaves two brothers, Mr. George A. Dickson, J.P., and Mr. James Dickson, still closely identified with Dicksons Limited, and a third a solicitor, Mr. Johnson Dickson. Mr. Alfred Dickson's active business life was closely identified with the management of the nurseries, and it has been said of him by one who knew him most intimately that in the prime of early manhood few men showed more activity and indomitable energy. He never neglected the claims of his business; up to within a few months of his death he met his partners to go through the day's letters soon after six in the morning, winter and summer. In the earlier years he travelled extensively, yet found time to pursue his favourite sport across country. Mr. Alfred Dickson was also well-known in connection with the rifle volunteers, which he joined in 1859 at the commencement of the movement. He passed through the various grades, and at the time of his death held the rank of Hon. Lieutenant-Colonel in the 2nd (Earl of Chester's) Volunteer Battalion of the Cheshire Regiment. He went into camp regularly each year, and in the earlier years he was regarded as an excellent marksman, having won the

Gold Challenge Medal for the year at a time when this was the chief prize of the yearly competition. The nature of his complaint—a phase of paralysis—was such that of late years his moving about became uncertain and difficult, and later he was compelled to assist locomotion by artificial methods, so that he did not take a prominent place beyond the range of his business, but in this he was actively engrossed to within a few weeks of his death. As a nurseryman very few men living had a wider knowledge of trees and plants in relation to their history, their treatment, cultivation, and commercial values. The perpetual acquirement of knowledge in this wide and interesting field was aided by a memory of marvellous retentiveness and a mental grasp crisp, clear, and in every way remarkable. His powers of concentration and determination were very marked, and as an employer he was firm without that sternness which seems inevitable to some men when brought into contact with the problems and trials involved in the employment of labour and in dealing with large masses of men.

LAW NOTES.

Sir H. Meux, bart., *v.* Cobley.—Landlord and Tenant.—An interesting question arose in this case, which was tried in the Chancery Division on Dec. 16th, before Mr. Justice Kekewich, as to the relations between landlord and tenant. On January 21, 1889, the defendant, Mr. Richard Cobley took a lease from the plaintiff of Bull Cross Farm, near Enfield, for twenty-one years. The defendant covenanted to cultivate the farm in a good, proper, and husbandlike manner, according to the best rules of husbandry practised in the neighbourhood. The plaintiff reserved the right of shooting. The defendant erected on the farm three glass houses for the purpose of growing Tomatos and Grapes for the London markets. The plaintiff alleged that the houses were an eyesore, being close to his place, Theobald's Park, and also that they interfered with the shooting, and brought his action for an injunction to restrain the defendant.—Mr. Martin, Q.C., and Mr. Kingdon appeared for the plaintiff; Mr. Renshaw, Q.C., and Mr. Vernon Smith for the defendant. Mr. Justice Kekewich said that as to the buildings being an eyesore and interfering with the shooting, the plaintiff was not entitled to any relief. The important question was whether the defendant was entitled under his lease to use his farm as a market garden. In his lordship's opinion, considering the position of the farm in the neighbourhood of London, and the custom on the neighbouring farms to raise garden produce, the defendant was entitled to cultivate part of his farm as a market garden, and to erect houses for that purpose. The plaintiff had suffered no damage, and his action failed, and must be dismissed with costs.

QUESTIONS AND ANSWERS.

*** *Correspondents are requested, in order to avoid delay, to address all communications to* "The Editor" *or* "The Publisher," *and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed* "*Bambusa London.*"

National Amateur Gardeners' Association.—*A. B.*: The Honorary Secretary, Mr. D. B. Crane, Archway Road, Highgate, N., will be happy to give you all particulars.

Names of Fruits.—*W. Davey*: Apple: Braddick's Nonpareil. Pear: Baronne de Mello.

Lily of the Valley Forced.—*M. H. L.*: There is frequently a difficulty in getting the earliest batches to start regularly, and sometimes they do not start at all in a low or moderately high temperature. It depends also to some extent as from whence the crowns have been obtained. Those coming from Hamburg are larger or more plump than those obtained from Berlin, yet it is found that the latter are more easy to start into growth in the case of the earlier batches, which are put into the forcing house. The only thing you can do is to keep them in a close frame, inside your forcing pit, keeping the temperature high and the atmosphere moist to encourage growth.

Liquid Manure.—*H. Parker*: This must of necessity be of variable strength, according to the source from whence it was obtained. If the drainings from the stables it often gets greatly diluted by rain on its way to the tank intended for its reception. In using manure affected in the manner indicated, you will have to use your judgment as to its strength and the amount of water necessary to dilute it for plants. Liquid manure made by placing some cow dung in a tub and covering it with water till the latter gets brown, is usually very strong, and must accordingly be well diluted. A useful stimulant for plants may also be obtained by employing the droppings of deer, sheep or pigeons, but it must in all cases be used with caution, on account of its fiery nature, more especially in the case of pigeons' dung which has been obtained from a dry place, where it has not been subjected to washing by rain. It will contain much more nitrogen than dung of the same kind which has been subjected to rain in the open air for some time. There can be no question that the dung obtained from a dry place is the best, but it must be used with caution.

Bricks for Wall.—*A. L. H.*: The standard size for bricks is 9 in. long, 4½ in. wide and 2½ in. thick, so that you may calculate the cubic contents of a brick, and the cubic contents of the wall you intend to build, and then divide the latter by the former product, which will give you the number of bricks necessary. A brick wall is usually 13½ in. thick, that is the length of one brick and the width of another. Then if the wall is to be 100 yards long, 8 ft. high and 13½ in. thick, the cubic contents will be 4,665,600 cubic inches. The contents of a brick are 101·25 cubic inches; so that by dividing the former by the latter we get 46,080, which is the number of bricks required to build a wall of the above dimensions.

Keeping Caladiums in Winter.—*A. Bentley*: The best place to keep the tubers in winter is a stove where the temperature should range from 55° to 60°. Leave them in the pots in which they were grown, placing the pots on their sides so as to escape drip from the plants above. In case the soil is likely to get very dry it would be advisable to stand the pots upright and give them a watering so as to soak all parts of the soil. The tubers must be prevented from shrivelling, otherwise many of them will die during the course of the winter. When it is stated that they must be kept dry, a distinction should be made between soil that is merely moist and that which is dust dry. The soil must not attain the latter state nor must the tubers be kept in too cold a place, otherwise many of them will rot before the time comes round to start them again.

Thermometer in Conservatory.—*Omega*: A thermometer should always be hung in the coldest part of a house, no matter what is the construction of the same, nor its contents, nor the temperature at which it should be kept. In the present case you should hang your thermometer close to the glass at one side of the house, and as far away from the boiler as possible, or from the source of heat, whether it be a boiler, flue, or stove of any kind. Then if the coldest part of the house stands at the requisite degree, you may take it for granted that all the rest of the house is warm enough In cold, frosty weather like the present, the thermometer may be allowed to fall two or three degrees below the standard reckoning, in preference to driving the fires, because the dry atmosphere engendered by hard firing is very injurious to plant life.

Perennial Gaillardias.—*Omega*: The seeds should be sown on a hot-bed in February or March, and if you attend to them properly and shift them on when it becomes necessary, the plants should make sufficiently good growth to commence flowering in August, or even earlier, if the circumstances are favourable. The temperature of the hot-bed need not and should not be very high, as the plants do better if brought on gradually. If sown in pots or pans the seedlings should be pricked off into boxes when they have made the first rough leaf. Attend to watering so that the roots may never get too dry, and keep the boxes as near the glass as possible to prevent the seedlings getting drawn. As the season advances and the weather gets warmer, gradually accustom them to a lower temperature until sufficiently hardened to stand in the open air, before being planted in their permanent positions.

Communications Received.—A. O.—R. O.—C. B. G.—H. T.—E. J. B.—A. W., C.—J. W.—A. H. K.—E. W. & S.—G. J. T.—B. L.—A. P.—B. F.—S. & T.—J. L.—W. N.—R. O.

TRADE CATALOGUES RECEIVED.

James Veitch & Sons, King's Road, Chelsea, S.W.—Vegetable and Flower Seeds.

B. S. Williams & Son, Upper Holloway, London, N.—Flower, Vegetable, and Agricultural Seeds.

E. H Krelage & Son, Haarlem, Holland.—Descriptive Catalogue of varieties of Pœonia Albiflora.

Eric F. Such, Maidenhead.—Select list of Chrysanthemums.

LONDON SEED TRADE.

December 22nd, 1891.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a steady trade for Red Clover at full prices. White Clover, Alsike, and Trefoil steady. Ryegrasses unchanged. Rape seed dearer.

COVENT GARDEN MARKET.

December 23rd.

Fruit.—Average Wholesale Prices

	s. d	s. d.		s. d.	s. d.
Apples... per ½-sieve	1 0	5 0	Grapes .....per lb.	0 6	2 6
Canadian and Nova Scotian Apples per barrel	12 0	18 0	Pine apples. —St. Michael's, each	2 6	6 0
Cobbs... per 100 lbs.	30 0	35 0	Peaches .....per doz.	0 0	0 0

Vegetables.—Average Retail Prices.

	s. d.	s. d.		s. d.	s. d.
ArtichokesGlobe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Beans, French, perlb.	0 9		Lettuces ...per dozen	1 0	1 6
Beet..... per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages ... per doz.	1 6	2 6	Onions.....per bunch	0 4	0 6
Carrots ... per bunch	0 6		Parsley ... per bunch	0 6	
Cauliflowers, English, per doz.	3 0	6 0	Radishes... per dozen	1 6	
Celery.....per bundle	2 6		Smallsalading, punnet	0 4	
Cucumbers .....each	0 6	0 9	Seakale ...per basket	2 0	3 0
Endive, French, doz.	2 6	3 0	Spinach, per strike ...	1 6	
Herbs .....per bunch	0 2	0 6	Tomatos..... per lb.	0 9	1 3
			Turnips ..... per bun.	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Aralia Sieboldi ...doz.	6 0	12 0	Foliage Plants, doz.	12 0	60 0
Bouvardias...per doz.	8 0	12 0	Heliotrope, per doz.	4 0	6 0
Chrysanthemums, doz	6 0	12 0	Marguerites, per doz.	6 0	12 0
— large .....per doz.	12 0	24 0	Mignonette, per doz.	4 0	6 0
Cyperus .....per doz.	4 0	12 0	Palms in variety, each	2 6	21 0
Dracæna term., doz.	24 0	36 0	—scarlet .....per doz.	4 0	6 0
Dracænaviridis, doz.	9 0	18 0	Poinsettia, ...per doz.	9 0	18 0
Epiphyllum per doz.	9 0	12 0	Roman Hyacinths, per doz.	9 0	12 0
Erica Hymalis, per	12 0	18 0	Solanums...per doz.	9 0	12 0
Evergreens, invar. doz	6 0	24 0	Tulips.....per doz.	9 0	
Ferns, invar., per doz.	4 0	18 0			

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Bouvardias, per bun.	0 6	1 0	Narciss, French, doz. bunches	4 0	8 0
Carnations, 12 blooms	2 0	3 0	Parme Violets, French, per bun.	3 6	4 0
Chrysanthemums, doz. blooms	0 9	3 0	Dark " " "	2 0	2 6
Chrysanthemums, doz. bunches	4 0	12 0	Pelargoniums, 12 sps.	1 0	1 6
Eucharis ...per doz.	4 0	8 0	— scarlet.....12 bchs.	4 0	6 0
Gardenias 12 blooms	3 0	6 0	Poinsettia. doz. blms.	4 0	9 0
Heliotropes, 12 sprays	0 3	0 6	Primula, double, bun.	0 9	1 0
Hyacinths, Roman, doz. sprays	6	1 0	Pyrethrum, doz. bchs.	2 0	4 0
Lapageria, 12 blooms	1 0	3 0	Roses, yellow, dozen	3 0	6 0
Lilac, French, per bunch	6 0	7 0	— Red..... doz. blms.	1 6	2 0
Lilium Harrisii, doz. blooms	6 0	8 0	— Saffrano...per doz.	2 0	3 0
Liliumsvar., doz. blms.	1 6	3 0	— Tea ..... per dozen	1 0	3 0
MaidenhairFern, 12bs.	4 0	9 0	Stephanotis, dz. spys.	0 6	0 9
Marguerites, 12 bun.	2 0	4 0	Tuberoses, per doz.	0 6	0 9
			Violets, English per bunch	1 6	2 0

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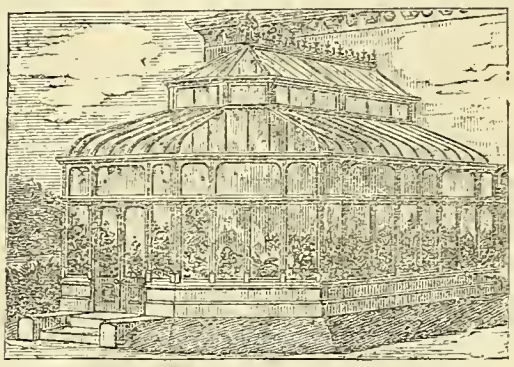

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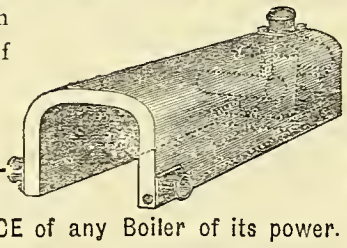

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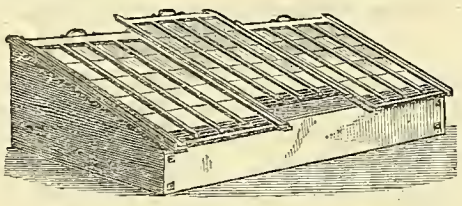

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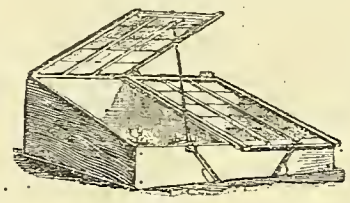

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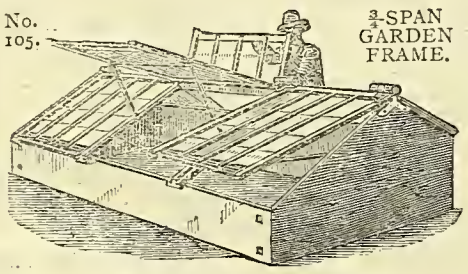

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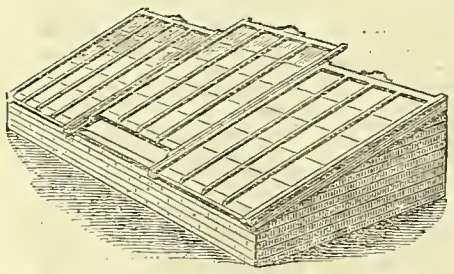

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For Index to Contents see page 265.

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The Gardening World.
Edited by BRIAN WYNNE, F.R.H.S.
SATURDAY, JANUARY 2nd, 1892.

EXIT 1891.—A review of all matters horticultural, incidental to the past year, would in the short space available in these columns be impossible. Probably most of the events of the year are still fresh in the memory of our readers. Some are perhaps unworthy of recall, some are even yet of a regretful nature. Still it is not possible to omit reference to the vacancies which grim death caused in the ranks of our profession, especially in the earlier days of the year. We had in such men as John Dominy, of Chelsea, William Barron, of Elvaston, J. F. Meston, of Westminster, Frank Casey, of Clapton, Charles Haycock, formerly of Maidstone, Alfred Dickson, of Chester, Dr. Woodman, formerly of Exeter, and Edward Roger Cutler, a number of votaries of horticulture who could ill be spared, and, remembering this list of mortality, we may well pause and ask, whose turn will come next?

Perhaps one of the most interesting events of the year in relation to gardening, is that which we referred to last week—the promotion of Technical Horticultural Education in Counties. The year has seen the usual round of Exhibitions, too many of which were adversely affected by bad weather, and have now to suffer under much reduced cash balances. We have seen even a larger number of Auction Sales of Orchids than usual, showing very forcibly how widely the cultivation of those beautiful flowers has extended. We have seen the same in relation to bulbs, roots, trees, and shrubs, and trust that this form of business signifies prosperity. The chief of our horticultural institutions seem to have conducted their operations with continued energy and usefulness, and there is little to find fault with in that respect.

The two great charitable organisations of gardening have kept abreast of the necessities of the times very well, but the wet summer, or some other cause, seems to have made the necessities of the incoming year greater than usual. Wet or ungenial summers, however, serve some good purposes in that they help us better to understand what are the capabilities not only of gardeners but also of the large family of subjects they have to deal with, and if the experiences thus gained are often disappointing, they are sometimes successful and therefore are invaluable.

The New Year.—We speak of the new year and yet the year never dies. The moment of time when one year quietly changes into another we all know, but the beautiful imperceptibility of the process is less evident. We go to our rest in 1891, and wake up in 1892, only to find the day as was yesterday, and that there has been in Nature no convulsion, no apparent change. We hail the ninety-second year of the eventful nineteenth century, and somehow do not look back on the old year with any deep sense of regret. It may have been to some not a bad time—a season of prosperity perhaps—but on the whole it has not been a good time for horticulture, and 1891 will long be remembered for its unusual rainfall and its comparative ungeniality.

Perhaps because the passing year has not been so kind it is that we are looking with some particular expectation to the new year that is upon us. So seldom are two successive years alike, that we have little fear the coming year will be a duplicate of that which has just passed out of time. Well may we hope to see a genial spring. What a treat to all who love gardening would be a really soft, mild, pleasant springtime in which April showers, mild and gentle, should bring us forth May flowers in abundance, and, followed by a warm summer, give to us in the autumn a harvest of great plenty and of happiness. We have got too far advanced, apparently, in almost every phase of horticulture, for anything specially sensational to arise, but without doubt we shall continue to make steady progress.

We are looking forward to yet further development in all branches of gardening, and especially in fruit culture, for every year does the demand for good fruit increase, and there is yet ample room for more of the best quality. We look for a yet further impetus being given in this direction to the great Exhibition of Fruit which it is proposed to hold in London next autumn, and we are sure that scores of exhibitions held throughout the country will help to the same end. Cordially therefore do we wish all our readers a Happy and Prosperous New Year.

Orchid Hunting.—If we are to accept as exact all that is stated in relation to Orchid fields in the yet comparatively unexplored regions of South America, as described by Mr. Mellican in the book about Orchid collecting which the Messrs. Cassell have recently published, we need have little fear for some time as to the possible drying up of Orchid importations. Literally, it would seem as if there were yet interminable areas of forests producing millions of Orchids, and which open up illimitable opportunities for what has been so harshly, yet, perhaps, truly, described as "Orchid Plunder." Two things in this Orchid hunting seem specially deplorable: one is literal warfare with the natives anxious to keep out collectors, or their demoralization through corruption by spirits; and the other the wholesale cutting down of trees on which the beautiful Orchids cluster, and the enormous waste incidental to imperfect means of transport to Europe.

Possibly most collectors who thus brave toil, climate, and danger care only for themselves so far that if they can only get a few good hauls they are content, and care nothing for those who may follow. Mention is made in Mr. Mellican's book of an extensive plain, a portion of which is very precipitous, and collectors daring danger, having been let down the sides by the aid of ropes, have stripped and torn away most of the beautiful Orchids which grew there. Nature in her most glorious aspects away in equatorial regions has been yielding up her treasures to the collector's greed in much the same way that we at home have seen our woods and hedge-rows denuded of ferns and hardy flowers to gratify the baser natures of the tramping plunderer. The great redeeming feature of all this Orchid hunting is that once the plants reach Europe they are well cared for, and do under the great skill of our own growers develop into specimens beautiful almost beyond description. Our British collections of Orchids are second to none in the world under cultivation, and they are indeed cherished by us, so that the dangers and toils of Orchid hunting are not absolutely wasted or encountered in vain.

Fogs.—We last week experienced, though anything but enjoyed, one of the severest visitations of fog which London in particular, and the greater part of the country has suffered for several years. Wherever the population is dense, and coal is largely consumed, there has the fog been of the blackest—the vapour field has been felt at its worst. We have apparently done all that is humanly possible in the matter of fog ellucidation and of fog amelioration under existing conditions. But that we have had just now such excessively dense and long continued fogs is doubtless due to the exceedingly heavy rainfall of the autumn and early winter.

The recent floods have been notorious, and, whilst they have largely passed away, they have left behind a legacy of vapourous exhalations which we have so distressingly felt, as well as seen, in the form of fog. Thus it is that fogs have been so general, especially in those districts where soils are retentive of moisture. In London, and indeed everywhere where houses and populations are dense, the pure vaporous fog has not been denser than in purely rural districts, but it has been associated with smoke and soot, hence at once its apparent greater density and its poisonous nature. How it is possible that even comparatively delicate life can exist in several days and nights of dense continuous fog is indeed marvellous, and shows perhaps more forcibly than does anything else in Nature how possible it is for humanity to become acclimatised to the most unnatural surroundings.

Plants are less capable of existence under such atmospheric conditions, for we all know too well how much those of a comparatively tender nature suffer both from fog ingredients and absence of sunlight. If we were to cease consuming coals entirely still we should not get rid of fog, but it would, at least, be purer. We must go further afield and get rid of intensely cold atmospheric depressions, and that is a problem it is feared we shall never solve. It seems hard to have to say we must bear these visitations, but the genius is not yet born, apparently, who can help us to get rid of one of the most noxious of natural phenomena.

The Fruit Conference at Manchester.—We have received from Mr. Bruce Findlay a report of the proceedings at the successful Fruit Conference held in Manchester in October last, which he has had printed in a convenient form for future reference.

Mr. Fletcher Rogers, who for some years past had been honorary treasurer of the Liverpool Horticultural Association, and one of its most ardent supporters, died somewhat suddenly on December 19th.

Trade Notice.—We understand that on the 1st inst. the following change took place in the constitution of the firm of Dickson & Robinson, seed merchants, 12, Old Millgate, Manchester. Mr. Francis Robinson, up till now the sole proprietor, admitted as partners Mr. A. W. Whale, who has spent the last twenty-two years in the famous Prussian Seed House of Mr. Ernest Benary, Erfurt, and Mr. Henry Hicks, a gentleman well-known to most members of the horticultural trade, as well as to many agriculturists, his connection with the Manchester firm extending over a period of twenty years.

Preston and Fulwood Floral and Horticultural Society.—The usual monthly meeting of the members of this society will be held in the large room of the Legs of Man Hotel, Fishergate, Preston, this (Saturday) evening, January 2nd, 1892, when Mr. John Williams, of the Priory Gardens, Penwortham, will read a paper on "Our homes; and climbing plants to beautify them."

A Palm House for Battersea Park.—We are pleased to learn that at the last meeting of the London County Council for 1891, it was decided by a considerable majority to erect a new Palm house in Battersea Park, not only for the accommodation of the Palms which had outgrown the existing greenhouses, but also to be used as a winter garden, and for the exhibition of Chrysanthemums and other flowers. The Parks Committee recommended that the house be erected at a cost of £1,500,

The Potato Crop of the World has been the subject of a special investigation by the *American Agriculturist*, and, although the figures given cannot be accepted as entirely accurate, the facts given are interesting. The British Isles have the largest production per acre, the crops of 1891 being stated as follows:—acres, 1,285,854; total yield, 225,000,000; yield per acre, 175 bushels. The next highest yield per acre is obtained in Canada, viz., 129 bushels; and the lowest the United States, with 93 bushels only. The highest average price per bushel was 2s. 1d. in Germany; and the lowest 1s. 0½d. in Canada; the average for the British Isles being given as 1s. 8d.

Capture of a Red Deer in an Edinburgh Nursery.—*Land and Water* states that on the morning of the 18th ult., a large female red deer was seen in Messrs. Dickson & Co.'s nurseries, near Craigmillar. Immediately it was discovered all the employes left their work and gave chase. The deer ran into Craigmillar Quarry, where it was surrounded, and, being hemmed in, took to one of the pools of water for refuge. While it was swimming about, Mr. Troupe, quarrymaster, waded in and succeeded in putting a woman's apron over the animal's head. Ultimately it was secured and conveyed to The Inch, where it is comfortably housed in a loose box. It had doubtless escaped from some park.

Materials for Walking Sticks — Writing on the vegetable products of Tropical Africa in the *Society of Arts Journal*, Mr. John R. Jackson, curator of the Museums at Kew, remarks that as the trade in walking sticks has now become a very large and important British industry, there is necessarily a great and increasing demand for materials, such for instance as young Palm saplings, with good roots to form the knobs or handles, or any woody plant that may exibit an ornamental or characteristic bark. It is not necessary that the stems should be in all cases long enough for an ordinary walking stick if the rooting portion has sufficient character to recommend it, for one of the arts of the walking stick and umbrella handle-maker is to graft or join an ornamental knob or root on to a plain but rigid stick. Nor is it necessary for the stick to be straight, for some of the most crooked sticks are effectually straightened by heat. A few should be sent home for report, and to try whether they have any market value.

Chrysanthemums in their own country.—The infatuation for the flowers that our forefathers called Roses of St. Catherine becomes more and more general, says *L'Illustration Horticole*. *Sempervirens* devotes an entire number to them, finishing up by recalling the culture of which the *Kikou* (Chrysanthemum) is the object in the extreme east. In Japan it is the emblem of good fortune and long life; the flower is sung by the poet; the painter produces it everywhere; and not a single small garden is without Chrysanthemums. The Japanese works upon that plant form quite a library. The most exalted national order is that of the Chrysanthemum. In the kingdom of Siam, as in Japan, the banners, the public documents, the moneys, carry the flowers of Chrysanthemums. The Chrysanthemum furnishes, besides, an elixir of long life and a remedy against intoxication. That remedy has probably not yet been introduced into Europe.

Shirley Hibberd Memorial.—The following communication reached us too late for insertion in our last:—At a meeting of the committee appointed to carry out this scheme, held at Chiswick on November 17, 1891, Dr. Masters in the chair, it was announced that the sum received from all sources was £259 9s. 6d., and that after the payment of all expenses, amounting to £38 14s. 4d., there remained a balance in the bank of £220 15s 2d. A satisfactory portrait of Mr. Hibberd has been hung in the Lindley Library. The balance of the monies received is, after payment of the expenses of the deed, to be invested for the benefit of the orphan daughter in the names of Mr. W. R. Hargreave, Mr. Leonard Barron, and Mr. John Collingridge. The trust-deed is to contain provisions (1), that in the event of the death of the child previous to her attaining her twelfth year, the amount then standing to the credit of the trustees shall be paid to the Gardeners' Orphan Fund; (2), that in the event of the decease of the child at any period between the twelfth and the twenty-first year of her age, then the monies invested shall become the absolute property of her uncle and guardian, Mr. C. M. Mitchell.

Christmas Trees in Berlin.—Berlin is the city of Christmas trees *par excellence*, and some of the streets and squares now look like forests. This year (says a correspondent of the *Daily News*) they are exceedingly cheap, trees of about 10 ft. in height costing from eight to ten shillings. The supply seems to be much greater than the demand, for so late as this evening one does not remark that the stores in the market have been much reduced. These trees come for the most part from Thuringia and the Hartz Mountains. Immense numbers are sold, for the Christmas-tree custom here is general even among the poorer classes. The celebration of Christmas Eve, with the attendant festivities of the Tree, is a ceremony almost sacred. It is then one thinks of the departed friends to whom it has not been granted to spend this season in the family circle. In the churchyards people are busy planting nicely decorated Christmas trees on the graves, and those who cannot afford this confine themselves to laying fir branches thereon.

The Weather of Christmas week.—The mean reading of the barometer last week at Greenwich was 30.18in., and that of the thermometer 29.1° ; the latter being 10.2° below the week's average in the twenty years 1849-68. The direction of the wind was variable, the horizontal movement of the air being sixty-three per cent. below the week's average in the sixteen years 1860-75. The duration of registered bright sunshine in the week was 4.7 hours.

SCOTTISH NOTES.

Adieu! 1891.—By the time this meets the eye of your readers another year will have been added to the past, with all its successes and failures. The season here at the commencement was comparatively mild, February particularly so. Wallflowers began to flower freely, and Rhododendrons also came into blossom; the frost up to then having been comparatively slight, contrary to what was experienced in the south. March, however, brought a change; 16° of frost for three or four successive nights, but no very disastrous effects followed, as the thaw was very gradual and few things were at all active—the wallflowers never recovered though.

The summer was really better here than its predecessor, there having been more dry weather, which made it possible to cope, in some measure, with the weeds, which was impossible the previous season. All garden crops generally proved satisfactory. Strawberries were about an average crop, and bush fruits were about the same. There was a fair crop of Apples, too, on what few trees we have. Keswick Codlin as a pyramid is a nice cropper, and so is Lord Suffield in this district. But bullfinches are very troublesome just as the fruit buds are bursting, and last spring I made up a mixture of lime, linseed oil, and paraffin. The oil prevents the rain from washing off the lime, and I thought the buds flavoured with paraffin would not be very palatable. This I passed through a strainer, and sprayed the bushes and Apple trees with, and to this I owe my crops of fruit. I netted a few by themselves, but somehow the little depredators found their way in, and what a havoc they made.

The year also brought its quota of new plants and re-introductions, the most noteworthy perhaps being the importation in bulk of our long lost friend, the old Cattleya labiata; next in importance is probably Dendrobium Phalænopsis Schroderianum. Two late Grapes have also been put in the market for the first time, a rather unusual occurrence in one season. All things considered, if no great advances have been made horticulture has fully maintained its position, as witness the displays at our great exhibitions during the past season, and, while we bid adieu to 1891, we welcome the new year with hope, confidence, and determination to do our best as British gardeners.—*Jas. Brown, Arddarroch, Loch Long.*

Begonias and Gloxinias from Seeds.—Last January I procured a packet each of Begonia and Gloxinia seeds from Mr. Downie, of Edinburgh, from which I succeeded in rearing a number of beautiful varieties and had such a fine display in autumn that I am induced to pen this short note, in the hope that it may be the means of others trying a few seedlings for this purpose in the ensuing year. Towards the end of the month I sowed the seeds in pans of light soil and plunged them in a brisk bottom heat, keeping them in total darkness until the seeds germinated, which they did in prodigal profusion, hundreds of tiny plants appearing. These I gradually exposed to the light till they were strong enough to be placed on a shelf quite close to the glass, and this, let me say here, is very important, as it keeps the young plants dwarf and sturdy. As soon as they were large enough to handle they were carefully pricked off into pans of a light but fairly rich compost, watered with a fine rosed watering pot, kept shaded for a day or two till the roots had taken to their new soil, when they were replaced to their position near the glass, in a temperature varying from 55° to 65°.

About the beginning of April, by which time they had made nice little plants, I transferred them into small pots, using a similar compost to the above mentioned. At this stage they were placed in a vinery at work in a position fully exposed to the light, shading from midday sun with a newspaper. Here they remained till the pots were filled with roots, when I repotted them into 4-in. and 5-in. pots according to size. The Begonias I removed to an unheated frame, and kept close for a week or so, after which they got a free admission of air during the earlier part of fine days, but were closed early so as to husband the sun heat as much as possible. By the middle of September they were nice compact plants, and were throwing up flowers in great profusion, and I had them arranged along with the Gloxinias in a small Melon house from which the crop had been removed.

The Gloxinias had in the meantime been growing on a stage erected over the hot-water pipes in the vinery, and partially shaded by the foliage of the vines, and were also commencing to flower, so I had the two arranged together in a sloping bank on either side of the pathway. Those who have not tried Gloxinias and Begonias together would do well to try it; the effect was simply gorgeous, the variety and richness of colour attracting every one, and eliciting exclamations of wonder and admiration from all who saw them.

The size, form, and diversity of colour among the Begonias exceeded my most sanguine expectations. The colours were endless, ranging from the purest white, yellow, salmon-pink, rose, scarlet to deep crimson in numberless shades. Brilliant, however, though the Begonias were, they were fairly eclipsed by the gorgeous colours of the Gloxinias, which were all of the erect-flowering type, which show off their flowers to greater advantage than the drooping sorts. The foliage itself beautifully and completely hid the pots from sight, forming a suitable base from which issued dozens of flowers in all the colours of the rainbow. Self-coloured flowers, pure white, pink, purple, scarlet, etc., and flowers mottled and streaked were produced in endless variety, and all combined made a display which the most fastidious could not fail to admire.—*W. Little.*

SOME GOOD DECORATIVE AZALEAS.

The Azalea is one of our most popular and useful of spring-flowering plants. At Christmas Fielders White is largely grown for cutting purposes. It is very free; it can be forced into bloom early and without endangering its constitutional vigour, and it will bear any amount of cutting. A. amœna is an early-flowering decorative species, of great freedom and of close compact growth. Then there are many other varieties: among them the following possess great decorative value—Madame Herman Siedel, pure white sometimes, and occasionally faintly striped with rose; in its former character it is like a huge semi-double Gardenia; Pharailde Mathilde, white striped with pale red, very large, and double, broad, smooth petals; Flora, very bright rose, with a slight purple blotch on the upper segments, extra fine; Perfection de Gand, red, shaded with purple, single, a flower of fine form; Vervæneana, bright pink, broadly margined with white, flowers very large, semi-double, extra fine; Amé de Cœur, pale salmon-red, large double flowers of extra fine quality; President Oswald de Kerchove, pale pink and salmon, sometimes with a slight edge of white, very double and well formed; Theodore Reimers, magenta-lilac or purple, very fine and distinct, large and double; Louise Pynaert, pure white, double, very large, and of fine quality; Madeline, pure white, flowers very large and semi-double, becoming purer as they age, very fine indeed; Grandès, pale or brick red, shaded with violet on the upper petals, extra fine; and Phœbus, deep salmon-red, with large purplish-crimson spots on the upper segments, semi-double, very showy.

I am quite of Mr. Thomas Baines' opinion that for producing flowers for cutting the Azalea has few equals. A grower may cut with impunity without injuring the health of the plant, but of course plants should be grown for the purpose, as no one would think of cutting their best specimens, and, though it is sometimes said that cut flowers which have expanded in heat do not stand well, the fact is traceable to two causes—one is, using too much heat; the other keeping them too far from the light. While being brought on into flower, the foliage should almost touch the glass; so treated, Mr. Baines assures us, they would stand for a week in water, or in sand and water.

In my own experience I have found the Azalea to be a plant not at all impatient of cold. I kept a plant in my cold house for five years, and it flowered abundantly each year until the winter of 1890—91, and then it went down before the attack. Mr. Baines states that he has seen plants in a north house considerably frozen in early spring, but that they afterwards flowered as well as those which had not been subjected to so low a temperature; and yet it must be best not to subject the Azalea to so great a strain. It is therefore desirable to keep frost from reaching the plants, but it is not necessary to keep them in any thing like a high temperature unless it is desired to bring them on early into bloom.

"In selecting varieties," says Mr. Baines, "care should be taken to procure such as are not only good, free growers, possessing distinct, finely-coloured flowers, but also such sorts as retain their bloom for the longest time. This is a matter that does not receive sufficient attention, yet is of very great importance, whether they are required for exhibition or ordinary decorative purposes, some varieties carrying their flowers double the length of time that others will." I have kept these requirements in view in making the selection which heads this paper.—*R. D.*

AN ABSTRACT VIEW OF HORTICULTURE.*

THE subject of horticulture is a very wide one, and may be looked at from many and various points of view. I therefore decided that I would say something upon the subject from what may be called an abstract point of view. I shall carefully abstain from technicalities, and not pretend to give anything in the way of instruction on the practical working of your profession, for the reason that you all know more about it than I do. But what I shall aim at doing is to create in your minds a loftier idea of the calling which you follow, and to show that it is capable of a very high development, and that it possesses attributes and attractions which go to place it in the forefront of professions. I want to show that horticulture is not by any means a mere ornamental profession, in which the professor can do his part or leave it undone at his pleasure; nor is it simply a certain amount of weekly work done for a certain amount of wages. All who would discover its wonders and its beauties must have far higher aspirations than this, and must seek for its mysteries with loving hearts and willing hands, for it is only to such that Nature reveals her hidden beauties and wonders to the full extent; and what I wish to do in this paper is to lead you to find that higher development, or at any rate to seek for it, and I am sure that in doing this you will discover a new meaning in what you do, and which cannot fail to elevate both yourselves and your profession.

Now, as I have said, the subject is a very large one, and in order to make it suit the aim of this paper, I purpose to divide it under four heads, which will be enough for us to deal with to-night; and these heads will be the reasons I assign for the claims your profession has upon you. First, then, your profession is an honourable one in respect of its antiquity; secondly, in respect of its beauty and diversity; thirdly, in respect of its usefulness in the economy of nature; and fourthly, in respect of the certain return with which it awards those who faithfully and diligently follow it. As to its antiquity, I do not wish it to be understood that anything is to be esteemed as honourable simply in virtue of its antiquity, but that whatever is honourable and useful in itself, is rendered more so by having done its work, dispensing beauty and grace down through the ages, and in this respect your profession stands not simply first, but in front of all others. The first man of whom we read was a gardener, not simply a gardener for his own pleasure and amusement, but put to follow it for his livelihood. As far as we know the produce of the garden of Eden was his entire source of food supply, so that he had the best possible reason for being a practical gardener. But even this case of Adam does not carry us back far enough, or give us the full measure of antiquity, for trees and herbaceous plants existed on the earth before Adam.

Geologists and botanists agree in assuring us that when this planet was a dark, sunless void, it was covered thickly with trees and shrubs, and they even go so far as to describe the character of the dark vegetable world; and the account which they give agrees very much with what all of us know to be the case with plants grown without light. They tell us that trees and plants grew to enormous size, with stems pale in colour and foliage nearly white; that Ferns grew to 30 ft. and 40 ft. in height, with immense fronds spreading out and covering the earth, rendering it damp and steamy, and in which grew all manner of climbing and trailing plants, making a perfect jungle, but all of them of the same sickly, colourless character, and all wanting some of that glorious sun which we unfortunately so often stand in need of.

Now, compared with an antiquity like this, there is of course nothing in the world can rank, and however much the pre-adamite portion may be difficult of demonstration, from Adam's time we can speak with more certainty, that the gardener's art has been the chief factor in feeding and delighting the world, and through all that long period it has known no lapse or cessation, kings might fall, dynasties die out, the kingdoms of the earth crumble away, or altogether change their character, but in the gardener's art there has been no change except in development and improvement.

Here, then, is a glorious antiquity of which all faithful devotees to the art may be justly proud—an antiquity which fashion has not depraved, and of which time has not lessened either the beauty or the usefulness.

Now, when I come to speak of the beauty and diversity of the floral world, which beauty and diversity is due in a large measure to the gardener's art, the first thing that strikes one is its immensity, wide as the world and embracing amongst its votaries all orders of being and all varieties of human mind. The rich and cultured as well as the poor and ignorant, the young as well as the old, in prosperity or in adversity, in sickness or in health, at all times and in all places, appreciate the beauties of the floral world, which minister to the happiness and the enjoyment of life in a way and to a degree which nothing else in nature does. We seem to have deep down in our nature a faculty for the beautiful, which only flowers can reach and satisfy. Art has often tried and does try to meet this natural instinct which we possess for the beautiful, but it does not wholly succeed, and for the very simple reason that when it has done its best it has to go to nature for its model, and copy as near as may be the grace of form and delicacy of colouring in flowers, to give its highest expression of the beautiful.

One of the great charms in flowers is that they seem to touch our nature in so many and so various ways, some by their grandeur of size and colour, others by their exquisite beauty of form and outline, and others again by the charm of their perfumes, while others again are beautiful in what appears to be their innocence and helplessness. Perhaps few things are more appealing than a poor Snowdrop trying to force its way through half-frozen, ground as if endeavouring to escape from what has so long been its prison; or perhaps a modest Daisy seeming to open its eye to see if spring is coming. As to this latter you will remember what Burns says:—

> Wee, modest, crimson-tipped flow'r,
> Thou's met me in an evil hour;
> For I maun crush amang the stoure
> Thy slender stem;
> To spare thee now is past my pow'r,
> Thou bonnie gem!

It was not at all necessary from the utilitarian point of view that the world should be made beautiful with flowers. All the purposes of our physical life could have been as well served if nothing grew more beautiful than a Cabbage. One prominent fact which this love of flowers demonstrates is that in what is best and noblest in our nature, all peoples of the earth, at all times, are and have been very much alike. Flowers are and have been used as the expression of love, of confidence, of gratitude, of constancy, of reverence, and, indeed, of all that goes to make up the best half of our nature.

Poets have at all times used flowers as their highest expression of beauty. Indeed, it is not too much to say that but for flowers poets would have been without a good part of the means of giving expression to their sense of the beautiful in nature. Painters, also, have always used flowers for the same purpose; but unfortunately after all they are only paintings, and excite our admiration to the extent that they are copies of great originals. Flowers seem to have a more pronounced influence upon us at particular seasons: when we are well and happy we decorate our homes, our dinner tables, our buttonholes with them, indeed, we display them everywhere as the expression of our joy and gladness; but it is perhaps in sickness or age that they shed their greatest power, particularly amongst the poor. In the sick room a flower is the only joy left to a suffering one.

Who amongst us has not observed the influence of a poor starveling pot plant upon some aged person, perhaps confined to one room, and who waits upon it and tends it as if it were a grand specimen? I cannot help thinking that if the art of the horticulturist were so limited as to be confined to the production of flowers, it would still be one with a nobility of aim, which should make all engaged in it feel that their profession is one of usefulness and honour.

When I come to what I call my third argument, I find that I shall have to enlarge my field of review, and in order to give you an idea of its scope, I must show you how nearly allied are some things which we are accustomed to look upon as different in character, but which are, after all, very much the same thing. First, then, let me say that floriculture, horticulture, agriculture, and arboriculture are all as nearly as possible the same thing, and all come more or less under your management as gardeners. It makes very little difference whether you call your kitchen garden a garden or a field; the operations are the same, and the only difference which can possibly exist is that the one is usually the subject of a higher culture than the other.

Not only is the higher side of our human nature dependent for its full development upon your energies and intelligence, but our very physical existence is, and must be, to a large extent, dependent upon the properly directed energies and intelligence of the cultivators of what we call the vegetable kingdom.

(To be continued.)

* A paper read by Mr. H. J. ROME at a meeting of the Ealing and District Gardeners' Mutual Improvement Society, held on 27th Oct.

ILLUSTRATED INSTRUCTION.

SOME small experience in horticultural lecturing has enabled me to realise the enormous value of illustrations of what one is talking about, and realise how large a field there is open to anyone who can, by the production of cheap pictures, diagrams, photographs, etc., give to lecturers the aid they so much need. Of course, pictures and diagrams of objects, whether of vegetable life or of absolutely inanimate objects, must be true to character, and it would always be best if obtained from photographs, because these would at least be truthful. It has been suggested that gardening lectures might be largely aided by the employment of magic lanterns and correctly sketched slides. That is so, but there is the difficulty that such aid would come very expensive, especially in rural districts, where ordinary coal gas is not available.

It seems as if good diagrams of fair dimensions, and displaying very correct examples of the respective objects referred to in the lectures, would be best because very instructive and very portable. Could these be furnished in quantity, few things would be more useful as aids to instruction. Here is a wide field open to any publisher who may care to embark in such an enterprise. These are however elementary illustrations the which only gardeners themselves can produce. These are found in plants, trees, garden produce, models of garden structures, garden appliances, etc., all of which presented to an audience would wonderfully help to elucidate matters which would otherwise perhaps be dry and uninteresting. An audience of comparatively ignorant cottagers or others of similar calibre would find examples of grafting, of bedding, pruning, potting, and many other of the higher practices in gardening most instructive. So far the present courses of technical instruction in horticulture have had to be very hastily arranged, and a further course may be much more completely illustrated.—*D.*

PEAR BEURRE DIEL.

WHEN grown as a wall tree or as an espalier the fruit of this Pear attains a large size; but on standards is only of medium size. It is obovate in outline and rather uneven on the surface, with a pale green skin changing to pale yellow in November, and thickly spotted all over with large russety markings, with occasional splashes of brown russet. The flesh is pale yellowish-white, rich, buttery, and melting in its latter stages, but previously to that it is firmer though tender and very juicy. In either stages it forms good eating, and it depends upon the taste of the eater as to what degree of ripeness is the most appreciated or acceptable. Another point to be noted is that the fruit varies considerably in quality in different parts of the country and in different soils and seasons, a fact which applies to various other Pears in cultivation. The tree is a heavy bearer especially when grown as a standard, and that, together with its late keeping qualities, should be taken into consideration by the planter. The fruits attained a fine size on horizontally trained trees against a wall in the gardens of Templeton House, Roehampton, under the management of Mr. J. P. Kendall.

ABOUT PEARS.

(Concluded from page 259.)

Cultivation.

The Pear tree will succeed in any good soil that is neither too wet nor too dry, but will be found to do best in a good substantial loam. In choosing a situation one inclining towards the south or south-west should be selected, and if it is sheltered from prevailing winds so much the better. If the ground requires draining that should be seen to in the first place; it must then be well trenched, and allowed to settle before being planted. The extra labour of trenching will be amply repaid by the trees in after years. To put the question of soils into as few words as possible, I would say for the Pear stock, if possible, have a light deep soil, and for the Quince a good heavy loam; if light feed liberally from the surface.

Planting is best done in the autumn, say the end of October or beginning of November according to the season. It is an operation which must be undertaken with the greatest care and attention, for on it hinges the success or failure of the tree. Deep planting is one of the greatest mistakes the inexperienced fall into: the old soil mark on the stem must be the guide, and it should never be buried—far better have it a little above than below the surface. The opening for the tree must always be large enough to receive the roots to their full length when laid out horizontally. Fine soil should be worked in between the roots and made firm as planting proceeds. If newly-planted trees can be mulched with some good manure they will be greatly benefited by it. To complete the operation each tree should be securely staked and tied loosely, so that it may settle down with the soil, when it may be more securely fastened.

Pruning and Training.

These two operations are so closely allied that they may be treated together; their object is to produce a desired form of tree, and to assist Nature in the production of superior fruit.

Keeping this in mind let us then see which of the several forms is the most suitable for our purpose. To begin with standard trees, which as a rule bear abundantly, and when once established need very little pruning if any. These are the trees for orchard culture and for profit.

The pyramidal form is the most natural to the Pear, therefore with a little attention very handsome specimens can be formed; these, however, are not always so profitable, as their outline is pleasing to the eye. They are the most suitable for a garden of moderate dimensions, such as our establishment here. The low bush form is the one to be recommended for cottagers' or villa gardens; there are some very good examples of this mode of training to be seen in the gardens here.

As I daresay you are all well acquainted with the mode of procedure in forming these trees, I will not occupy your time with a description of it to-night; but just add that in forming pyramids the leader must always be left a good length (say about 18 in.), so as to have the side branches thinly disposed, that the air and sunshine may have full play through them, as without these two essential elements nothing can come to perfection.

When on the Quince stock pyramids should be planted about 8 ft. apart, and on the Pear about 12 ft. Standards on the Pear, or we might call it the free stock, should be planted 20 ft. apart. The majority of Pears, especially the later varieties, are greatly improved when grown on walls. The cordon system of training is to be highly recommended here, for a variety of reasons, chief among which is that the season can be considerably prolonged by having a number of varieties on a given space. If the walls are low, they are better trained obliquely, as then a longer run is secured.

Pears, like most other fruit trees, can stand plenty of manure when in a bearing condition. And I have no hesitation in saying that the best manure they can get is good farm-yard, applied on the surface. It should be put on as soon as the fruit is set, and spread as far as the roots extend, and about 4 in. deep. If the weather is at all dry, soak the whole mulching with water so as to reach every root, and the effect will be plainly seen in the remarkable manner in which the fruit will swell.

As far as my experience goes, root-pruning for Pears on the Quince stock is not required, but for those on the Pear stock it is very beneficial. Many an unfruitful tree has been brought into a bearing condition by a judicious curtailment of its roots. It is an operation in which there is plenty of room for the display of ordinary intelligence; for all trees do not by any means require the same treatment. Some may want root-pruning every second or third year, other may never require more than one operation. Large trees should be done piece-meal, so as not to be checked too severely. As root pruning is to regulate the growth, it must go hand-in-hand with the pruning of the branches.

As regards summer pruning, concerning which there is such a diversity of opinion, I advocate it, but only in moderation, as a means of directing the energies of the tree into more fruitful channels. It is evident that if the shoots of a pyramid trained tree were not shortened or thinned, the foliage would suffer for the want of light. All shoots not required for extension or to fill up space must be summer pruned; the time will vary according to the season, but the operation must not be performed too soon, or a second growth will be caused, which is worse than useless.

The upper and more vigorous part of the tree should be stopped first, the shoots should be shortened to about the fifth or sixth leaf, not taking into account the partly developed leaves and buds at the base, as these very rarely come to anything. The winter pruning of pyramids treated in this way is of the simplest, all the shoots shortened in the summer must be spurred to form fruit-buds, and all dead spurs removed. For bush and standard trees snmmer pruning is not so esseutial, but will be found beneficial when practised to a limited extent.

For wall trees summer pruning is of great benefit, as without it very few well ripened buds are obtained at the base. In order to encourage young trees, the shoots should not be much shortened in the summer time; those near the extremities of the branches should be checked so as not to compete with the leaders.

Gathering and Storing.

These are I think the most important operations connected with Pear culture. To know when to gather Pears is something worth knowing, I can assure you; no operation that I am acquainted with takes longer to learn than this, and on it greatly depends the quality of the fruit. If gathered too soon the fruit shrivels and never ripens properly; if left too long, especially some of the early varieties, it becomes insipid. The rule laid down by our authorities on this subject is—to slightly raise the fruit; do not pull or use any force, and, if by the gentle heaving the fruit parts readily from the spur, then they may with safety be gathered.

There are, however, exceptions to this very general rule. Some varieties that become mealy soon, are better if gathered before they part readily from the spur. Williams's Bon Chrêtien is an excellent Pear when gathered soon enough, but if allowed to hang too long it becomes distinctly musky. Flemish Beauty is another variety which requires to be gathered soon, for if allowed to hang until the fine colour which characterises it so is produced, it will be found to have much deteriorated in flavour. Late varieties generally should be allowed to hang on the trees as long as it is safe to leave them for frost. Another test for gathering the fruit is to examine one and see if the pips are ripe—if so they may with safety be gathered. The dryer the fruit is the better, and it should be handled with all the care possible.

As to the best place to store the fruit, I do not think I can do better than describe generally the fruit-room in the gardens here. It is built at the back of a high wall, the floor is about 2 ft. below the ground level, the aspect is due north.

The walls are hollow, consequently the temperature inside is not so readily affected by the changing of the outside temperature. It is ventilated in the roof, the windows also open. It is fitted throughout with deal shelves, 3 ft. wide, having four air spaces of ½ in. each. The fruit in most cases is laid out in single layers, only the small Apples and Pears are doubled to economize space.

I have seen grander fruit-rooms than the one just mentioned, but this answers the purpose as well as any of them.

Varieties.

The number of varieties there are in cultivation is nothing short of a national calamity; and I think we may safely put half of them down as worthless. There are many excellent varieties to choose from; the number grown must of course be regulated by circumstances.

I do not think any selection for a private establishment need exceed twenty-five varieties, unless they are grown merely as a collection. Given a fair season the following twenty-five varieties should give an unbroken supply of fruit from August to March. They are Williams's Bon Chrêtien, Souvenir du Congres, Beurré d'Amanlis, Fondante d' Automne, Louise Bonne of Jersey, Madame Treyve, Thompson's, Pitmaston Duchess, Beurré Hardy, Beurré Superfin, Comte de Lamy, Seckle, Belle Julie, Marechal de la Cour, Marie Louise, Durondeau, Beurré Diel, Doyenne du Comice, Glou Morceau, Winter Nelis, Conference, Josephine de Malines, Beurré de Jonghe, Olivier des Serres, Ne Plus Meuris, and Bergamotte d'Esperen.

For the majority of places in this neighbourhood the above list would be too long, therefore I append a more select list of twelve. Williams's Bon Chrêtien, Fondante d'Automne, Thompson's, Louise Bonne of Jersey, Beurré Superfin, Marie Louise, Doyenne du Comice, Glou Morceau, Winter Nelis, Josephine de Malines, Beurré de Jonghe and Bergamotte d'Esperen.

The select list is the pick of all the varieties grown here, numbering close on 300. Generally speaking they will all be found of excellent quality, even in such an unfavourable season as the past has been for flavour.

The Pear, as you doubtlessly are all aware, is one of the most perishable fruits in existence. There is an old saying that "to get a Williams' in prime condition" you must watch it all night. This seems rather an extreme measure, but nevertheless there is a good deal of truth in it. Varieties vary in this respect; some when ripe are over in a few days, others will last in good condition for ten days or a fortnight. A break in the supply can very often be prevented by ripening some in heat. In fact most Pears are improved in flavour if kept in a warmer temperature to ripen.

As you may not all possess a copy of the report of the Pear Congress, held in the gardens in 1885, I cull the following from its pages, which may be interesting and instructive as showing the appreciation in which particular varieties are held throughout the country. I may add that the poll was taken for the whole of the United Kingdom, and the number of returns received by the committee were 100.

"Marie Louise stands at the top of the list as the most popular Pear, having been selected ninety-eight times out of a possible 100. Louise Bonne of Jersey is second favourite, having received eighty-seven votes, closely followed by Williams's Bon Chrêtien for third place with eighty-six votes.

"Of those exhibited at the Congress, Beurré Diel heads the list, 194 dishes of this variety having been staged; Marie Louise coming second with 132 dishes. Amongst Pears suited for orchard culture, the popular variety is Williams's Bon Chrêtien, this having been selected fifty times, and secondly Louise Bonne of Jersey, forty-six times; Beurré de Capiamont, third, thirty-eight times; and of stewing Pears, Catillac, Uvedale's St. Germain, and Bellissime d'Hiver secured the highest number of votes respectively."

The finest Pear in cultivation, I have not the least hesitation in saying, is Doyenne du Comice. A most delicious Pear, in use generally during November, but some years it keeps well into December. The tree is a healthy grower, a good bearer, and forms a handsome pyramid on the Quince. This valuable Pear was raised in the gardens of the Comice Horticole at Angers, and the original tree first fruited in 1849.

Marie Louise would rank next; it is a Pear of the highest merit, in use during the latter end of October and throughout November. The tree is hardy, vigorous, and succeeds well as a standard or on a wall. When grown on a wall the fruit attains a larger size, but is not of such a high quality as that grown on standards.

This excellent variety was raised in 1809, by Abbé Duquesne, and named in honour of Marie Louise, the consort of Napoleon. It was sent to this country by Dr. Van Mons, of Brussels, in 1816.

NEW CHRYSANTHEMUMS: JAPANESE.

THE following are all in commerce—by that I mean they find a place in autumn published catalogues, and can therefore be purchased. At the head of the new varieties of the past year I place Viviand Morel, a beautiful flower with long drooping florets, the pale petals tinted with blush-mauve; which is deeper in some flowers than in others. Bearing in mind what a good grower recently said—that two or three years are required to thoroughly test a new chrysanthemum—I think it is highly probable that Viviand Morel will be seen in much finer condition next season. It is likely to be regarded as our premier reflexed Jap. for a year or two to come. I am unable to give the name of the raiser, but may state the variety should have high culture, and the best flowers are obtained from terminal buds. Alberie Lunden is one of Delaux's raising, and though I do not think it will take as high rank as some as an exhibition variety, it is well deserving of notice on account of its colour, which is crimson-amaranth, shaded with carmine. Bouquets des Dames is a very fine white, partaking somewhat of the character of Elaine, large and full; it should have high culture and be stopped in March. E. G. Hill, Coronet and Kioto, are new yellow American varieties of 1890-91; I am not sure if the first and the last can be had large enough to rank as first-class exhibition flowers; but they are fine in colour. Coronet is a large incurved light bronze yellow flower, very handsome, and requiring high culture and plenty of water. Florence Davies, an English seedling, raised by Mr. Norman Davies, is a very fine white indeed, with long-drooping and slightly twisted florets, which will make a leading exhibition variety. Gloire de Rocher, bright orange amber flushed with crimson, is a very fine variety indeed, raised by Mr. Charles Gibson, of Morden Park, from seed saved in Algeria; it should have high culture. Lizzie Cartledge, a new American variety, was awarded a First-class Certificate of merit at the meeting of the National Chrysanthemum Society on the 24th November. In its young state it is somewhat incurved, but with age becomes reflexed and very double, the colour bright pinkish rose, with a silvery buff reverse; very fine. Anna Hartshorn is another very fine white which has been in fine form this season; I saw a grand bloom of it in the collection of Mr. E. Tautz, at Castlebar, Ealing. It is a variety that is said to show buds very freely; if they appear at the wrong time they should be removed without fear, as more will appear quickly; some of the shoots should be stopped in March. Violet Rose is a very fine double variety, of perfect form, and the colour a combination of violet and rose as its name implies. It wants high culture. W. H. Lincoln is a very fine yellow, of the colour of Jardin des Plantes, slightly incurved, and very full and double. I have seen some grand blooms of it this season. W. Tricker is a very fine American variety, and extremely handsome when well incurved; colour, sweet delicate rose. I think it will be generally admired. It requires high culture.

In addition to the foregoing, Mr. Norman Davis, of Camberwell, announces in his last autumn catalogue, Edwin Beckett, a deep golden yellow Japanese of the finest quality; Mrs. E. Beckett, pure white, very fine indeed,—both awarded First-class Certificates of merit by the National Chrysanthemum Society; also W. K. Woodcock, a large reflexed deep crimson Japanese; and Miss Lilian Cope, a clear pure white sport from Etoile de Lyon. To these may be added Kate Mursell, a pale yellow sport from Lady T. Lawrence.

A GOOD SERVICEABLE COLLECTION OF OLDER JAPANESE VARIETIES.

For the sake of those who may be contemplating growing a collection of Japanese varieties, and especially for exhibition purposes, I name the following:—Avalanche, white; Belle Paule, white, flushed with pale purple; Boule d'Or, yellow flushed bronze, a variety somewhat impatient of too much water in the early stages of growth; Condor, rosy white, large broad florets; Edwin Molyneux, chestnut crimson, with golden reverse; Etoile de Lyon, deep lilac rose; Jeanne Delaux, dark chestnut; Madame Clemence Audiguier, rosy mauve; M. J. M. Pigny, white; Mrs. C. W. Wheeler, orange brown, large incurved petals; Mrs. E. W. Clarke, an incurved flower, amaranth-purple with silvery reflex; fine and distinct; Mrs. Falconer Jameson, chestnut bronze, striped with yellow; Mrs. J. S. Fogg, a very fine bright chrome yellow, that is not enough known; Puritan, white, with slight tint of blue; Ralph Brocklebank, yellow; Sarah Owen, pale bronze, shaded orange, and tipped with gold; Sunflower, bright yellow; and Val d'Andorre, red shaded with orange. This is intended to be a suggestive rather than an exhaustive list.—*R. D.*

CHRISTMAS ROSES.

HELLEBORES.

A VERY easy plan to have these in flower by Christmas is to lay an old light over them, supporting this upon a few bricks at the corners. Or where the plants are growing under the cover of a wall or hedge, the light may easily be rested against whichever of these forms the background to the plants. Perhaps there are no plants of more service for the shady side of a deciduous hedge or for the north side of a wall than the Christmas Rose. They are particularly easy to grow, and will thrive in almost any soil; but it is necessary to give them some protection from rough weather, and also to look closely after slugs if you are to be sure of obtaining nice, clean, and well shaped flowers. A soil that is well drained, and yet has a tendency to be moist, is the very best for these charming winter flowers.

The Christmas Roses do not approve of hard forcing, and seeing that Helleborus niger and its varieties come naturally into flower about January and February, it is very easy to have them in bloom a little earlier by giving them the simple protection afforded by a handlight, pit, frame, or cool vinery. Where you wish a few flowers to expand more rapidly, you can ensure this by cutting off any fairly well matured flower buds and placing them in heat. This is a much better plan than introducing the whole plant into a temperature some fifteen to twenty degrees hotter than they require.

Any well-matured crowns may be lifted now and either potted up or placed thickly in boxes; but, as I said earlier, provided they are under cover of a wall they can be produced by Christmas and onwards by the protection afforded by any slight covering. It does not matter in the least about all of the glass in the old lights being intact. The broken spaces may be covered with sacking or any odd material to keep rough rains and wind away. The fact that such rough and ready means of protection will partially shade the plants is to their benefit, because the blooms will be drawn up with longer stalks, and will also come of a much purer white.

As soon as the plants have finished flowering, do not neglect them in the manner so often done to all easily grown plants after the crop of bloom is secured. If you attend to them at this time, just when they are making new growth and foliage, you will secure finer crowns for next season than could possibly be the case after a temporary neglect at such a critical period as when coming into new growth. The wisest plan is to place all pot plants under cover of a cool pit, until spring frosts are passed, when they may be planted out into a small bed by themselves, and forced again in a couple of seasons' time.

When you wish to increase your stock, it is best to divide the roots as soon after flowering as possible. Insert the divisions into boxes of good soil, stand in a pit or frame until it is safe to bed them out, then plant them a foot apart in the row, and let the rows be a foot and a half apart. They will not require any mulching the first season, but it will do them a lot of good to receive the protection of a little light stable manure during the following winter, and to have a good mulching of well decayed manure early in spring, as they are commencing new summer growth. Plants, divided and treated in this manner, will form nice flowering clumps the second season.

Hellebores do not approve of too frequent transplanting, so where a bed can be laid out in a suitable position it is far best to afford a little protection during their flowering period, and until frosts are over then give a good mulching and keep clear from weeds during the summer. This is all they require, but a good soaking of liquid manure will do no harm should the summer or situation be a dry one.

Helleborus niger: H. n. major: H. n. altifolius: H. n. augustifolius: and H. n. olympicus are the most useful varieties of this popular winter flower.—*Experience*

ON CHRYSANTHEMUMS.

CHRYSANTHEMUM shows are becoming more popular every year, new societies keep springing up, and growers increase. Flowers are somewhat analagous to fashions, they have their day; years ago the cultivation of the Tulip was quite a mania, a large price being paid for a single bulb; at another time the Dahlia was to the fore, and I think I may venture to say the Chrysanthemum is one—if not the one—that is most popular at the present time; and deservedly so, for it is the brightest in all its various shades of colour that we can grow to enliven our greenhouses at this dull season. November is practically the month when they are in their full glory, but by cultivating some of the late-blooming varieties it is possible to have a good display to the end of the year and onward.

The devotees of the "Mum" are ever at work amongst their favourites, for ere their blooming is over, they commence propagating their plants for another year. As the old plants go out of flower, cut the stems down to within a few inches of the soil, and take cuttings from the young growths that spring up; most varieties will produce a plentiful supply. The best soil in which to strike the cuttings is loam and well-decayed leaf soil in about equal proportions, passed through a fine sieve; a little of the rough material should be placed in the bottom of the pots over the crocks, them fill up nearly level with the rim with the fine soil, and finish off with a layer of sand. It is best to use small pots for striking the cuttings, such as 60's, putting about four cuttings round the outside. The soil is not so likely to become sour before root action takes place as when they are inserted in larger pots. After the cuttings are put in give them a gentle watering with a rosed watering pot, and stand them on a shelf in the greenhouse.

Chrysanthemums do not require a lot of heat, in fact they do not like it in any stage of their growth. Failing a suitable shelf in the greenhouse they may be very successfuly propagated in a cold frame, banking the sides round with stable litter, leaves, or ashes to exclude frost, covering the lights over at night with mats or litter, or anything that suggests itself for their protection. Allow them as much light as possible, but keep the frame close until they commence rooting, after which they should have a little ventilation in all favourable weather to keep them dwarf and strong, as they should not be drawn up weakly at any time. When they are sufficiently rooted pot-off singly into 3-in. pots, either returning them to the greenhouse shelf or cold frames. When they have commenced rooting in their new quarters, water carefully and ventilate freely on all favourable occasions. As they grow they require more breathing room, and must not be stood so close together as when in the cutting pots, as I before remarked, to keep them dwarf and sturdy. When they become nicely rooted and before they become pot-bound shift them into 6-in. pots, using coarser soil, not sifted, which should consist of fibrous loam and leaf soil, adding a little well decayed manure, which should be dry enough to rub through a sieve, and a sprinkling of sand. Pot them rather firmly, giving them good drainage, so that when you water them the superfluous moisture can escape, remembering that "Mums" do not like stagnation. After potting stand them in a pit or frame not too far from the glass, still covering them up at night to exclude frost.

As soon as the weather is favourable, say at the end of April, stand them out of doors on ashes, or, better still, boards, so as to prevent worms entering the pots, as no pot plant will thrive long that has worms in the soil. Place them in an open position where they will obtain plenty of light, with a wall or hedge to shelter them from cold winds. Attend to them carefully as regards watering, and put a small stake to each plant that you are going to let grow up, as large blooms are obtained from tall plants. Of course if you are growing them for greenhouse or conservatory decoration, and require a lot of bloom rather than large flowers, pinch them when about 6 in. high, say when in 3-in. pots; do not pinch and repot at the same time, but let them break before shifting them. In the beginning of June they should be shifted into 16-size pots, in which they are to flower, again pinching your decorative or bush plants a few weeks before potting. The soil for the final potting should be rather coarser, mixing a little soot with it, as that will tend to produce nice dark foliage, which is a great improvement to a pot-grown Mum.—*George Potts, Heronden Hall Gardens, Tenterden, Kent.*

(To be continued.)

GRAMMATOPHYLLUM SEEGERIANUM.

GRAMMATOPHYLLUM SEEGERIANUM.

THE species of Grammatophyllum are by no means numerous, and they have the reputation of being difficult to flower. The old G. multiflorum, so named by Lindley, seems to have dropped out of cultivation, and G. speciosum is certainly difficult to flower, although there seems no difficulty in growing it. Grammangis Ellisii is better known under the name of Grammatophyllum, and it flowers with tolerable freedom compared with G. speciosum, under the care and management of some cultivators; but still it must be considered rare in British gardens. Whether G. Seegerianum ever becomes widely popular or not, and it well deserves to be, it has already given evidence of being a much more easily flowered subject than G. speciosum, and is moreover beautiful and stately. The two kinds just mentioned must be considered as widely distinct types in the genus, the latter having pseudo-bulbs or more properly stems about 2 ft. or 3 ft. long, while the plant under notice has pseudo-bulbs about 6 in. or 8 in. long, bearing at the apex five to eight lanceolate leaves, 18 in. to 20 in. long and 3 in. wide. The flower scapes arise from the base of the pseudo-bulbs, and attain a length of 4 ft. or 5 ft., bearing from forty to sixty or more flowers almost along their whole length. The flowers, notwithstanding their number, are relatively of large size, and conspicuously blotched, as may be seen by reference to our illustration, made from a plant which flowered with Messrs. Seeger & Tropp, The Nurseries, Lordship Lane, East Dulwich, a short time ago. The lower flowers upon each scape have only four segments, namely the two petals, the upper sepal, and the two lateral ones united in one piece, the lip being entirely absent. The upper flowers are perfect; the ground colour of the sepals and petals is yellow, or slightly tinted with green, and blotched with a rich brownish-purple. The lip is bearded at the mouth, and yellow, beautifully striated with sepia-brown on the lateral lobes, while three purple lines run down upon the middle lobe, the lateral ones forking at their ends. Messrs. Seeger & Tropp find no difficulty in its culture, and it may be regarded as one of the most distinct novelties introduced in 1891.

JACOBINIA CARNEA.

UNDER the name of Justicia carnea, this plant is known and cultivated very widely in this country, and when seen in good condition during the winter months is decidedly of great ornamental value. To attain the degree of perfection of which the plant is capable, cuttings must be taken in early spring and placed singly in thumb pots or three together round the sides of 60-size ones. A little bottom heat will enable the cuttings to emit roots more quickly, and when fairly well rooted they should be transferred singly to 60 size pots and stood in a light position near the glass in the same house in which they were rooted. This will enable them to start into growth quickly, and when this has taken place the tips of the shoots should be pinched out to induce the plants to become bushy. If this is done two or three times while the plants are yet small the various shoots should form a good bush, if the other cultural details are well attended to. Of course when the weather becomes sufficiently warm, the plants should be transferred to a frame in which plants for winter decoration are being grown. Here they can be syringed and receive the full advantage of light, which could hardly be the case in a greenhouse where numerous flowering subjects are generally crowded together during the summer months.

No crowding should be permitted, but the plants must be freely exposed on all sides so that the shoots may be as equally developed as possible. By this means only can the best results be obtained, and a number of heads of equal size obtained upon a plant. Six or eight heads upon a plant, nine or ten months old, should not be difficult to obtain. The name J. carnea hardly expresses the colour for it is of a uniform deep pink rather than flesh-coloured. The bracts surrounding the heads give them a compact and solid appearance, and no doubt assist the durability of the flowers themselves. The ovate, acuminate leaves are of large size and of a pleasing green. On the approach of cold weather in autumn, the plants should be transferred to a stove or intermediate house till they commence to flower when they may be taken to a greenhouse or conservatory where the night temperature is kept about 50°.—*J.*

GARDENING MISCELLANY.

HYDRANGEA JAPONICA.

I CAME across a batch of the above in full flower on December 23rd, and most useful they were for decorative purposes. The plants referred to were grown by Mr. Corbett, the gardener at Fawley Court, Henley-on-Thames, and were in 5-in. pots, about a foot high, clothed with foliage to the rim, and carrying good trusses fully a foot across. They were struck in thumb pots in March, and planted out of doors about May, and lifted and potted up in September, the result being that now he has them in perfection.—*Rusticus.*

JACOBINIA COCCINEA.

THIS South American plant was introduced as early as 1770, and, notwithstanding its showy character, is comparatively little known at the present day. The leaves are large, oval, or elliptic and of a soft green. The flowers, as in other allied species, are aggregated in oblong cones with ovate bracts, and are of a brilliant scarlet, large in size and four-lobed. The upper lobe is nearly erect, and the lateral two, recurved and sometimes wavy at the edges. The plant would form a beautiful companion to J. carnea, but evidently requires a somewhat higher temperature to meet its requirements. It is figured in the *Botanical Magazine*, t. 432, under the name of Justicia carnea, but the latter genus has been much cut down by the separation of the species into other genera. Although the plant is stated to grow to a height of 5 ft. flowering specimens only 18 in. high may be seen in the stove at Kew.

ABIES BRACHYPHYLLA.

THE Japanese Conifers as a rule are of slow growth in this country, but Abies brachyphylla is certainly an exception. When once established the tree grows away vigorously at the rate of 18 in. to 2 ft. in a year, as indicated by the distance between the whorls of branches. The leaves are short, linear, suddenly narrowed to a short, blunt or acute, or even emarginate point, and of a bright green above with two silvery white lines beneath. They are rather stiff and arranged round the whole of the upper surface of the branches, which are flattened beneath. In its native country the Silver Fir attains a height of 120 ft., and in the young state here forms a pyramidal tree of close habit, with horizontal branches. Judging from its rate of growth and evident hardiness, it will prove of some service in this conntry as a timber tree. The leader is not liable to get destroyed by frost, as in the case of the European A. pectinata or common Silver Fir.

LUCULIA GRATISSIMA.

THE plant here named is still the most popular of the two known species, notwithstanding the fact that L. Pinceana has larger and even more fragrant flowers. It is often difficult to say what determines the popularity of a plant, but probably that under notice is the hardier of the two, as it comes from the temperate Himalayas, and may be considered more easy to cultivate, although that hardly seems to be the case, for L. Pinceana grows and flowers with tolerable freedom. A large amount of bloom can be obtained from L. gratissima when grown in a large pot or tub, but neither the trusses nor the individual blooms are so large as when the plant is grown in the border of a greenhouse or conservatory. Plants about 5 ft. or 6 ft. high produce a fine effect about mid-winter when covered with their soft, rose-pink, fragrant blossoms. Propagation is a matter of more difficulty than is the case with similar woody plants, but cuttings can be rooted by inserting them in sandy soil under a hand-glass about midsummer. Young plants so raised take some years before they flower freely.

HONESTY.

IN connection with this plant it is singular how widespread and ancient is the custom of using the dried seed vessels of this plant for ornamental purposes in the same way as Everlastings. Their size, peculiar shape, and silvery-grey colour give them attractions which even the cottager and amateur cannot fail to recognise and utilise for decorative purposes when fresh flowers from the open garden are an impossibility. The plant is generally recognised by gardeners as Lunaria biennis, but botanists call it L. annua. When it sows itself the seedlings stand through the winter and flower in the following summer like a true biennial; but if sown early in spring it will flower the same season in truly annual fashion. It is a native of Sweeden and other parts of Europe, from whence it was introduced to Britain in 1595.

APPLES IN TRADE.

How many persons residing in the rural districts, where during the past autumn good Apples have been selling at about 2s. 6d. per bushel of 50 lbs., must have learned with surprise that what may be regarded as average shop samples have been selling in London at from 2d. to 3d. per lb., or at from 8s. 4d. to 12s. 6d. per bushel. It is still more a matter for wonder to these persons that remembering the immense crop which we had last year, that still nearly all the best fruits on sale in the town shops should be of American production. Had we had but a poor crop of fruit it would have been easy enough to have understood this restriction to imported Apples, but with such a splendid crop it is a matter for surprise.

Is it really the fact that after all we do not, even when we have a remarkably abundant crop, yet grow half enough Apples for ordinary consumption? If that be so what an argument is found in the first place for the wide extension of Apple culture, if on the whole it be found profitable; and second, for the continued importation of American fruits, as without these it would seem we should indeed be for a large portion of the year Appleless. But there must surely be enormous quantities of Apples somewhere in the kingdom. If so, where are they stored? Can it be that no sale is found for them with Americans in the field? That ought not to be. The finest Apple ever sent here from America cannot equal our best culinary sorts for cooking, or our best desserts for eating. They do perhaps beat our fruit for colour, for beauty, and for evenness of size, because only the finest and cleanest samples are sent. The present condition of our Apple trade ought to make us ponder. It is very doubtful whether we do not plant too many early maturing sorts, glutting the market in the autumn, and having few of the better kinds to compete with the imported Apples in the winter.—*A. D.*

THE MISTLETO.

VIRGIL and Ovid mention the magical properties of this arborary parasite. In the dark ages similar beliefs in its powers prevailed; and to this day the peasants of Holstein brand the Mistleto as the "spectre's wand." This curious title arises from a legend that holding a bunch of Mistleto will not only enable a man to see ghosts, but force them to speak to him.

The custom of kissing under the Mistleto has been handed down to us by our Saxon ancestors as a relic of the age when

> Forth to the wood did merry men go
> To gather the Mistleto.

There was a tradition that the maid who was not kissed under a bough of Mistleto at Christmas would not be married during the following year. The ecclesiastical councils at one time tried to exclude it from the Christmas decorations because of its heathen origin; but this found no favour with the young people at any period. On the contrary they took good care that it should be hung, and that it should have plenty of berries, for the ceremony under it was not duly performed if a berry was not plucked off with each kiss, and, consequently, the number of berries determined the number of kisses. It did not need the Druidical use of the plant to recommend such a preventive of the state of old maidism.

> Oh! well may the Mistleto honoured be
> By the brave and the beautiful, sage and free;
> It takes not its birth from the cold earth's yoke,
> But springs from the breast of the glorious Oak.
> There planted by Heaven's own blessed breeze,
> It wreaths a fair crown for the King of the Seas;
> And the Druids' old Mistleto well, I trow,
> May beam on a monarch's or maiden's brow.

There has long been reason to believe that we do not know the true Mistleto of Celtic superstition. The Druids only venerated the Mistleto that grew on the Oak, whereas our common Mistleto (Viscus album), with its pearly berries, is found on almost all trees except the Oak. The Mistleto on the Oak is like a ghost—it vanishes into thin air when you try to grasp it. Most woodwards will tell you, and in good faith, too, that they have seen it, and, indeed, will generally mention the exact tree and place where it grows; but the result of their further examination has always been the same—for some cause or other the instance fails, and the Mistleto can never be shown on the Oak. The tree has been felled or blown down, or it may be an isolated bunch of wild Ivy or Honeysuckle, or a cluster of small Oak branches has deceived them. If, then, the Mistleto with which we are now so familiar be the same as that which the Druids venerated, and which is believed to have been the companion of the Oak, how does it happen that the one has since repudiated the other? Mr. A. B. Steele, one of the members of the Edinburgh Naturalists' Society, has recently suggested that the Beef-steak Fungus, that gross representative of Cryptogamia, was the sacred plant of the Druids. It is certainly in favour of Mr. Steele's contention that while the Mistleto does not now grow on the Oak, the Beef-steak Fungus does. But, in addition, he advances the theory that when human sacrifice was abolished, the priests of old were perforce content, in the performance of their rites, to plunge the sacrificial knife into one of these Fungi, when a red juice thereupon exuded.—*The Scotsman.*

THE BOX.

WHEN one feature of gardening consisted in the cutting of evergreen shrubs into shapes of animals, birds, &c., technically termed "topiary gardening," the Box was always in great request. The admirers of this system—which some lofty minds have termed "childishness"—are still to be met with, and it will be remembered by those who joined the outing of the National Chrysanthemum Society, in July last, to Ascott Gardens, Leighton Buzzard, the Buckinghamshire residence of Leopold de Rothschild, Esq., the examples of topiary gardening, which seemed to admirably harmonize with the house and surroundings, were objects of great interest and amusements. Sometimes it happens that examples of topiary gardening do not harmonize so well as one could desire with their surroundings; but at Ascott they fall into the general plan of the pleasure grounds naturally and appropriately. Yew and Box are most generally employed for the purpose, and both will bear a great amount of close clipping.

The Box tree should be generally planted in ornamental and other plantations as an evergreen, as it possesses several advantages, among them its leaves are not eaten by animals, the foliage is dense, and so makes a covert for game, and it is thoroughly hardy. Our common Box is Buxus sempervirens, a native of both Europe and Asia, but we claim it as a truly English plant. It is largely grown in Japan, and probably from time immemorial. We were told by Thunberg that it is cultivated there by the inhabitants, who make combs of it, which, when ornamented with red varnish, the women wear in their hair. The ancients turned the shrub to the same account. That it is a tree of great antiquity is shown from the fact that it was specially consecrated by the Greeks to Pluto, the protector of all evergreen trees, as being symbolical of the life which continues through the winter in the infernal regions, and in the other world. The Box is referred to by the prophet Isaiah in his description of the glory of the latter days,—"The glory of Lebanon shall come unto thee, the Fir tree, the Pine tree, and the Box tree together, to beautify the place of my sanctuary." It is thought also to be the Ashur-wood of Scripture, and to be referred to by the prophet Ezekiel when, in describing the splendour of Tyre, he alludes to the benches of the rowers as made of Ashur-wood inlaid with ivory. That the ancients were accustomed to inlay Box-wood with ivory we know from Virgil and other writers who allude to the practice.

Notwithstanding the Box is regarded as an English tree, it would appear that the only place where it is really indigenous is Box Hill, in Surrey. The common name Box comes from the Anglo-Saxon *bux*, in the Latin *buxus*, a pyx or turned box made of wood. It is said the fine Box trees on Box Hill were planted by a former Earl of Arundel, but not a single plant is to be seen in the adjoining fields. It is said that one reason why Box is not more plentiful in woods is because it must be planted by the hand

of man, as the *seeds* are not eaten and disseminated by birds. Old Gerarde says, "It groweth on sandy wastes and barren hills in England;" but he does not name the sandy wastes and barren hills where he found it growing otherwise than planted. Evelyn, the great aboriculturist of his day, appears to be also in error when he states, "These trees rise naturally at Boxley, in Kent, in abundance."

As commonly seen in this country, Box is either a shrub 8 ft. or 10 ft. high, or artificially dwarfed and only a few inches high, the leaves of a shining deep green colour and of a thick, leathery texture, of slow growth and great longevity; it will bear clipping into almost any shape. There are several varieties of the Box, some with specific names, but they are believed to have had a common origin. We also grow an imported species—B. balearica, a native of Minorca, evergreen, growing in this country from 18 ft. to 20 ft., but in its native habitat said to reach a height of 80 ft.

The wood of the Box tree has long been celebrated for its hardness and closeness of grain, great weight, light colour, and as being susceptible of a fine polish; these are the qualities which render it so valuable to the wood-engraver, the turner, the mathematical and musical instrument makers, and others. It is said the finest quality of wood, and that best suited to the engraver, comes from Odessa, Constantinople and Smyrna, being grown in the vicinity of the Black Sea. It comes over in logs about 4 ft. long, and seldom more than 8 in. or 10 in. in diameter. Like the Holly, the wood of the Box is very retentive of sap, and warps when not properly dried, though when sufficiently seasoned it stands well.

Boughs of Box were used formerly for decorative purposes, instead of the Willow, on Palm Sunday. According to Herrick, it was once a time-honoured custom on Candlemas Day to replace the Christmas Evergreen with sprigs of Box, which were kept up until Easter Eve, when they gave place to Yew.

"Down with the Rosemary and Bays,
Down with the Mistleto;
Instead of Holly now upraise
The greener Box for show."

Box boughs were also in olden times regularly gathered at Whitsuntide for decking the large open fire-places then in vogue.—*R. D.*

SOMETHING ABOUT TEA.

Tea: Its cultivation and manufacture, with some account of a planter's life, was the subject of a recent lecture given by Mr. Basil Holmes (who has had ten years' experience in Assam) at a meeting of the Ealing Microscopical and Natural History Society. At the outset Mr. Holmes explained that Assam was not, as some people supposed, somewhere in China, but was on the north-eastern border of Bengal, and formed the frontier province of our Indian Empire. Having described the province, and explained that it grew nearly every article required for food, he pointed out that the natives were neither industrious nor energetic, and as a consequence labour had to be imported from Bengal. Tea was discovered growing wild in 1823 by Robert Bruce, then in 1834 the Governor-General appointed a committee to promote its development, and in 1838 Assam Tea was first sold in England. In 1840 the cultivation passed from the hands of the Government into those of private companies. For a time jobbery and bubble companies prevailed, and in 1866 a crash resulted. About 1869, however, prospects began to brighten, and tea cultivation has since been steadily carried on.

In its cultivation the first point to be considered was the suitability of the land, care being taken that, though there might be plenty of moisture, the tea should not actually stand in water. The land was very largely jungle, and the first business would be to clear it. There were different kinds of jungle, one consisting of dense forests with thick undergrowth, another of bamboos exclusively, and a third of high grass. The land containing the first description was best, but was most difficult to clear. When cleared the land had to be turned over with a hoe, and the roots of the trees turned up and burnt. The land was then staked out in regular lines with stakes two feet long, to show where the seed was to be sown. The seed matured on the Tea bushes in November and December. The skin was split off, leaving the black seed, which was then removed to germinating beds, and in two or three weeks began to germinate It was then taken out of the beds, and three seeds planted at each stake. If left too long in the germinating beds it would develop a root, the slightest injury to which would prevent the seed developing. Formerly seed was imported from China, but the Assam seed was found to produce a far better bush as regarded the quantity of the leaf and the quality of tea. The plant was not in full bearing until the sixth year. The work of the Tea planter was divided into two parts—that of the dry and that of the wet season.

When the bush began to yield its leaf, early in December, the first thing to attend to was pruning. If left, the plant would grow to a height of 30 ft., but would not yield any leaf to speak of. It was therefore necessary to prune it, leaving it about 4 ft. high, the central stem being cut and the lateral branches encouraged. Every year one portion of the Tea ground would be pruned heavily and the other lightly. Building, road-making, bridge-making, and other work of that kind were carried on during the wet season, everything being required to be finished by the end of February or the beginning of March for the manufacturing of the Tea. The shoots at that time would show six or seven leaves on each, the top leaves not opening out, but being rolled up. Women were employed to pick off this tip, as it was called, and also one leaf and a half or two leaves and a half, and deposit them in baskets. Only the top leaves made Tea. At the axis of each leaf was a little bud, and by plucking the half leaf a stimulus was given to these, and they became shoots in their turn. The bushes were ready for a second plucking in three or four weeks, and pluckings followed each other in rapid succession till September or October, the Tea plucked in summer or autumn being better in quality than that gathered in the spring. After being plucked the leaves were spread out thinly on floors of matting in the leaf house, and by next morning would be limp, soft, and velvety. They were then rolled up by a rolling machine, and when sufficiently rolled came out a bright green colour. They were next spread out to ferment, and the bright green colour gave place to a pink or coppery hue. The next process was that of drying, the leaves being turned over and over in the drying machine till they became quite crisp, dry, and black.

After being dried, the leaves were sorted by means of sieves with different sized meshes, until only the coarser leaves were left. The Tea was then packed and sent to England. The quantity of Tea obtained from an acre would depend upon whether it was grown from China or Assam seed. In some gardens 480lbs. would be obtained; in others there had been as much as 800lbs. As to the length of time during which bushes existed, practically new bushes were made every year by the heavy pruning. The work, Mr. Holmes explained, was done by coolies, who were brought from Bengal under the provisions of an Immigration Act, under Government supervision, and were engaged under an agreement for five years—men receiving five rupees and women four rupees per month. The estates were regularly inspected by Government officials, the managers being required to prepare monthly returns for the Government, showing the number of hands employed and any changes occurring in the staff, and the number of deaths. The manager, he explained, was compelled to interest himself in all the concerns of the coolies, and to act with self-reliance on all occasions.

CHRYSANTHEMUM NOTES.

What is a Reflexed Chrysanthemum?

A question of some interest to Chrysanthemum exhibitors was submitted for the opinion of the General Committee of the National Chrysanthemum Society, at a meeting of that body held on December 21st. It appeared that the Batley Chrysanthemum Society at its last exhibition offered prizes in a class for "six reflexed Chrysanthemums," and the exhibitor who was awarded the first prize was subsequently disqualified on the ground that he had a bloom of Amy Furze in his stand. The question then arose, and this is the point which was submitted to the committee, was the disqualification justifiable? It was argued that many growers and judges considered that Amy Furze was a true "reflexed" variety, notwithstanding the ruling of the catalogue committee of the N. C. S., who placed it among the "Japanese reflexed." It was also urged that being a reflexed Chrysanthemum, admitting that it was a Japanese, it was entitled to be shown in a class for reflexed blooms, if Japanese varieties were not expressly excluded. On the other hand it was pointed out—(1), that the "reflexed" type was recognised in this country long before the Japanese varieties were introduced; (2), that the official catalogue recognised the "reflexed" and "Japanese reflexed" as separate and distinct sections; and therefore, (3), as Amy Furze is classed in the catalogues as a "Japanese reflexed" it cannot properly be shown as a "reflexed" at the N. C. S. shows, or at the exhibitions of affiliated societies. Batley being an affiliated society, the committee almost unanimously decided that the exhibitor was justly disqualified.

VILLA GARDENING AND MANAGEMENT OF CONSERVATORY.*

It has been truly said that gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man. This much being said of gardening generally what an opportunity does the villa garden afford for the enjoyment of a recreation which combines pleasure of the highest order, with profit, instruction, and amusement.

It is admitted by eminent writers and close observers that the study and cultivation of flowers have a most refining and elevating influence on the mind; it is also a well-known fact that those engaged in agricultural and horticultural pursuits are as a rule a very healthy class. To the busy city man, shut up in close offices in the stifling, impure atmosphere of our large cities for many hours in the day, half an hour spent in the garden affords relaxation to the mind, and refreshes and invigorates the body. It is not a useless toil, or labour in vain; mother earth is lavish, nowhere stingy, and will, generally speaking, abundantly yield her treasures in return for a very small outlay; and what greater reward does the lover of the garden look for, than after time and labour expended to see his favourites yield their lovely blossoms? In this way it is a profitable recreation, and certainly instructive. As an amusement none is purer, and it is one which old and young alike can enjoy. That there is an increasing taste in this direction abundant proof is afforded in many ways; the great interest taken in our horticultural shows by amateurs, the number of excellent periodicals devoted to the interests of amateur gardeners and last, but not least, by the appearance of the villa gardens.

I think many valuable lessons might be learnt by the fortunate possessor of country villa gardens. The suburban gardens, which, although but tiny patches of ground and of a very indifferent character, for plant growing (thanks to the builder) certainly are very attractive, and if such pleasing results can be obtained notwithstanding the discouraging and depressing influence of impure atmosphere and fogs which produce such disastrous results and of which no accurate conception can be formed by those who have not experienced them, how much more might be accomplished with the advantages of pure air and bright sunshine? It is an undeniable fact, made more apparent after our recent experience of more than a week of, I think, the blackest and densest fog ever known, that gardening in the immediate vicinity of our large cities requires a greater amount of skill, forethought, observation and attention on the part of the gardener than in the country.

As the limits of this paper will not permit my entering into the culture of fruit and vegetables which, not many except country villa gardens can afford room for, I shall confine my remarks chiefly to suburban villa gardening and the culture of flowers. I have said that many lessons might be taken from the suburban villa gardens by those who can enjoy the blessings of country life, I mean lessons of patience and perseverance under difficulties, for much patience and perseverance are needed and disappointments are frequent, owing to circumstances over which the suburban cultivator has no control. I think, too, a few lessons might be taken from Nature (the best of teachers) by those whose

* The first prize essay on "Villa Gardening," written by Mr. A. Pentney, foreman at Hanger Hill House, Ealing, under the auspices of the Ealing and District Gardeners' Mutual Improvement Society, the prizes being offered by the late Mr. J. Thornhill Harrison.

object it is to adorn and beautify the home surroundings by the use of Nature's treasures. Gay as many of the villa gardens are, and pleasing, no doubt, to many eyes something might be done to make them more natural. How often in Nature do we see masses of vivid coloured flowers crowded together as level as the dinner table, in exact proportion of length and breadth, or in accurate curves? Nowhere can any studied design or formality, such unnatural massing and crippling of plants be seen. Look at the hedgerow gay with the Honeysuckle or Wild Clematis, the beautiful Heather on the common, forming a carpet for the blazing bush of yellow Furze; how easy and graceful. What a charm it has beneath the lovely green Bracken. Again look at the meadow in spring with the golden Buttercups and the Daisy; see the graceful Stichwort or the Sweet Woodruff at the foot of the bank by the roadside in graceful profusion, yet no pinching is needed or given, it grows naturally, hence its charm. A far greater charm is given to our gardens, and unquestionably, it is more pleasant to the lover of a garden to see his favourites growing naturally, displaying each their own peculiar characteristics, than to see them dwarfed and stunted to obtain uniformity of height or to keep them in certain limits. Every class has its own peculiar attraction. no two are exactly alike, and it is this diversity of form, colour, habit, and cultural requirements which gives encouragement and interest to the ardent cultivator.

It must be admitted that the too limited space allotted to most of the suburban villas prevents much being done, still, I think, a few plants grown naturally will give far more pleasure, and much better effect will be obtained from them, than from a number crowded together to form certain geometrical designs, and it is more profitable. If a few flowers are required for the rooms there can be no question about the advantage gained, for instance, from a bed of Mignonette, Nemophila insignis, or of Pansies, or Stocks, far more useful flowers can be gathered than from beds of Pelargoniums, Lobelia, &c. From a few herbaceous border plants, as for instance Aquilegias, Gaillardias, Doronicums, Wallflowers, Alstrœmerias, Heliantbus, Pyrethrum, &c., a constant supply can be obtained for a greater part of the year.

It seems to me also, that the practice so common, of subjecting the trees in villa gardens to such severe pruning, whether in order to keep them to a certain height, or to form round compact heads is an unnatural and objectionable one. If a screen is required next the road, might not some suitable shrub be employed. The Golden Privet, Arbor-Vitæ, Cupressus Lawsoniana, Laurels, Rhododendrons, Berberis, Variegated Hollies and many others can be used and kept to a required height without such unnatural and severe pruning. A few more flowering shrubs would greatly add to the attractiveness of the villa garden, and could displace some of the Conifers which are anything but an ornament, and which it seems useless to plant as only a very few can withstand the effects of the impure atmosphere. I have seen a pretty effect produced in spring by a bush of yellow Broom amongst the shrubs; the Pyrus japonica also forms a good bush; the Cherry Laurel and some of the Sumachs are very pretty shrubs; also Weigelas, Cotoneasters Kerria japonica, Hypericum glandulosum, and H. calycinum, the latter a dwarf, free-flowering plant, will thrive under taller shrubs. Berberis Darwinii, Prunus Pissardi, hardy Azaleas, Daphne Mezereum, and many others might be mentioned; the leaves of many of these assume lovely tints in autumn; the berries of some are very attractive during the dull months. The lovely Clematis montana, with its star-like flowers, which is commonly seen clothing the walls of houses in some parts of Surrey, deserves more attention as a climber as well as C. Jackmanni and C. Flammula. I have seen the first-named thriving in suburban districts. The beautiful Wistaria sinensis is not often seen. Magnolia grandiflora, owing to its stout leathery leaves resisting the effect of fog, is a very suitable plant for a wall, and when in a suitable aspect produces its magnificent white flowers. Escallonia macrantha and E. floribunda are very pretty. The variegated Honeysuckle forms a capital screen, and is invaluable for cutting from. These, in addition to those generally seen, viz., Cratægus Pyracantha, Passiflora cœrulea, Cotoneaster microphylla, etc., form a good selection.

(To be continued.)

ORCHID NOTES AND GLEANINGS.

Calanthes and the Fog.

THE mild, open autumn, with the absence of fog until the recent one, enabled the Calanthes in London and the suburbs to make a fine display, raising them to their former status as useful winter-flowering subjects. The dense, smoky fog which prevailed during the greater part of last week, rendering midday as dark as midnight, has worked havoc with the open blossoms, shrivelling them up, and it is more than probable that the unopened buds will never expand. As chance would have it, flowering Orchids are comparatively scarce just now, and many of them having been cut before the fog came on, the damage is not so extensive as it would otherwise have been. Orchid growers in the metropolis and vicinity will, however, wish that such visitations as that just prior to Christmas may be few and far between.

An interesting little Orchid.

THE species of Stelis like those of the allied Pleurothallis and Masdevallia are all very interesting in their way, notwithstanding the small size of the flowers in many cases. Some, however, stand out pre-eminently by their distinctness from the rest by some peculiarity of form or structure. We saw an unnamed species of Stelis recently, in the nursery of Messrs. J. Veitch & Sons, Chelsea. The lanceolate stalked leaves are similar to those of a Masdevallia. The small flowers are triangular, with three purple segments edged with white and covered with long, white, woolly hairs. The latter peculiarity renders the flowers very interesting, and though small in size, they appeal to all lovers of Orchids who are not too thoroughly engrossed with Cattleyas, Odontoglossums, Dendrobiums, Cypripediums, and other large and showy subjects of that nature.

Cypripedium Niobe.

EVERY Orchid grower admits the beauty of C. Fairieanum, so must they admit the beauty of the several hybrids which have arisen from it by crossing with other species. The plant under notice was derived from C. Spicerianum crossed with the pollen of C. Fairieanum, and in looking at C. Niobe it is impossible not to observe the influence of the pollen parent. The upper sepal is white with a small green portion at the base, and suffused and veined with purple upwards, the midrib being well marked, thus showing the influence of C. Spicerianum. The petals are strongly deflexed, revolute at the tips, and wavy along the upper edge, and strongly ciliated on both edges; the upper longitudinal half is a greenish-yellow with purple veins, while the lower and opposite half is creamy yellow, lined with purple dots. In all this the influence of C. Fairieanum is unmistakeable. The lip is brown with deeper veins. The dwarf and neat habit of the plant, as well as the beauty of the flowers, are all very acceptable at this season of the year. We noted it in the nursery of Messrs. J. Veitch & Sons, Chelsea.

Vanda lamellata Boxalli.

THE flowers of this Vanda are relatively small compared with those of V. suavis or V. tricolor, but they are much more numerous, and, therefore, pretty in the aggregate. The variety has paler flowers than the type, but the different colours are brought out more clearly. The sepals are pale, creamy yellow, with the contiguous sides of the lateral ones of a reddish brown tinted with purple. The petals are similar in colour to that of the upper sepal. The lip is purple, with two prominent lamellæ or plates upon it, and some purple lines running back to the mouth of the spur. The racemes, which arise in the axils of the leaves, bear from twelve to twenty flowers. The usual flowering period is during the two last months of the year, and the plant is valuable on that account.

Calanthes at Greenlands.

AMONGST many first-rate examples of cultivation to be seen at Greenlands, Henley-on-Thames, at the present time, are some fine Calanthes, such as Veitchii, occulata lutea, and occulata rubra. Two or three bulbs are grown in small pots, and they have as many spikes, many of which carry three dozen expanded flowers. A house of Primulas of all the leading sorts, and another of Cyclamens, are seen at their best, many of the latter carrying two and three dozen fine flowers. The strain is one of the best, and contains a good many of the Gigantea type, which are very conspicuous.—*Rusticus.*

Obituary.

DR. WILLIAM ROBERT WOODMAN.

"I AM very sorry to hear of the death of my old friend Dr. Woodman." This brief but pathetic message came to me from Mr. Harry J. Veitch, and will be re-echoed throughout the length and breadth of the gardening world. The worthy doctor passed peacefully away at Devon House, Brondesbury, on Sunday, December 20th, 1891, the day following his sixty-second birthday, and in spite of the dense fog we laid him tenderly in his grave at Old Willesden Churchyard, on Christmas eve. Dr. William Robert Woodman was long a prominent figure in gardening, and in freemasonry was a past grand sword-bearer, and secretary-general to the fraternity of the Rose Croix. In 1871 he succeeded his enthusiastic uncle the late Mr. R. T. Pince, of the Exeter Nursery, and carried on, under the familiar title of Lucombe, Pince & Co., that famous old concern with much spirit and enterprise until 1883, when he relinquished the business in favour of his late tenant. His long connection with the Exeter Nursery naturally brought him in contact with most of the noblemen and gentlemen of the western counties as well as with their stewards and gardeners, and many who remember his extraordinary floral displays at the more important flower shows, will recall the gentle bearing and graceful manners of this kind-hearted gentleman. To record all his victories would fill a whole page, for he was first prize winner in nearly every competition wherever he went, and his magnificent collection of specimen exhibition plants was at that time unquestionably the finest in existence. During 1873 to 1877 he won in open competition upwards of one hundred first prizes and silver cups, and for some years "swept the decks" in the open classes at Exeter and Taunton. After 1877 he did not again compete for prizes, but still continued to the last as an honorary exhibitor—his extensive and artistic displays being generally the chief feature of the flower shows be supported; moreover, his own annual exhibitions of Hyacinths and spring flowers at the Exeter Nursery have given delight to thousands, so it can well be said that few men have done more then the late Dr. Woodman for the encouragement of high class gardening. He spent his time, his profound learning, and his money for the benefit of others, and in heroic attempts to resuscitate an unwieldy business, which had long before passed its meridian.

Like his uncle, Mr. Pince, he was a leading member of the St. Thomas' Local Board at Exeter, and was the largest ratepayer and employer of labour in his parish; he was also chairman of the School Board there, and was always first and foremost in every good work. He was kind to the poor and needy, and never turned a deaf ear to the cry of distress; in fact, he was often too generous, and I remember one instance in particular where a working man—a widower with young children—in an adjoining parish and comparatively a stranger, was in distress for debt, and Dr. Woodman bearing of it, quietly gave me his purse with full instructions to pay the bailiff out; and it is only a short time ago that he most kindly acted as Hon. Treasurer for the Medland Compensation Fund. Having been a constant visitor at his house, and always received a cordial welcome, I have written this simple notice as a humble tribute to the memory of an indulgent master and a true friend, and everyone who knew him will for certain join me in sincere condolence for his sorrowing widow and relations.—*W. Napper, Chelsea, Christmas Day*, 1891.

WITH the close of the year there also passed away another of our horticultural worthies in the person of Mr. JAMES WILLIAMS, of Hoddesden, the father of the late much-respected Mr. B. S. Williams, of Holloway. Mr. Williams, who was born in January 1797, died on the 24th of December. He entered the service of the late Mr. John Warner, at the Woodlands, Hoddesden, when about twenty years of age, and remained in the service of that family as gardener until a few years ago, when he retired through the natural failure of his physical powers. His mental faculties he retained to the last, and only a week or two before his death was able to write a long letter to his grandson, Mr. Henry Williams.

WHAT TO DO IN THE GARDEN.

Temperature in the plant houses.—The open and exceptionally mild weather for November and the early part of December gave place last week to hard frost and dense fogs. It will be well therefore not to attempt to maintain the standard temperatures in the houses, but to allow a drop of 2° or 3° on cold nights. Hard firing, while prejudicial to plant life by the dry atmosphere it creates, also encourages the development of insect pests, adding ten fold to the evil.

Watering Plants.—This will have to be done with great caution during the prevalence of severe weather, more especially if fog is also an accompaniment. All excess of moisture is to be avoided whether in the plant stove or in the greenhouse. The best time to do it is in the early part of the day as soon as the light is sufficiently good to show which plants are dry and which are not. In smoky and foggy districts it will often be difficult by mid-day to to see the soil, and it will often be necessary to have recourse to ringing the pots. Recently potted plants will require less watering than pot-bound plants This, more especially in the case of Heaths and hard-wooded plants of the New-Holland types, must be. carefully attended to. All superfluous moisture on he floor should be mopped up immediately the operation is over.

Calceolarias and Cinerarias.—Neither of these classes of plants require a high temperature at any time and should be kept as cool as possible consistent with their safety. Cinerarias however which are coming into bloom will be all the better for a night temperature of 48° to 50°. Plants intended for late flowering should be kept in the cool end of the greenhouse, and if possible on a cool, moist bed of ashes. No frost should be permitted in the house where Cinerarias are kept, otherwise the leaves will curl at the edges, and get more or less completely destroyed beyond recovery. Calceolarias, on the other hand, may recover after being considerably affected by frost, if the house happens to get low over night. The plants should however be kept from frost if possible on a cool bed of ashes.

Vines.—High temperatures must be avoided even during the day when fog prevails. Provided we have a clear atmosphere the temperature should be raised 10° in the early part of the day by means of fire heat. When the bunches are showing well the night temperature should range from 57° to 60°, according to the state of the weather. On frosty or windy nights the lower figure will be the best, in order to prevent as much as possible an arid atmosphere. The ventilators, even on bright days, should be closed early to economise fire heat. By damping down abundantly no harm will accrue, even if the temperature rises to 80° with sunshine.

Peaches.—If any greenfly has made its appearance in the early Peach house, fumigation on one or two successive nights should be resorted to in order to check the pest, as it must not be done while the trees are in bloom, which the earliest ones will soon be, even if not in bloom already, owing to the recent mild weather. In case the trees are too far advanced any black fly that may have made its appearance should be brushed off with a small brush, just kept moistened with paraffin, taking care not to touch the flower buds or young leaves with the oil.

Manuring Rhubarb.—In light soils more especially, a considerable amount of manuring must be given if good results are expected. With the advent of frosty weather, the manure can be wheeled on the ground, and where large breadths are grown the cart may be drawn between the rows without doing any damage. Leave the manure in convenient heaps till the frost disappears, and then have it spread over the whole surface, digging it in. A mulching of manure over the crowns may be given in spring, just as the buds commence to move.

Kitchen Garden.—The wheeling of manure on to the quarters should be prosecuted with vigour during frosty weather, because it is a saving to the walks, which do not get cut up, neither does the soil get conveyed upon them. It had better be left in convenient heaps till the soil gets thawed, which it will do all the sooner if nothing is spread upon it during frosty weather.

Strawberries in Pots.—A batch may now be put into heat if a very early supply of ripe fruit is required. When started early a number of the buds are sure to go blind, and this will have to be kept in view, and a larger quantity employed accordingly.

FLOWER SHOW FIXTURES, 1892.

JANUARY.

12.—Royal Horticultural Society: Committee Meetings at Drill Hall.

FEBRUARY.

9.—Royal Horticultural Society: Committee Meetings at Drill Hall. Annual Meeting at 3 p.m.

MARCH.

8.—Royal Horticultural Society: Committee Meetings at Drill Hall.
15, 16.—Flower Show in Manchester Town Hall.
22.—Royal Horticultural Society: Committee Meetings at Drill Hall.
23.—Royal Botanic Society: First Spring Show.
29, 30.—Brighton and Sussex Horticultural Society.

APRIL.

5, 6.—Brighton "New" Horticultural Society's Show.
6, 7.—Royal Caledonian Horticultural Society.
12.—Royal Horticultural Society: Committee Meetings at Drill Hall.
19.—National Auricula and Primula Society, at the Drill Hall.
26.—Flower Show in the Town Hall, Manchester.
27.—Royal Botanic Society: Second Spring Show.

MAY.

3.—Royal Horticultural Society: Committee Meetings at Drill Hall.
6, 7.—Scottish Auricula and Primula Society's Show at Dundee.
17.—Royal Horticultural Society: Committee Meetings at Drill Hall.
18.—Royal Botanic Society: Summer Show.
25, 26.—Royal Horticultural Society's Show in the Temple Gardens.

JUNE.

3.—Special exhibition of Orchids, etc., at Old Trafford, Manchester.
4.—Orchid Conference at Old Trafford.
7.—Royal Horticultural Society: Committee Meetings at Drill Hall.
21.—Royal Horticultural Society: Committee Meetings at Drill Hall.
22.—Royal Botanic Society's Floral Fête.
29, 39.—Brighton and Sussex Horticultural Society.

JULY.

2.—National Rose Show at the Crystal Palace.
6.—Royal Botanic Society's Evening Fête.
7.—Woodbridge Horticultural Society.
12.—Royal Horticultural Society: Committee Meetings at Drill Hall.
13, 14.—Royal Caledonian Horticultural Society.
14.—National Rose Show at Chester.
16.—Rose Show at Manchester.
26.—Royal Horticultural Society: Committee Meetings at Drill Hall, National Carnation and Picotee Show.
30, 31.—Brighton "new" Horticultural Society.

AUGUST.

9.—Royal Horticultural Society: Committee Meetings at Drill Hall.
23, 24.—Royal Horticultural Society: Begonia Conference, etc., at Chiswick.
24, 25.—Brighton and Sussex Horticultural Society.

SEPTEMBER.

6.—Royal Horticultural Society: Committee Meetings at Drill Hall.
7, 8.—Royal Caledonian Horticultural Society.
20.—Royal Horticultural Society: Committee Meetings at Drill Hall.

OCTOBER.

4.—Royal Horticultural Society: Committee Meetings at Drill Hall.
18.—Royal Horticultural Society: Committee Meetings at Drill Hall.
25, 26.—Brighton and Sussex Horticultural Society.

NOVEMBER.

1.—Royal Horticultural Society: Committee Meetings at Drill Hall.
2, 3.—Croydon Chrysanthemum Society.
2, 3, 4.—Portsmouth Chrysanthemum Society.
8, 9.—Kingston and Surbiton Chrysanthemum Society.
8, 9, 10.—National Chrysanthemum Society at the Royal Aquarium.
9, 10.—Birmingham Chrysanthemum Show.
15.—Royal Horticultural Society: Committee Meetings at Drill Hall.
18, 19.—Chorley Chrysanthemum Society.

DECEMBER.

13.—Royal Horticultural Society: Committee Meetings at Drill Hall.

[The Editor will be greatly obliged if secretaries of societies will communicate to him the dates of their exhibitions as soon as fixed.]

QUESTIONS AND ANSWERS.

**** Correspondents are requested, in order to avoid delay, to address all communications to "THE EDITOR" or "THE PUBLISHER," and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa London."*

VINE DRESSING.—*Omega*: Gishurst Compound, sold by all seedsmen and sundriesmen, will perhaps suit you best.

WATERPROOFING CALICO.—*Omega*: Get 3 pints of pale old linseed oil, 1 oz. of sugar of lead, and 4 ozs. of white resin. Grind the sugar of lead with a little of the oil, then add the remainder and the resin. Boil in an iron pot over a gentle fire, well mixing the whole together: stretch the calico on a frame somewhat loosely, and apply the mixture while hot with a brush. Give it a second dressing if the first is not quite satisfactory.

PROPAGATING WISTARIA.—*H. Wilcox*: You may retain some of the young shoots you mention with the view of rooting them by layering in spring. The operation of layering need not be performed at present as the cut made now would partly get healed over or dried up, and therefore inert before summer. The cut might be made and the shoots layered just when growth is commencing in spring. A more certain plan consists in layering the growing shoots during the summer months, and keeping the soil moist over the bent portion if not naturally so. If well rooted the layers may be severed from the mother plant in autumn and spring.

MOSS ON LAWN.—*J. K.*: See to the drainage of the ground; it is probably in a wet condition. Also give a top dressing of rich soil taken from underneath the potting benches, and sifted to clear it of rough material. Mix some soot and lime with this, and spread it over the Grass equally. If near the house and it appears unsightly, scatter the material about with a rough birch broom, and rake off any moss or rough material which may have been disturbed in the operation. During summer a dressing of guano or some of the compounds containing nitrogen might be given with advantage to the Grass and the detriment of the moss.

GROUND INFESTED WITH WIREWORM.—*Carnation*: Digging and exposing the larvæ to birds during the winter months would get rid of many of them. A good coating of gas-lime, if it does not kill, will help to drive them away. This may be done at any time in open weather provided nothing is planted in the ground for a month or two afterwards, till the changes that occur in the gas-lime renders it harmless to plant life. If the soil is good to a considerable depth, trenching might be tried, turning down the top spit containing the wire-worms to the bottom. While the Carnations are on the ground in summer they might be watered around the roots with a weak solution of paraffin and water which will serve to keep the creatures at bay. It would be advisable to plant on a fresh piece of land for a year or two.

GUANO FOR FLOWERING PLANTS.—*H. J. B.*: It very much depends upon the strength, or in other words the quality, of the guano as to how much might be applied with safety. If the manure is a good sample about one ounce to two gallons of water will be strong enough. Gross feeders will stand more than the weaker feeders; but a safe plan is to err on the side of weakness with the manure, giving it often in preference to few and strong doses, because the roots cannot take it up when it becomes concentrated. A good plan is to give a watering with soot water alternately with the guano.

COMMUNICATIONS RECEIVED.—F. F. R.—B. F.—H. W.—Experience—D. & R.—T. M.—W. N.—W. F.—A. B. (next week)—D. M.

TRADE CATALOGUES RECEIVED.

E. WEBB & SONS, Wordesley, Stourbridge.—Spring Catalogue of Flower and Vegetable Seeds.

DICKSON & ROBINSON, 12, Old Millgate, Manchester.—Vegetable and Flower Seeds.

DICKSON, BROWN & TAIT, 43, 45, Corporation Street, Manchester.— Vegetable and Flower Seeds, Garden Requisites, &c.

DOBBIE & Co., Rothesay, N.B.—Catalogue o Seeds and Competitor's Guide.

J. CHEAL & SONS, Crawley, Sussex.—Seed List for 1892.

CHARLES SHARPE & Co., Sleaford.—Flower, Vegetable, and Farm Seeds.

WILLIAM CUTBUSH & SON, Highgate, N.—Flower, Vegetable and Farm Seeds, &c.

LITTLE & BALLANTYNE, Carlisle.—Garden and Farm Seeds, Sundries, &c.

C. FIDLER, Reading.—Vegetable Seeds and Seed Potatos.

THOMAS METHVEN & SONS, 15, Prince's Street, Edinburgh.—Vegetable and Flower Seeds, Implements, &c.

LONDON SEED TRADE.

December 29th, 1891.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, E.C., report that owing to holidays no business was transacted in Clover Seeds, and that values all round remain steady.

COVENT GARDEN MARKET.

December 30th.

FRUIT.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.		s. d.	s. d.
Apples... per ½-sieve	1 0	5 0	Grapes .....per lb.	0 6	2 6
Canadian and Nova Scotian Apples per barrel	12 0	18 0	Pine apples. —St. Michael's, each	2 6	6 0
Cobbs... per 100 lbs.	30 0	35 0	Peaches .....per doz.	0 0	0 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
ArtichokesGlobe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Beans, French, perlb.	0 9		Lettuces ...per dozen	1 0	1 6
Beet..... per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages ... per doz.	1 6	2 6	Onions.....per bunch	0 4	0 6
Carrots ... per bunch	0 6		Parsley ... per bunch	0 6	
Cauliflowers, English, per doz.	3 0	6 0	Radishes...per dozen	1 6	
Celery.....per bundle	2 6		Smallsalading.punnet	0 4	
Cucumbers .....each	0 6	0 9	Seakale ...per basket	2 0	3 0
Endive, French, doz.	2 6	3 0	Spinach, per strike ...	1 6	
Herbs .....per bunch	0 2	0 6	Tomatos..... per lb.	0 9	1 3
			Turnips ..... per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Bouvardias...per doz.	8 0	12 0	Ferns, invar., per doz.	4 0	18 0
Chrysanthemums, doz	6 0	12 0	Foliage Plants, doz.	12 0	60 0
— large .....per doz.	12 0	24 0	Marguerites, per doz.	6 0	12 0
Cyperus .....per doz.	4 0	12 0	Palms in variety, each	2 6	21 0
Dracæna term., doz.	24 0	36 0	—scarlet .....per doz.	4 0	6 0
Dracænaviridis, doz.	9 0	18 0	Poinsettia, ...per doz.	9 0	18 0
Epipbyllum per doz.	9 0	12 0	Roman Hyacinths, per doz.	9 0	12 0
Erica Hymalis, per	12 0	18 0	Solanums...per doz.	9 0	12 0
— gracilis, per doz.	9 0	12 0	Tulips.....per doz.	8 0	9 0
Evergreens, invar. doz	6 0	24 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Acacia or Mimosa French per bunch	1 0	1 6	Mignonette... 12 bun.	1 6	3 0
Arum Lilies, 12 blms.	6 0	9 0	Narciss, Paper White doz. sprays	1 0	1 6
Bouvardias, per bun.	0 6	1 0	Narciss, French, doz. bunches	4 0	8 0
Carnations, 12 blooms	2 0	3 0	Parme Violets, French, per bun.	3 6	4 0
Chrysanthemums, doz. blooms	0 9	2 0	Dark " " "	2 0	2 6
Chrysanthemums, doz. bunches	4 0	12 0	Pelargoniums, 12 sps.	1 0	1 6
Eucharis ...per doz.	4 0	8 0	— scarlet.....12 bchs.	5 0	9 0
Gardenias 12 blooms	3 0	6 0	Poinsettia, doz. blms.	4 0	9 0
Heliotropes, 12 sprays	0 3	0 6	Primula, double, bun.	0 9	1 6
Hyacinths, Roman, doz. sprays	6	1 0	Pyrethrum, doz. bchs.	2 0	4 0
Lapageria, 12 blooms	1 0	3 0	Roses, yellow, dozen	3 0	6 0
Lilac, French, per bunch	6 0	7 0	— Red..... doz. blms.	1 6	2 0
Lilium Harrisii, doz. blooms	6 0	8 0	— Saffrano...per doz.	2 0	3 0
Liliumsvar., doz. blms.	1 6	3 0	— Tea ..... per dozen	1 0	3 0
MaidenhairFern, 12bs.	4 0	9 0	Stephanotis, dz. spys.	0 6	0 9
Marguerites, 12 bun.	2 0	4 0	Tuberoses, per doz.	0 6	0 9
			Violets, English per bunch	1 6	2 0

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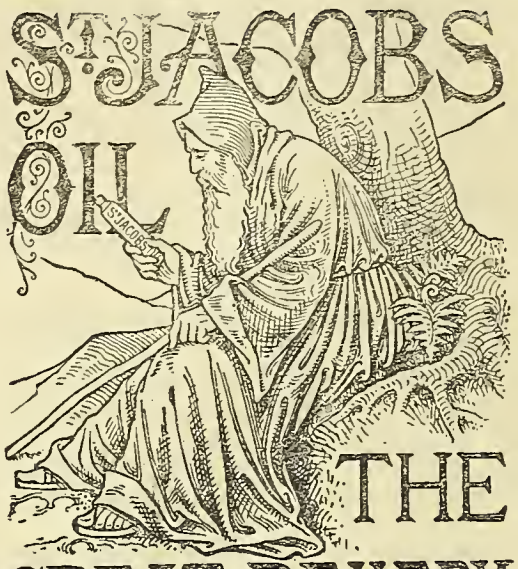

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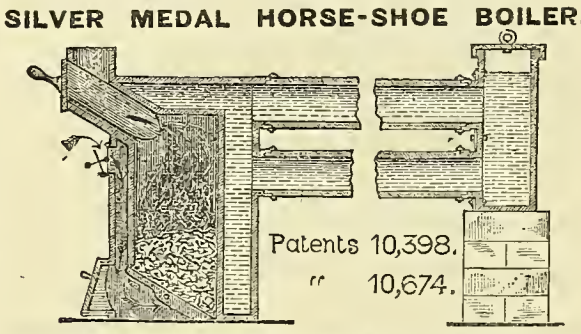

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CHRYSANTHEMUMS,
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A PRACTICAL AND SCIENTIFIC TREATISE, that will be of great service to the oldest and most successful exhibitor as well as to the youngest grower of the Autumn Queen. Mr. Shea has by the treatment explained in this treatise had a long series of triumphs, to which this season he has added in keen competition with our most noted growers at the Kent County, Watford, and Crystal Palace, finishing with the difficult feat of gaining first honours with forty-eight Japs, at the Royal Aquarium Show on November 10th.
In addition to the above, a Paper by Mr. H. Shoesmith is also included in my new Chrysanthemum Catalogue, which also contains the most complete list of new varieties ever brought together, and embraces selections from all the known Chrysanthemum world.
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For Index to Contents see page 297.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Jan. 11.—Sale of Hardy Plants, Bulbs, &c., at Protheroe & Morris' Rooms.
TUESDAY, Jan. 12.—Royal Horticultural Society: Meeting of Committee at 12 o'clock.
WEDNESDAY, Jan. 13.—Sale of Greenhouse Plants, at Protheroe & Morris' Rooms.
THURSDAY, Jan. 14.—Sale of Bulbs, Herbaceous Plants, &c., at Protheroe & Morris' Rooms.
FRIDAY, Jan. 15.—Gardeners' Royal Benevolent Institution: Annual Meeting at 3 p.m. Dinner at 6 p.m. Sale of Orchids, at Protheroe & Morris' Rooms.

The Gardening World.
Edited by BRIAN WYNNE, F.R.H.S.
SATURDAY, JANUARY 9th, 1892.

THE MARKET GARDENERS' ASSOCIATION.—This association of market gardeners, nurserymen, etc., which was founded in 1829, and incorporated in 1889, merits far greater support from the members of the trade specially concerned than it seems to receive. We gather from a circular recently issued, that whilst the present membership is not stated there is ample room for expansion. It would seem so far that there are few provincial members, as every officer and committeeman resides in the immediate neighbourhood of the metropolis; still the Association would willingly include all branches of the trade.

So far, it would seem that the market trade is the only horticultural section which is specially represented. The objects of the Association chiefly are to protect the interests of the members in all that relates to their trading concerns, rights and privileges, and also to assist, so far as is possible, with financial aid, any present or old members and their families who may need a helping hand in adversity. Such aims as these are eminently meritorious, and worthy of all praise. They appeal especially to the market trade, because it is certain that those associated with it are from various causes very frequently requiring the assistance of a body such as this is, whilst there can be no doubt whatever but that the charitable branch of the Association can always find room for its development.

The Association is not at all financially in low water, as it has a large invested reserve fund, but its annual subscription is not at all beyond the reach of those for whose benefit the Association is established, and it would be greatly strengthened in its power to do good by a largely increased membership roll. It is in the strength which is found in the combination of numbers that the real power of such associations as this is found. Those who are already members speak of the Association in the highest terms. The secretary is an able lawyer, and his legal knowledge being at its service is a matter of the highest consideration.

TECHNICAL HORTICULTURAL EDUCATION.—We should not so soon again have referred to this subject but for the appearance of an extraordinary and singularly priggish letter on this topic which we observe in the columns of our contemporary the *Gardeners' Chronicle*, written by the Director of Kew—we beg pardon, the Royal Gardens, Kew. We might have expected that from such a source would have come some words of approval of a course which some other County Councils than that of Middlesex have taken with what seems to be very promising results. Still, perhaps it is hardly probable that such poor contemptible stuff as practical gardening would find very much of favour amongst men of such scientifically lofty minds as is that of the Director of Kew.

Teach science which can hardly be subject to practical demonstration at all, says Mr. Dyer, and then all is well, but attempt to teach practical gardening through lectures, and you will fail. We say, emphatically, that such a dictum is as absurd as it is inexact. All previous experience has shown that practical gardening, of the simplest as well as of the highest order, can be taught largely, though not absolutely, in the lecture room, and the testimony of those now engaged by various County Councils in such lecturing, and the deep interest taken in the subject by the audiences, composed of cottagers, artisans, gardeners in small places, youths of various status in life, and many who may be classed as fairly well informed amateurs, all go to disprove the dictum of the Director of Kew.

So far as the teaching of horticulture in its higher branches go, what is the product of all the lectures delivered before the fellows of the Royal Horticultural Society, inclusive of its conferences, but the best of testimony of the value of the lecture room? Further than that there are the numerous Gardeners' Associations and their winter meetings, papers, and discussions, all tending in the same direction, and displaying the same good work. We could show still further, if need be, that very much that is really practical in gardening can be taught in the lecture room, but we are not called upon to furnish knowledge on this head for the benefit of a prejudiced scienist, the moral of whose letter to the Middlesex County Council appears to be, don't waste your money in enlightening the ignorant—send it to Kew.

THE ROYAL HORTICULTURAL SOCIETY.—Those of our readers who scrutinised the list of forthcoming Flower Shows, Horticultural Meetings, etc., which we published last week, will not fail to have noticed that the Royal Horticultural Society will hold two meetings in November. That is a new departure, and to be specially commended for two reasons: the first is that the meetings will fall in the first and third weeks in the month, and thus avoid clashing—as has been the case in the past—with the shows of the principal Chrysanthemum Societies, which are invariably held in the second week of the month; and secondly, that the two meetings will afford more favourable opportunities to the raisers of Chrysanthemums, as well as of other plants in flower, and also of fruits, to exhibit their products for certificates. That this change will be thus recognised there can be no doubt, and we heartily rejoice over the alteration.

Having regard to the abundance of fine Chrysanthemum varieties which home raisers now produce, we could wish to see the Council offering a gold medal to that raiser who succeeded in securing for the year the largest number of certificates of merit from the Floral Committee. Such an offer would very largely stimulate the showing of novelties at the Society's meetings. Very wisely, we think, the Council has resolved to restrict their conference work to one meeting only—that for Begonias and some Fruits in August next. It is a capital time of the year for Chiswick, and whilst we ought to see the old gardens then in great beauty, so also should the Begonia display prove to be one of exceptional beauty and extent. Comparatively few persons have yet seen a really grand show of Begonias. The plants have now become so popular for bedding purposes that it is to be hoped the Council will make a special effort to furnish a good supply of tubers for planting out at Chiswick in spring.

The usual Temple Show will be held in May, towards the end of the month, and there can be no doubt but that this is now the most popular of all summer flower shows held in London. We hope ample provision will be made this year for plant space, as last year the crowding necessitated by lack of room seriously detracted from the merit of many beautiful exhibits.

WINTER WORK.—The few days of frost—flung as it were into the midst of our winter season, just to remind us that after all Nature can exercise very adverse powers sometimes---seems to have been as fleeting as it was severe, and it passed away as quickly as it came, leaving behind very little trace of its existence. Just when all who are working the land, whether in preparing soil for the reception of the coming season's crops, in planting of all descriptions, in the formation of new gardens, or indeed in any kind of work in which the soil has to be stirred, find themselves able to proceed when the frost stopped operations, and even perhaps under somewhat improved conditions, as the frost left the ground drier and more pulverised than it was last month.

Practically, all who wish to plant or to carry out alterations or improvements in gardens, are having a high time of it, for it is far from being common to find the winter open as is the case so far this season. Of course we cannot tell how soon frost may again hold the earth in its iron grip, perhaps ere this meets our readers' gaze, perhaps not; but come what may, it would be very unwise to put off for a day what needs instant doing; and the present open weather cannot be too freely utilised. Nurserymen suffered appreciably last winter because of the very lengthened period of frost, and when the weather did break, it was too late to carry on their planting operations. They are getting some compensation now, and, we hope, are reaping the benefit of the open weather in many ways.

We have been gratified to learn from many quarters that, so far, little harm appears to have resulted from the recent frost visitation. The excessive coating of grime which covered all vegetation, doubtless acted as protection from injury in many cases, then we had no fierce cutting winds. However, it is rarely the first frost of a season that does harm; it is when the second and third time comes that injury results. Remembering how excessively wet was the autumn, and how saturated the soil, it would not have been a matter for surprise had some damage to vegetation been reported. Happily none has been mentioned yet.

Royal Horticultural Society.—At the first new year's meeting, on Tuesday next, Mr. W. Iggulden, Marston House Gardens, Frome, will read a paper on "Winter Vegetables," at the afternoon meeting.

Mr. Ant. Roozen, the founder of the celebrated firm of Ant. Roozen & Sons, Bulb Growers, Haarlem, died on December 16th, aged 86 years.

Flower Show Fixtures.—Croydon, July 6th; Lee and Blackheath, July 7th and 8th.

Mr. A. Metheven has resigned the appointment he has held for the last two and a half years as gardener to the Baroness Rothschild, at the Pavillon de Pregny, Geneva, and will be succeeded we understand by Mr. Charles Davies, lately gardener at the Mote Park, Maidstone.

Death of Mr. T. Statter.—But a few weeks ago a correspondent alluded in these columns to the illness of Mr. T. Statter of Stand Hall, Manchester, and we have now to record his death on Christmas Day. Mr. Statter was agent to the Earls of Derby for over 50 years and only took up the cultivation of Orchids a few years ago. He, however, went into the matter with wonderful zest and was exceedingly successful in his purchases. At the time of his death he possessed a very valuable collection.

The Clover and Grass Seed Trade.—Messrs. Hurst & Son have as usual been at some pains to get an accurate idea of the probable forthcoming supplies from every producing country and district, and point out in their annual circular that the coming season will have some exceptional features, and that as the undoubted scarcity of several articles will, in all probability, tend to the introduction of many spurious and worthless samples, buyers would do well to be extra cautious in their dealings, particularly with regard to white Clover and French Italian Ryegrass.

Gardeners' Orphan Fund.—At a meeting of the committee held on Monday evening, the honorary secretary announced the receipt of £10 from the Reigate Chrysanthemum Society; and the sum of £5 12s. 11d., made up of various amounts collected by Mr. J. Hughes, of Birmingham, The Leeds Paxton Society, Mr. J. Lemmon, Chichester, Messrs. H. M. Pollett & Co., Bradford Gardeners' Mutual Improvement Society, and Mr. A. Read, Grittleton. The committee received a few more applications of candidates, and a list of twenty (not thirty as previously inadvertently stated) was passed, which will be issued to the subscribers at once.

The Devon and Exeter Gardeners' Mutual Improvement Association.—On Wednesday evening the paper read at the meeting of this association was on "The Culture of the Chrysanthemum by Amateurs." The other papers arranged for the ensuing session are as follows:—Jauuary 20th, "The Cultivation of the Peach and Nectarine, with Hints on Pruning," by Mr. A. George, Heavitree; Feburary 3rd, "How to Grow and Show Vegetables," by the Rev. A. H. Cruwys; Feburary 17th, "The Cultivation of the Violet," by Mr. J. T. Ebbutt, Winslade; March 2nd, "Alpine Plants," by Mr. W. F. Meyer; March 16th, "The Culture of the Carnation by Amateurs," by Mr. G. B. Lansdale: and March 30th, "Daffodils and Narcissi," by Mr. A. Hope.

The Midland Counties Pansy Society.—The date is not yet fixed for the next exhibition in 1892, but it will be in all probability June 8th, or 9th, and will be announced with the schedule which will shortly be ready, and, liberal as the prizes were last year, they will be exceeded this, as so many extra prizes are offered, especially for new varieties of Pansies and Violas. In addition to liberal prizes in money, quite a dozen Silver Medals are presented by various friends and by the society. Additional classes are

made open to all grown in the United Kingdom, and Messrs. Dobbie & Co., Rothesay, give a handsome Silver Medal as the first prize for twelve new and distinct Violas. The Rt. Hon. Joseph Chamberlain, M.P., has again consented to be the president for the year, and applications for schedules should be made to the Hon. Sec., Mr. W. Dean, Dolphin Road, Spark Hill, Birmingham.

Small Fruit Farms in Essex.—A Pitsea correspondent informs the *Essex County Standard* that during the past year, a large quantity of freehold land has been sold in that neighbourhood at an average price of £5 per plot, and during the qast two months some thousands of fruit trees, as also Currant and Gooseberry bushes, have been planted by the purchasers, and as it is now a certainty that a factory will ere long be erected within a mile of Pitsea Junction Station, which will afford employment for about 300 hands, it is anticipated there will be a good market for all kinds of fruit and vegetables, independent of Southend, to which place most of the produce of Pitsea is sent. Poultry farming pays well in the district, nearly all the eggs, fowls, ducks, etc., finding a market at Gravesend and Southend. At the time of writing this letter a new-laid egg realises twopence-halfpenny, always one shilling a dozen in summer. Milk is very much in demand. The taxes are nominal—viz., on a house of £25 a year, £2 clears all round.

Vriesia Leodiensis.—Hybrid Vriesias are getting more and more common. That above mentioned was obtained from V. psittacina Morreniana, crossed with the pollen of V. Barilleti. The habit of the plant is dwarf, with the leaves compactly arranged in a vasiform tuft, above which the flower stem rises clear of them. The bracts are the most conspicuous feature of the inflorescence, being of large size and standing as they do in two dense ranks, forming a flattened spike of elliptic outline. The basal portion of each bract is red, and the upper portion yellow, tinted throughout or merely tipped with green. The flowers themselves are yellow, but of much shorter duration than the bracts. The plant makes a pretty subject for a stove. There is a coloured figure of the inflorescence, and a woodcut showing the habit of the plant in the January number of the *Revue de l'Horticulture Belge*.

SEED PEAS.

Out of several seedsmen's catalogues, which have come to hand, I notice that one, and so far one only, warns purchasers that seed Peas may for next season's sowing be of somewhat inferior quality, owing to the very wet weather which prevailed when Peas were ripening. One of the best methods wherewith to grapple with a difficulty of that kind is to refrain from sowing so early as usual. Very much will be gained if a full fortnight longer than usual be allowed to elapse, especially in the case of discoloured or wrinkled Peas. It does not at all follow because seeds are discoloured that they are unfertile, for vast quantities of Peas, Broad Beans, and Runner Beans will have been found materially discoloured, yet only stained by the pods, and not at all otherwise deteriorated.

Perhaps it will be advised to sow seed more thickly than usual. That is not, however, good advice. For, as a rule, Peas are always sown far too thickly. It will, however, be a good plan to sow many 5-in. pots with seed of the respective sorts sown in the garden, as plants so raised may, if the outdoor plants come very thin, be very useful to fill up with, whilst if not so needed they can turn out and make extra rows. For the supply of extra early Peas, especially of fine sorts like Duke of Albany for early exhibition, it is a capital plan to sow about twelve seeds in a 6-in. pot. Later, if necessary, pull out all the weak plants down to nine only, and when these are nine to twelve inches high. In the meantime let them be kept in light and air, and allowed to grow sturdy, being also supported by small sticks and tied.

Such plants as these turned out into good soil on a warm border in rows 5 ft. apart and the clumps unbroken, 12in. apart in the rows, wonderfully soon come into bloom, and carry grand crops. We constantly err in not giving to Peas enough of room, and no great harm will have been done if the present indifferent seed stock should lead growers to be less liberal of seed and more liberal of room.—*A.*

HARDY TREES & SHRUBS.

The Sea Buckthorns.

The Sea Buckthorn (Hippophæ rhamnoides) is the only true species known, but as it enjoys a wide distribution round the coasts of Europe, and in North and Central Asia, as well as the Himalayas, it varies considerably, and several forms have received distinct names. The typical form is found in various places along the south and east coast of England, and is plentiful on the north coast of the Isle of Wight near St. Helens, where it grows rather plentifully and bears fruit. Owing to its natural habitats being on the sea coast, it is found useful for planting in the vicinity of the sea where many trees and shrubs refuse to grow, especially when exposed to winds laden with brackish moisture or salt spray. It grows with equal or even more vigour inland, and therefore proves valuable for planting in parks and gardens, where the tree attracts the eye of the beholder often from a great distance by the silvery appearance of the foliage during the summer months and by the berries in winter.

Propagation is readily effected by seeds, layers, and suckers. The latter is perhaps the most suitable and practical method for various reasons. Plants are readily raised from seeds, but they have several

Hippophæ rhamnoides.

disadvantages when produced in this way: they take a longer time to attain a fruiting state, and there is the uncertainty whether they will prove male or female, for the two kinds of flowers are produced on different individuals, and before berries can be expected the male and female trees must be grown in proximity to one another, preferably in the same clump or group. In the nurseries of this country propagation by suckers is the usual method adopted, and suckers being freely produced when the plant is grown as a bush there is no necessity for resorting to any other means. It can then be determined whether the plants are male or female, and when new plantations or groups are made the planter can always know what he is doing, and depend upon the plants fruiting when the seasons are favourable at least. In planting it may always be borne in mind that the tree attains the largest size when planted in deep sandy soil, at all events in soil that is loose, friable and well drained. On the sea coast it will prove valuable for planting in exposed and bleak situations. Under more favourable conditions, however, it will attain a height of 15 ft. or 20 ft.

H. rhamnoides.—The British and typical form of the plant has its branches terminated by a thorn, giving rise to the popular appellation of Buckthorn. The leaves are linear-lanceolate, covered with scales on the under-surface, and silvery. The flowers are yellow but not very conspicuous, and are followed by orange-coloured berries in great profusion, heavily lading the branches, ripening in September, and hanging on the bushes or trees all the winter after the leaves have dropped, when, of course, they become more conspicuous. Our illustration of a spray will give an idea of the fruitful nature of the plant, and its appearance in autunm.

H. r. salicifolia.—This form is a native of Sirinagur in Nepaul, and other parts of the Himalayas, and is sometimes considered a distinct species, but the distinguishing characteristics are often not very well marked. The plant is altogether more robust and spineless, with larger lanceolate leaves of a whiter and more snowy appearance on the under-surface. It is scarcely so hardy as the type, but makes very vigorous growth during the summer months.

H. r. augustifolia.—As the name indicates the leaves of this variety are narrower than in the type, and the young branches of a more pendulous habit of growth, whereas in H. rhamnoides itself the stems and branches are rather rigid and erect.

POTATOS: EARLY *v.* LATE PLANTING.

A member of the Royal Agricultural Society, and a cultivator of Potatos on a large scale, Mr. George Malden, has communicated to the Society's Journal (No. 8, Dec. 31st), the results of some experiments which he carried out last season, in order to ascertain what would be the exact result of late planting, a practice which was advised in some of the daily papers. For the purposes of the trial one side of a field which had previously been prepared for Potatos was set aside. The land was an uniformly good light loam resting on a gravelly sub-soil, and therefore well-drained. An even dressing of about fifteen tons to the acre of good farm-yard manure had been put on and ploughed in during the autumn, and the land remained untouched throughout the winter. In the early spring the field received a thorough working, and was brought down to a deep tilth. Plots of one pole each were carefully marked off.

Fourteen varieties were selected, the tubers being of ordinary seed size and grown on the farm the previous year. The varieties were Myatt's Ashleaf, Beauty of Hebron, Duke of Albany, The Thorburn, Village Blacksmith, Daniel's Advance, first earlies; Empire State, The Daniels, White Elephant, second earlies; and Future Fame, Stourbridge Glory, The Bruce, Magnum Bonum, and Imperator, main crop. Plantings of each variety were made on March 31st, April 30th, May 31st, June 14th, and June 28th, and after the first planting the remaining sets were turned over every other week and the sprouts destroyed in order not only to prevent them from heating and exhausting their vigour, but also to ensure that the different plantings should start their growth on equa terms. The earlies were planted in rows 24 in. apart, and 18 in. asunder in the rows, and the mid-season and main croppers in rows at the same distance apart, but 21 in. between the sets.

The result as regards ripening showed that though the plantings occupied a period from first to last of twelve weeks five days, the greatest difference between the time of ripening of the first planted and the last of any one variety was only six weeks, and this occurred in the first earlies only. Of the mid-season only one variety, White Elephant, made a difference of as much as five weeks; and the longest interval in the main crop varieties was but four weeks, and that in the case of one variety alone, The Bruce.

As regards the weight of produce it seemed only reasonable to expect the best results from those plantings that had the longest time to develop in the ground, and this was almost invariably the case, for of the fourteen plantings made on March 31st, thirteen yielded more than those planted a month later, while the fourteenth, Myatt's Ashleaf, produced an equal bulk. Of the same number planted on April 30th, thirteen again were in excess of those planted on May 31st, and one, White Elephant, yielded less. Of the twelve varieties planted on May 31st and June 14th: the whole number planted on the earlier date yielded more than those planted later; and the whole of the ten varieties planted respectively on June 14th and 28th yielded more on the first than the second plantings. The average weight per acre of those planted on March 31st was about 19 cwt. in excess of those planted on April 30th; 46½ cwt. above

those planted on May 31st; 69¼ cwt. above those planted on June 14th; and no less than 105 cwt. in excess of those planted last of all. Putting the average value at 50s. per ton, the first planted exceeded the fourth by £13 2s. 6d. per acre.

"We may conclude therefore," says Mr. Malden, "with the following advice to growers:—Plant the early varieties of Potatos in March, or as early as possible in April. Finish planting all varieties in April; but if it is necessary to plant in May, by all means choose a late variety; and of late varieties choose Imperator if possible, and have them well moulded up."

AN ABSTRACT VIEW OF HORTICULTURE.

(*Concluded from p. 274.*)

It may be said that the earth of its own spontaniety furnishes a large amount of food for man and beast, but there are no human beings known on the earth, even in the central and darkest portion of Africa but who till and sow for their means of existence. No doubt in the primitive state of the world when land was plentiful and thinly populated, the strain upon the cultivator was not what we find it to be. But whatever may have been the case in the primitive world, we know what its state is to-day, with its teeming populations bidding fair to cover the earth's surface. Man has to work to live, and live to work. Every year, larger productive energies have to be put forth to meet the world's requirements in the matter of food, and in those larger productive energies you have to bear your part. You have also to contribute very largely to the clothing of the world, and every year new fibrous plants are being discovered and utilized for supplying the world with clothing, and the whole earth is put under contribution to this end. But this feeding and clothing of the world does not exhaust the importance of your work. Most of the dyeing materials known to the world belong to the vegetable kingdom, and of course may be justly claimed as your produce. Of course I am aware that of late years mineral dyes have come largely into use, principal amongst which are the Analine dyes; but these are only of recent introduction, and even they are of vegetable origin, for they are, as we know, a product of coal, and coal being of vegetable origin, it follows, of course, that they owe their origin to the vegetable kingdom, and, therefore, are of what is your craft.

Another and perhaps the second in importance of all these items in respect of usefulness, is that part of your work which concerns the production of drugs. The world has to be kept in health, and in this the horticulturalist's art has to perform a most important part. We have quite sufficient to show that, in the production of drugs, the gardener's art supplies one of the greatest remedial agencies known to the world for alleviating human snffering. It does not affect the case to say that the gardener would be of no use without the chemist, but it is quite certain that the chemist would be of little use unless the cultivator preceded him.

Now the last of the heads upon which I have to speak, is a very agreeable and attractive one, namely, the sure and certain return with which nature rewards those of your craft who faithfully and diligently seek it. There is no royal road to excellence in any honourable pursuit; those who would succeed must labour diligently and intelligently, without which the result can only be failure and disappointment; and if this is true in the ordinary walks of life, it is pre-eminently true in respect of your profession.

With the gardener's work, when every possible care and skill has been used, there must always remain a degree of uncertainty as to result, seed may be wrong, climactic conditions may be adverse, and a number of unforeseen and unexpected circumstances may arise to cause failure; but if skill and care are used there is no uncertainty about it.

I said seed may be wrong, and I am afraid that this is unfortunately a pretty frequent source of vexation and disappointment. Not unfrequently when the seed germinates it turns out something very different from and inferior to what it was described to be. This is bad enough, but as it frequently does not germinate at all, the vexation and disappointment are tantamount to the fact that in many cases a whole season is lost. I do not know where the fault of all this lies; but I do know that it is a very serious fault and one that ought to be remedied. I should be very sorry if any one hearing this statement should use it as a cover and excuse for failures, which after all may be due to shortcoming on the part of the gardener. I am of course certain that no man having the love of his profession at heart would do so; but it might be used as an excuse for all failures, and this of course would not be just. For the proper and successful raising of plants from seed the gardener has first to make himself acquainted with the conditions of germination which apply to each specific case, and if he is intelligent he will soon discover that all germination springs from a process of fermentation set up by the three factors of air, heat, and moisture, and he will also discover the necessary amount of heat and moisture to apply for the purpose he has in view. Sometimes the sun supplies the required amount of heat, then he sows his seed out of doors; at other times it does not, and then he has to apply artificial heat indoors, but the process in both cases is precisely the same.

But after all the chief factor in the case, particularly as regards indoor work, is the gardener's ceaseless and persistent attention; he must never forget that he is trying to do in one house many things which by nature belongs to other and probably very different climates; and he can only expect to succeed in this by an intelligent knowledge of the conditions to which a plant is subject in its native habitat, and by adapting his treatment of it as nearly as he can to that of nature.

Granted that the seed is good and that the gardener displays skill and assiduity in his treatment of it, Nature is bountiful and the crop shall not fail. The earth teems with vegetable riches, and you have only to deal consistently with Nature and she bursts forth in all her wealth of luxury, that there may be seed to the sower and bread to the eater, for our physical requirements, and a boundless wealth of beauty for our mental requirements—*H. J. Rome.*

PLANTS AND THE FOG.

The fogs which prevailed not only in London and the suburbs but also over a great part of the country for some days previous to and on Christmas Day, were sufficient to remind us that we are not to escape this winter any more than on former occasions from such visitations so destructive to plant life. November and December were wonderfully open and mild, with a clear sky, so that there was an abundance of bloom. Chrysanthemums were perhaps the chief sufferers from damp, yet not a few growers have still a remnant of flowers to show, especially where they are grown for cut flowers with blooms of moderate size. It is quite evident that the destructive nature of fog is due to the deleterious ingredients contained in the smoke, which was unusually bad during the recent visitation, for it prevailed only a few days and proved more destructive than mere darkness could have been expected to do. It is high time that something were done to mitigate the smoke nuisance, if that is within human power to effect.

Orchids.

The flowers of this class of plants go off wholesale when visited with smoky fogs of only a few days' duration; bnt there are certain genera that sooner show it than others, and in some instances particular species go off quickly. Fortunately but few Cattleyas come into bloom at this season, so that so far their flowers may be reckoned safe. The Calanthes, including C. Veitchi, C. vestita, and the numerous garden hybrids, were amongst the first to suffer. The thin substance of the flowers is no doubt the cause of their delicacy; the segments of open flowers were quite shrivelled up by Christmas Day, and unopened buds became yellow. On the contrary, however, the leathery flowers of Cypripediums suffered severely, although not all to the same extent. In a densely populated London district the flowers of C. insigne were completely destroyed, and by the 1st of January the unopened buds appeared as if they had been dipped in boiling water. In the suburbs, however, we noticed a fine batch with open flowers in apparent good health. Others that quickly succumbed were C. villosum, C. Harrisianum, C. grande, and others. In some places C. Schlimii proved very delicate, while hybrids of the C. Sedeni type (of which the former is one of the parents), including C. Sedeni, C. calurum, C. candidulum, etc., passed through the ordeal fairly well. The same may be said of C. vexillarium, and C. callosum is perhaps as hardy as any. They behave differently, however, in different localities, according to local influences and the temperature in which they are kept. A low temperature is most conducive to their welfare.

The same discrepancy prevails amongst the Masdevallias. M. Harryana, M. ignea, M. tovarensis, M. parlatoreana, and M. melanopus were amongst the first to suffer. The small flowered varieties, such as M. gibberosa, M. ochthodes, M. polysticta, M. pulvinaris, and others of that class, stood better; but locality has probably to account for it. Odontoglossum crispum, O. Pescatorei, and their varieties soon show the influence of the evil by their flowers and buds becoming limp and shrivelling up. O. maculatum stands well; and so do species of Stelis allied to the Masdevallias and having small flowers. The flowers of Oncidium tigrinum also shrivel up, commencing with the lip and extending to the sepals and petals by degrees. Other cool-house species whose flowers now appear as if they had been dipped in hot water are Cœlogyne fuscescens, C. Massangeana, Sophronites grandiflora (flowers and buds alike), Lælia Gouldiana, Trichopilia fragrans, Cyperorchis Masterii, and others.

Subjects in the warm or East Indian house have in general fared very badly; but it seems impossible to account for the discrepancies which occur. The buds of Aërides Leeana become brown or yellow from one end of the raceme to the other, while in the same house some of the buds of Saccolabium illustre will have become yellow and dropped from the middle of the raceme; near by another plant will appear quite uninjured. The same may be said of Vanda Ameslana, when a large batch is inspected, so that there must be individual variation as to constitution. V. Sanderiana quickly succumbed, and the same might be said of the fleshy flowers of Angræcum sesquipedale, which are peculiarly sensitive to smoky fogs. Others that may be placed here are Cymbidium Lowii, Ansellia africana, Dendrobium superbiens, and D. formosum giganteum.

Other Plants.

The plants belonging to certain natural orders are sensitive to a diminution of light, to sudden changes of temperature, but more especially to the yellow smoke-laden fogs. The leaves of various Leguminous plants grown chiefly for the ornamental character of their foliage, and also those of the Acanthads, are very liable to drop. The flowers of the latter are also peculiarly sensitive to the same agencies and either shrivel up or drop off at the joints. Amongst these are the Aphelandras, Libonias, Ruellia Herbstii, R. macrophylla, Jacobinia carnea (even in a cool house), J. coccinea, and Dædalacanthus macrophyllus. Many plants of the Gesnera family have also suffered the loss of their flowers, while the leaves become irregularly shrivelled and brown at the margins. Amongst them we noted Gloxinia maculata, Gesnera elongata, Nægelia and others.

Curious to state, the leaves of Poinsettias have dropped wholesale, while the bracts, nearly as good as ever, now form a tuft on the top of long naked stems. Euphorbia fulgens is nearly in the same condition, as the few remaining leaves are yellow. On the contrary, plants belonging to the Rubiaceæ retain their leaves but drop their flowers; and in the case of Ixoras the buds are more liable to fall away or become blackened than the flowers themselves. The usual plan is that the flower stalks become disjointed and the whole truss gradually falls away. I. macrothyrsa, I. coccinea, and the garden hybrids are all alike. The same fate has overtaken Luculia gratissima in full bloom, and Bouvardias in stove heat are also in a sorry plight, though those in greenhouse temperature in some localities seem almost as fresh as ever. All but the younger leaves of Impatiens Hawkeri have dropped. The winter-flowering Plumbago rosea has been very disappointing, as the flowers and buds along the whole raceme have dried up and hang loosely. Scutellarias, Eranthemums, and Thyrsacanthus are also rendered useless.

Winter-flowering and other Begonias have suffered severely one way or other. Such as Winter Gem and B. socotrana merely drop those flowers which are fully expanded, and in a few days fresh buds expand and renew the appearance of the plant. Others suffer damage to the foliage, the whole leaf or only patches of it becoming limp and shrivelling up. Amongst these may be mentioned varieties of the

B. Rex type, B. ricinifolia, B. nelumbæfolla, and others. Certain species drop their leaves, including B. metallica, B. ovata, B. malabarica, B. argenteo-guttata, B. manicata, B. maculata, and B. M. Hardy. In some cases the naked stems are three feet long, and now look like so many Willow stools in winter. is interesting to note that B. Haageana in full flower and leaf has hitherto not suffered in the least notwithstnnding the shabby appearance of the allied B. metallica.

DEUTZIA GRACILIS.

There are few owners of gardens with whom this grand old spring flowering plant does not rapidly become a favourite after being introduced to their glass structures. The profusion of snow-white blossoms with which it is often seen covered at a season when it is specially acceptable, together with the freedom with which they are produced, classes it among the most useful sources of cut flower supply, and when well managed it forms one of the most showy and graceful specimens that can be used for conservatory decoration.

In making a brief reference to some of its chief cultural requirements, in order to secure a good show of bloom, I am reminded of an old cultivator's observation that attention or inattention to the seemingly trifling items of plant culture make all the difference between success and failure. Respecting this Deutzia it may first be noted that when the plants have done flowering free healthy growth should be promoted, and that growth must not be checked by heedlessly turning them out to the back of a wall or other convenient corner in the open air, before the ripening of the young shoots is almost completed. Such plants as are afforded a light position under glass, and a genial growing temperature being also carefully attended to, with moisture at the roots and overhead, then gradually kept drier and hardened off before transferring them out of doors, may be expected to bear a good crop of flowers, but not otherwise.

Stunted plants may be cut hard back and placed in a brisk growing temperature till new growth is apparent. They may then be shaken clear of the old soil, and repotted in similar sized pots to those they formerly occupied, using good turfy or peaty loam two parts, and the remaining portion of the compost may be equal parts of sand, leaf soil, bone meal, and charcoal. Thorough drainage of the pots must not be overlooked. Plants thus manipulated should be grown on steadily, under similar conditions as advised for others after they have done flowering, and to avoid the risk of losing a crop of blooms, they may have to be kept under glass most of the summer and autumn if the season is wet and sunless, in order to properly ripen their growth. A cold pit if it can be spared will answer well during the latter period, to which abundance of air should be constantly admitted. The practice of cutting Deutzias back and then turning them outside to take their chance is not unknown to me, and needless to say is about the best for destroying the prospects of a show of flowers for an indefinite period.

Deutzia gracilis is readily propagated about the end of April by placing young growing shoots in pots of finely sifted sandy compost, and keeping them close, moist, and shaded in a warm and steady temperature. When rooted pot them off into thumb-pots, and grow them on in the same soil and under similar conditions as recommended for large specimens. Such plants when young will be found specially useful for room or corridor decorations, as well as for sundry other purposes, for which they may be selected. The time for housing plants for flowering will of course depend on when they are particularly required. They are generally most prized from January to March, and consequently to have a succession during that period more or less forcing must be resorted to. One half of our stock of plants was placed in the forcing house at the beginning of December, for service during the former part of the period referred to, while the rest of them will follow early in the new year for later work. Before forcing commences we generally loosen the surface soil in the pots a little, and apply a slight top-dressing of loam, in which is mixed a little of Thomson's Vine and plant manure, or Clay's Fertilizer. The plants must be amply supplied with water during the time they are in bloom, and in addition to this syringe or water overhead till the flower buds burst. When in full bloom or nearly so remove them to the conservatory or other cool structure, where they should be afforded plenty of light and air, but cold and strong currents must be avoided.—*D. M., Ayrshire.*

VILLA GARDENING AND MANAGEMENT OF CONSERVATORY.

(Concluded from p. 280.)

Amongst hardy border plants suitable for the villa garden there is such a variety, and each alike has its claim. All are beautiful and deserving attention; but as a long list is only bewildering, I shall not mention many; but I would advise any who are fond of this class of plants to notice the splendid exhibits staged at all our suburban horticultural shows by the leading nurserymen in such tempting style, all plainly and correctly named. To me a collection of hardy border flowers is one of the greatest attractions. Aquilegia chrysantha, Delphiniums, herbaceous Phloxes, Perennial Asters, Pyrethrums, Evening Primrose (Œnothera biennis, Œ. Youngi), Anemones, Hepaticas, Harpalium, Coreopsis, Pentstemons, Foxgloves, Chrysanthemum maximum, Pæonies, Geum coccineum, Gaillardias, Gypsophila paniculata, and G. elegans, Thalictrums, with light elegant foliage, Liliums, Campanulas, Lychnis chaledonica, Iceland Poppies, &c., are amongst the best.

Annuals make a grand display in beds, or in patches. The following are hardy:—Cornflower (Centaurea Cyanus minor), Sweet Peas, Sweet Sultan, Dianthus Heddewigii (Indian Pinks), Shirley Poppies, Annual Chrysanthemums, Limnanthes Douglasii, and Eschscholtzias or Californian Poppy. These, if sown in spring, will flower in a few weeks from the time of sowing in the open borders. Other annuals, some of which require a slight hot-bed or artificial heat to assist germination, are—Nicotiana affinis, Leptosyne maritima, Godetias, Nasturtium, Ten-week Stocks, Asters, Sweet Alyssum, Convolvulus (very effective climbers), Miniature Sunflowers, Rhodanthe Manglesii, a very pretty everlasting flower, Salpiglossis grandiflora, Sanvitalia procumbens, Schizanthus, and Tagetes, a pretty dwarf-growing plant, an excellent substitute for Calceolarias and will thrive in the poorest soil.

Ferns form a pretty feature in the garden, provided a suitable place can be found for them. With a shady place and a few rough stones some of our British Ferns will thrive if plenty of moisture is given in summer. Polystichums, Scolopendriums, Athyriums, Lastræs and many others are perfectly hardy, and will thrive in fairly good garden soil, and if a little peat can be added better results can be obtained. In the lists given I have left out many that I should have liked to have included, both amongst herbaceous border plants, annuals, and flowering shrubs for the reason I gave. There are, however, a few which I think deserve more attention. Begonias form capital bedding plants, and continue blooming freely till the frost destroys them. Seed sown in heat in March will produce plants which will bloom at the end of summer and form good bulbs for the second year. The tubers can be kept in a greenhouse in a fairly dry place where the temperature does not run below 45°, and if allowed to start into growth gradually in spring will make strong shoots and flower freely in fairly good soil. The beautiful Japanese Maples are very effective in the shrubbery. The Garland Rose is seldom seen, but makes an excellent covering to a porch or verandah. Gladioli are seldom seen; Bamboos form elegant and graceful plants, and many others might be added to our villa gardens.

And now a word as to the management of the conservatory, or structure attached to many residences, often built with more regard to external appearance than to suitability for plant culture, which owing to this defect, and improper means of admitting fresh air in a form to be beneficial to the plants, requires care and attention in management, or many disappointments will result. Nothing is more injurious to plant life than cold draughts, and in admitting fresh air—which is essential to successful plant culture under glass—this ought always to be avoided. Those plants which will thrive in an ordinary greenhouse or conservatory do not require artifical heat to grow and flower freely, except to keep out frost, and sometimes to dispel damp during prolonged fogs and sunless days. In winter, ventilation and watering are the most important points to be attended to; during foggy weather the ventilation or windows used to admit air ought to be kept closed; if there are top ventilators, these might be opened a very little if the temperature is higher, through the use of fire-heat, than is required, and then only for a very short time. The aspect and situation of the conservatory ought to be studied. If the aspect is a southern one and the first rays of the sun are caught, air ought to be admitted before the temperature has risen many degrees. In such a position slight shade is necessary in the hottest months, and the ventilators in summer may be left open if convenient, at any rate a little way, all night.

These trivial matters and minor details are those which successful cultivators attend to most carefully. Much more success may be obtained by exercising common sense than by following hard and fast rules; constant watchfulness and care are absolutely necessary to ensure success, and the cultivator who loves his plants and bestows care and attention in these details—which many persons ignore or neglect, but which does not escape the watchful eye—is generally the most successful one and obtains best results. With regard to watering, the same may be said; the observer will notice those which are moisture-loving plants and give them a a liberal supply.

Ferns should never be allowed to become dust dry; many foliage plants will suffer if kept too dry. Again in spring and early summer, when growth is rapid, and bright sun is often accompanied with drying winds, much more water is needed than in dull weather; and in winter, when vegetation is dormant, the supply of water should be lessened.

Neatness and order are very essential to have a pleasing appearance, and to attract the eye. I have been disgusted sometimes on going into a conservatory to see broken pots pushed under the stage, decayed and withered plants pushed on a shelf with dead leaves attached, dead plants still remaining on the stages, and other evidence of untidiness. All decayed leaves and blossoms should be removed; in the case of Ferns the dead or withered fronds cut off; all dead plants and empty pots removed, and all possible light given to the living occupants. Sometimes the conservatory is overcrowded; there are great temptations certainly; each plant finds a favour in our eyes, but a few well-grown specimens give greater satisfaction and credit to the cultivator than too many crowded together, which only cause disappointment and discouragement. I would recommend, once a week at least, that the conservatory be gone over, cleaning off all decayed leaves and blooms, brushing the stages and slightly rearranging the plants; it gives a fresh and cheerful appearance, and will amply repay trouble taken to keep it clean and neat. The words of a correspondent of a daily paper a few weeks ago on "Successes and failures in a greenhouse," I think are worth repeating:—"There is always something to be seen, something to be tended, something to be admired in our greenhouse. To us it has been a source of pleasure and infinite amusement, and many a little worry, many a little annoyance has been laid to rest by the scent of our Lilies or a glance at the gold of our Genistas. Considering our small expenditure, and still scantier knowledge, it is only justice to own that the flowers we love repay right loyally our love and care."

If a few climbing plants are required for a wall covering or a roof, I would recommend Asparagus plumosus, Lapageria rosea, L. alba, and the old and rather rare Pelargonium Rollison's Unique forms an excellent covering to a wall and flowers profusely. I also recommend Cobæa scandens, Heliotrope, Tacsonia Van Volxemii, Lygodium scandens, an elegant climbing Fern, Eccremocarpus scaber, etc. For foliage plants Aspidistras, Ficus elastica, and the variegated form, Aralias, Araucarias, Grevillea robusta, Acacias, Cyprus alternifolia, and Coleus will stand in summer. Aspleniums, Pteris, Woodwardias, Adiantums, and a few of the hardier Palms are very desirable. For flowering plants I recommend Genistas, Acacias, Azaleas, Fuchsias, Callas, Camellias, Pelargoniums, Hyacinths, Tulips, Narcissus, Freesias, Primulas, Chrysanthemums, Begonias, Marguerites, Solanums, bright in winter with scarlet berries, Spiræas, Lilies, Carnations, Balsams, Campanulas, Choisya ternata, Myrtles, Petunias, Musk, Francoa appendiculata, Cinerarias, Calceolarias, Abutilons, Celosia pyramidalis, Coronilla glauca, Libonia floribunda, Crassula coccinea, etc.—*A. Fentney.*

POPULAR WINDOW PLANTS.

THE list of plants which have been used at one time or other for window decoration is very extensive, but some of them enjoy a longer run of popularity or prove more suitable for the purpose than others. A few find their way into the windows of cottagers throughout the length and breadth of the land, giving evidence of their marked suitability for the purpose. A considerable number of them are deciduous, and therefore can easily be stored away in some dark, out-of-the-way cellar or dark corner of a room. Evergreen subjects are not the less welcome, however, when they are sufficiently hardy to withstand the cold of winter in an ordinary dwelling room.

SAXIFRAGE, MUSK, AND GREEN ONION.

A very old-fashioned subject, now perhaps less common than it used to be thirty years ago, is Saxifraga sarmentosa, which enjoyed a host of popular names, including Mother of Thousands, Wandering Jew, Old Man's Beard, and Creeping Sailor. The reniform, curiously mottled leaves are evergreen, and serve with the numerous branching runners to give the plant unusual interest. When suspended from the top of a window, as it usually was, the long runners were peculiarly graceful. The common Musk (Mimulus moschatus) was and is perhaps equally if not more common, with its familiar light green foliage and small yellow flowers produced successively on elongated stems. The so-called Green Onion, botanically known as Ornithogalum longibracteatum, has long been a familiar occupant of cottage windows, where, oftener than otherwise, the leaves were rolled up in a ring and tied with a string regardless of their needs in the way of exposure to light. The greenish-white flowers are neither very large nor showy, but the large, bright green bulb is no doubt the chief feature of interest. This singular plant has found its way into windows throughout the length and breadth of the land.

BEGONIAS.

Amongst Begonias B. Evansiana or B. discolor, with pink flowers and the metallic under-surface of its leaves, used to be extremely common twenty years ago. Being a tuberous-rooted species, deciduous and tolerably hardy, there was no difficulty in preserving it through the winter. Propagation could always be effected in excess of the requirements by means of the small tubers or bulbils in the axils of the upper leaves, and which were usually extremely plentiful. Within recent times its place has been taken to a remarkable extent by B. weltoniensis, a hybrid that has undoubtedly outrivalled all others in popularity, if that is to be judged by the wide distribution which it enjoys. The windows on the sunny south coast facing the English Channel are as much adorned by it as those facing the Moray Firth, or the German Ocean. The warm green leaves exhibit a tint seldom seen in other window plants, and serve as a beautiful background to the pink flowers. It is very hardy, with a tuberous rootstock that is not difficult to preserve in winter. A bulbous plant of deciduous or evergreen habit, according to the temperature in which it is wintered, is Valotta purpurea. Its use as a window plant is spreading rapidly both north and south, and its limits are already, probably, not less extended than B. weltoniensis, even if it is not so common. The large brilliant red flowers never fail to gain a large number of admirers. The bulbs flower best after becoming pot-bound, provided a liberal supply of water and sometimes manure water of some sort is given. I have seen a large clump of bulbs grown in a zinc pail, because they had burst the earthenware pot in which they were originally grown.

CAMPANULAS, PELARGONIUMS, &c.

Of quite another type is Campanula isophylla, which, when grown as a basket plant, develops stems of wondrous length, flowering continuously for many weeks together from the axils of the leaves, as the stems elongate. The dry atmosphere of the window seems to suit it, for it looks perfectly happy in the windows of many a cottage and villa. The type has blue flowers, but the white variety is not much less common. Compared with most of the above it is singularly striking how such a plant as Plectranthus fruticosus should be grown to the extent which it enjoys. The broadly ovate, or slightly heart-shaped leaves are singularly like a Nettle to the ordinary observer, and the plant frequently goes under that name. The flowers are blue, and being produced in terminal racemes or panicles are very elegant, but in many cases the plant never flowers in the window at all. In a list of popular window plants, Pelargoniums could not with justice be omitted, but it is more difficult to fix on individual varieties which enjoy a great run of popularity, on account of the continual changes and production of new varieties. There is one however named Happy Thought with a large creamy yellow blotch in the centre of each leaf, and which is now becoming remarkably frequent in windows. Amongst the old-fashioned and unimproved species are P. Radulum, P. tomentosum, and some others which were very popular for window culture thirty years ago, on account of their fragrant foliage. Individual varieties of Fuchsia are more numerous now than they use to be, but a few have enjoyed a wide range of distribution and popularity, including the old Venus Victrix, Rose of Castile, Venus de Medici, Lord Beaconsfield, and Wave of Life.

EVERGREENS.

Evergreen subjects include the India Rubber plant (Ficus elastica), Aspidistra lurida and its variegated variety, concerning the utility of which too much can hardly be said. Their leathery leaves are very tolerant of a dry atmosphore, and in virtue of that peculiarity they may be and are grown in the same window from one year's end to the other. They are on that account invaluable. More recently Aralia Sieboldi has become tolerably plentiful, and promises to be a similarly durable plant under like conditions. The same may be said of Othonna crassifolia, a slender-stemmed and pendulous plant with succulent foliage, that has already given great satisfaction as a window plant, and is much appreciated by cottagers. It may be grown in a pot or basket, and suspended much in the same way as the old Mother of Thousands. The flowers are yellow, but the peculiar appearance of the plant is more creative of interest than the flowers. It is a South African plant and very hardy.

FERNS.

Ferns have always been objects of great interest on account of their graceful, and often finely cut foliage. The number of species employed is very great, including both British and exotic ones from the common Male Fern to Adiantum cuneatum. The latter, by reason of the delicacy of its fronds, can only be kept in good condition for any length of time by protecting it with a bell glass. The Wardian case is also brought into requisition for the successful culture of a large number of kinds. Common species that are fairly tolerant of a dry atmosphere and may be kept in a window all the year round are Pteris serrulata cristata compacta, P. cretica cristata, and several other of their varieties. P. tremula is beautiful and delicately cut, but it is a shorter-lived Fern, more especially when grown in a dry atmosphere.

STREPTOCARPUS.

Amongst flowering plants that have given evidence quite recently of their suitability for window culture are Streptocarpus Rexii, and the numerous hybrids and cross-bred seedlings which have arisen from the crossing and intercrossing of the latter with S. Dunnii and S. lutea, better known as S. parviflora. A dry atmosphere seems very much to their liking, and wherever they have been cultivated in windows they have flowered with remarkable freedom and continuity. The great variety and the individual beauty of their flowers, together with the quantity produced, and the dwarf, compact habit of the plants should ensure them a long continued popularity and wide distribution.—*J.*

THE VEGETABLE GARDEN.

TOMATOS AND THE DISEASE.

THERE are so many varieties of these now offered to growers that it is not to be wondered at if some of the latter have more or less difficulty in making a proper selection as regards their free fruiting proclivities, good quality and appearance, and last, but not least, their undoubted disease-resisting properties. Among the sorts I have grown within the last few years were Orangefield Dwarf, Hathaway's Excelsior, The Lorillard, a fine, early and otherwise desirable Tomato of American origin, Red Perfection, and Golden Queen. The above-named sorts have all proved very serviceable and also disease resisting with the exception of Red Perfection, which was otherwise quite the finest in colour and good culinary properties of the other red sorts.

Prior to last season I had observed no trace of the dreaded fungus, and I am of opinion that the particulars connected with its appearance point to the variety in question as being among those which are most liable to the attacks of the unwelcome scourge. The plants on which affected fruits first appeared were growing in pots arranged alternately with others of the Golden Queen variety along the centre of a recently planted vinery, and all treated alike as to cultural conditions, including soil, watering, and of course temperature, atmospheric humidity, and ventilation. Each of the plants received about a tablespoonful of Thomson's Vine and Plant Manure as soon as the first fruits were fairly set. Several plants of Red Perfection were also planted at the foot of the back wall and trained up the trellis, the fruits on these in some instances being also affected slightly. It is noteworthy that no trace of the fungus could be detected on a single fruit of the yellow variety Golden Queen, and the facts stated, when viewed in the light of scientific opinion, viz., that the primary cause of the Tomato—in common with the Potato—disease is due to atmospheric conditions, point I think unmistakably to the hardier constitution of the latter variety enabling it to resist the disease, and are not without their significance to raisers of novelties of this now popular esculent.—*D. Mackie, Ayrshire.*

FRENCH TRUFFLES.

THE following particulars respecting the production of Truffles, which are extracted from a report of the United States Consul at Bordeax, recently appeared in the *Board of Trade Journal*:—

There are three species of Truffle found in France — the black and most common, the white (highly prized), and the *Truffe à l'ail*, which has a flavour of Garlic. They are found in all soils, but chiefly in Oak forests, or where the earth is damp and calcareous, thriving best in an almost sterile soil. The best that the country affords come from Périgueux and about Angoulême.

In appearance the ordinary Truffle is about the size of a Walnut, with a rough, brown, warty surface, closely akin to the Potato, which it likewise resembles in consistency, though not in colour. Not yielding to cultivation, they must be sought for in chance places, nor is the method of obtaining them the less interesting.

Recently it has been found that dogs could be trained to perform the duties that are instinctive to the pig, and so great is the demand in France for the Truffle that many of the canine species are now in certain districts possessed of this estimable talent Finely cut or sliced Truffles are mixed daily with their food, until at length they develop a liking for the flavour. Afterwards their owners conceal, in some portion of a field where Truffles are supposed to exist, a little tin dish of *filet aux Truffles*, covering the same with a few handfuls of earth. The dog is then brought out and urged to hunt for the dish, goaded by an empty stomach. When he at length finds it, he is caressed by his master, and thus, in the space of a few weeks, he will readily learn to hunt for the vegetable itself.

Truffles are seldom found twice in the same place. A field that may yield a great quantity this year will be quite fruitless the next. Though Alexander Bornholz, a German scientist, claims to have transplanted and raised the article in question, repeated experiments to that end have proved but failures. The Count de Noá, a Frenchman, and a certain M. Rousseau made like claims, but they have in each case been discredited.

The very fact that the Truffle is a rarity, and that it grows only in certain districts, has been enough to make it an object sought after clandestinely by peasants or those who carry them to market. There are poachers for Truffles as well as for game, who hunt by night with their dog or pig, a plague to landowners and a *bête noire* to local gendarmes.

Scarcely is there a canning establishment at this moment in France that does not among other alimentary products, preserve this dainty. It has become as indispensable to the dinner table of the *noblesse* as the aromatic sprig of Garlic to the frugal repast of the peasant.

The annual production is valued at about 3,000,000 dollars. The article is sold in the departments where found at 1 dollar per pound, and at almost double that price at the principal markets of the larger cities.

Not alone does the Truffle thrive in France; they are found in quantities in Italy, Spain, and Holland, but are of indifferent quality compared with the French, lacking the delicate and incomparable flavour of the native product.

In the United States, especially in California, some attention has been given, within the past few years, to the gathering and preserving of Truffles, and a number of Western packers have come to Bordeaux in order to inform themselves regarding the canning process. It is a very simple one, the Truffles being partially boiled, as Tomatos, Asparagus, and other vegetables, and then jarred and sealed in their own diluted juice. All meat and game products are also "truffled," the vegetable being cut into small squares, and inserted into the substance of the article preserved.

In 1889 the imports of Truffles into France were 22,585 lbs., and the exports therefrom 452,361 lbs. Of the latter quantity, 204,633 lbs. went to England, 107,276 lbs. to Germany, 38,990 lbs. to Belgium, and 24,387 lbs. to the United States.

HYBRID STREPTOCARPUS.

The original hybridisation of Streptocarpus Rexii and S. lutea (S. parviflora) with the pollen of S. Dunnii was a lucky hit; but no one then dreamt of the extent to which the hybridisation and subsequently the cross-breeding of the progeny would be carried. The variation both in the size and colour of the flowers is already practically endless, as in the Gloxinia, although we do not get the separation into selfs and spotted forms such as we see amongst the latter. The capabilities of the flowers of Streptocrapus have not yet been determined, and it is to be hoped that the work well begun will be carried on with spirit.

Gloxinias can only be cultivated with success by those having a command of stove heat, while Streptocrapus can be grown with great facility in a greenhouse, at least after the plants have attained some size. Last year a large quantity was kept by Messrs. Veitch & Sons, Chelsea, in a pit only slightly heated by artificial means, and during the severe weather of last winter the sashes were frozen down for a fortnight on end, so that the pit could not be entered, and the plants were subjected to some amount of frost. An amateur grower kept his plants in a frame last winter, and which had no artificial heating whatever, yet the plants lived and some of them flowered splendidly during the past summer in a window.

The illustration accompanying this, and which was kindly lent us by Messrs. J. Veitch & Sons, is that of a plant which was taken from a greenhouse and placed in a window in their nursery at Slough. Here it lasted in splendid condition for ten weeks, producing a large quantity of flowers as may be seen by reference to the figure. The plant was raised from seed amongst a large batch of others in December, 1889. It flowered in the following July, just six months after the seed was sown, and continued to bloom till October. Seed was saved from those plants, and the latter came into flower again last spring, about five or six weeks before the last exhibition of the Royal Horticultural Society held in the Inner Temple Gardens. The plant figured was one of the same batch. A large sowing was again made in the Chelsea nurseries in October last, and the seedlings by thousands are now progressing very favourably. Amateurs could manage to raise seedlings over a bed of fermenting material, and after the seedlings attain some size their after management would occasion no difficulty whatever, either in pots or planted out in a greenhouse.

Hybrid Streptocarpus grown in a window.

FLORICULTURE.

Seasonable Notes on Florists' Flowers.

Auriculas.

The Auricula is seen at a great disadvantage during the month of January to anyone who does not grow it, because during that month the plants have fallen away to their smallest proportions. This is equally true of plants grown in pots under shelter and those exposed to all weathers in the open border. An observer not learned in the management of the flower might be disposed to say, "What poor plants. Can these apparently poor worn-out plants burst into growth and produce fine heads of bloom in April?" they may say, with just a tinge of suspicion as to the possibility of their doing so. They will, most assuredly, and, though the filbert-like hearts of the plants are small, they are compact and literally loaded to the full with leaves that will presently expand and furnish a growth astounding to anyone not acquainted with the possibilities of the plant. Seasonable directions may be put into a few words: water sparingly; keep the foliage dry; the pots and shelves as clean as possible; and let there be a free circulation of air. Watch and wait should be the attitude of the grower; in another month he will perceive a change coming over his plants, and then he will know they are on the threshold of the movement the grower so longs to see. Plants growing in beds or borders in the open will be greatly helped by the soil being pressed firmly about them, and a good top-dressing added. It is a comfort to the plants at this time of the year, and it will be a great assistance to them when they commence to grow.

Carnations and Picotees.

Young plants in pots being wintered in cold frames still need to be protected from rains; but in mild, drying weather the lights can be pulled off and the plants have all the advantages of genial solar and atmospheric influences. The aim of the grower should be to have his plants as stocky, stout, and vigorous as possible, and if well rooted, as they should be at this season of the year, then he has just the right material to pot up for blooming, or for planting out in the open next month. If not already prepared the potting compost should be made up for next month or March. I cannot do better than quote from Mr. Dodwell's excellent book on the Carnation, even at the risk of repetition. He states under the head of soil :—It is more important this should be sweet and pure than highly stimulating, and he advises the top spit of an upland pasture of a good fibry character, say three parts, and of good well-decomposed manure and leaf mould, one part each; these should be sweetened by exposure to the atmosphere, and be occasionally turned. In wet weather place something over the peat to ward off rains. Mr. Dodwell is emphatic in his advice to the inexperienced to be careful in the application of manurial matters: "Where one plant has perished for lack of sustenance, hundreds have been killed, or worse, by excess of stimulants."

Calceolarias and Cinerarias.

The weather is so mild and open on the whole that plants of these will need but little fire heat, and it should be employed only to expel damp or prevent danger from from frost. The plants at this season of the year do best in a frame heated with water, and which can be warmed when required: the foliage near the glass, and raised up near to it if it can be managed. Cinerarias, especially if kept in a warm greenhouse that is constantly heated, soon become infested with green fly if not well looked after in the matter of cleanliness.

Dahlias.

The roots may yet remain in their winter quarters, being looked over ocaasionally to see that nothing in the way of rot or mildew is likely to prove injurious. In the big Dahlia nurseries preparations are already being made for commencing the work of propagation, but as it has to be done on a large scale, it is necessary to commence early.

Pansies.

I suppose the old practice of growing and blooming Pansies in pots has quite died out. In those days Pansies were exhibited in pots in May, and grand blooms were produced upon them. I scarcely know another plant so thoroughly satisfactory when grown in a pot in a cold frame as a Pansy, because of its continuous blooming properties. Pansies in beds will be benefited by having the surface cleaned, the plants pressed firmly into the soil, and a good top dressing of rich compost given, placing a small stick as a support to any shoots in danger of being blown about by the wind and snapped asunder.

Pelargoniums.

So few now grow good specimens of Pelargoniums for early blooming, that directions for their management are scarcely necessary. The big London exhibitions held in May are generally pretty strong in specimen Pelargoniums; and it is at this time of the year the foundations of the plants are formed. The branches are spread out so that air and sun may be freely admitted. This is done by tying a piece of twisted bass round the outside of the pot, just under the rim; and then the outside branches are gently tied down to it at proper distances apart. Then later on, the central shoots are tied out to neat stakes, so as to give the plant a symmetrical appearance, and the foundations of a specimen are laid. Young plants in small pots need to be kept gently growing, and be shifted as necessary for later blooming.

Polyanthuses.

Those growing in pots can be treated similarly to Auriculas, but should have a little more moisture, and the same with those in borders. A good top dressing will be found very useful. The old florists regarded the stem of a Polyanthus as the point of injurious attack, and they recommended earthing up to the leaves to keep it secure.

Pinks.

The plants are so hardy that they do not suffer much from frost, but boisterous cold winds are likely to prove more injurious; anything in the way of shelter is useful, and the timely securing of the long branches is desirable. Owing to the excessive wet some of the plants look unhappy, but when growth sets in they recover with remarkable quickness.

Tulips.

These promise to make an early growth, owing to the mildness of the weather, and the green leaf spike appears above ground earlier than is desirable; when this is the case frost will do injury to the leaves, and harm to the foliage appears to affect the beauty of the flowers. Henceforth it was customary to cover up the beds when frost was imminent, but directly the weather became mild the covering was at once removed.—*R. D.*

Exhibiting Carnation and Picotee Blooms.

We hear that at the forthcoming Exhibition of the Midland Counties Cornation Picotee Society in August next at Birmingham, Mr. Robert Sydenham contemplates offering some special prizes for cut blooms displayed in vases for table decoration, not in bunches or bouquets, but arranged loosely so as to show the beauty of the individual flower, combined with a tasteful arrangement. Now this is a step in the right direction, especially if the arrangement of the vases should be carried out by ladies, and restricting the number of blooms to about eighteen or twenty, so that all may work on a level, and with vases of the same size and pattern.

The Carnation and Picotee can safely hold its own with any other flower for duration and beauty in a cut state, and we are now growing rich and beautiful sorts, with such a diversity of colour that a lovely display can easily be made, and a new feature added to our Carnation and Picotee shows. In America, the Carnation and Picotee is making immense headway, and this style of exhibiting is popular, and it is also adopted at the Chrysanthemum Exhibitions when six to twelve blooms of a sort are set up in vases.

At the exhibition of the Midland Carnation and Picotee Society last August, prizes were offered for plants in small pots suitable for indoor and greenhouse decoration, but owing to the season being a very late one, the plants could not be got into bloom in time for the exhibition. Messrs. Thomson & Co., nurserymen, staged a dozen pretty examples, and Mr. Herbert, the manager, intends potting up a quantity of plants in the hope of making a good display in August next, and showing what can be done with the Carnation in small pots for indoor work. Over potting is certainly a very great mistake, even with plants grown in pots for exhibition purposes. The Birmingham growers are preparing for a big fight next August, end their stock of plants is in fine condition.—*W. D.*

ON CHRYSANTHEMUMS.

(Concluded from page 276.)

The plants to produce large blooms should not be topped, allow them to run up, providing each with a good stake, and standing them on boards in a single row. I stand mine by the side of a walk in the kitchen garden, and I find, by having Carrots or some such similar growing crop adjacent, that they nicely shade the pots, thereby keeping the roots cool and greatly minimising the labour of watering. Stout stakes should be driven into the ground at intervals along the row, running a line or two of strong string or wire the entire length, twisting it round each stake, and then tying each plant stake to the string or wire; that will secure them against being blown over and broken by strong winds, which invariably occur before housing time arrives—generally the first week in October. These tall plants will branch out of their own free will; three or four of the strongest shoots should be retained, letting each carry one bloom, and all other shoots should be nipped out as they appear. The shoots should be looped up to the stakes to prevent their being blown out.

Decorative plants that have been pinched may be staked out to the fancy of the grower, though too many should not be used. The plants must be well attended to as regards watering, as if neglected they soon lose their lower leaves, and when well rooted they require feeding with some stimulant to help them carry on their work of forming and producing good blooms. Some of the early varieties make nice stuff for furnishing grown in 32's, and to obtain dwarf plants of the large flowering sorts it is a good plan to cut down to within 6 in. or 9 in. of the soil a batch about the first week in June, standing them in a pit or frame, and syringing them occasionally to induce them to break, retaining four or five of the strongest shoots, and shift into their flowering pots as soon as they have made a nice start, putting a neat stake to each shoot. Such plants answer well for stage furnishing, and they bloom later, thus prolonging the season.

I do not think it necessary to enumerate varieties here, good catalogues are plentiful giving descriptions of the best varieties to grow for each purpose, and a glance through the numbers of The Gardening World for November will well post up the would-be exhibitor next season in the favourite varieties of the old hands. The grower for exhibition needs to cultivate a large collection composed of the best varieties up to date, and there is a good deal in having the blooms just "up" at the right time. It is admitted by some of the best growers that the best time for "taking" the buds is from the beginning of the second week in August to the second week of September, taking the late varieties at the first date, but I think a good deal depends on the locality and seasons, also in the convenience for housing the plants.

The subject of hirsute varieties has been discussed pro and con in your columns. They are novel and pretty, but the variety Mrs. Alpheus Hardy, that created such a furore when it first came out, seems to be an admitted "miffy" subject to deal with. Over-propagation was said to be the cause of failure at first, but I should think it ought to have recovered from that by this time. In 1890 I found it a shy rooter, so last year I grew them in 32's, using lighter soil and mixing some peat and sand with the compost. I let them run up as a single stem, taking the first bud I could obtain, and I may may mention that till then they grew in a cool house after which I stood them out of doors with the other varieties. I thus obtained a few very good blooms, but found the petals apt to damp, I presume on account of their hirsuteness.

I may now say a few words anent specimen plants. They are a great attraction to a show, and at most exhibitions classes are provided for them, but I think as a rule the prizes are inadequate. Considering the labour that is expended in their cultivation, and the cost of getting them to and from a show, they do not meet with that encouragement held out to distant exhibitors of cut blooms. I like to grow a few specimens and train them on the flat principle. The cuttings require to be struck early, as the plants need a long season to cover the trellis effectually; they should be grown on as I have previously mentioned, topping them when about 9 in. high, and as the shoots grow carefully tie them out; shift into their flowering pots, 12 in.

as soon as ready, using rich soil. Place a wire round the pot under the rim to which fasten cross-wise two or four laths, on to these secure a slight iron ring 3 ft. in diameter and commence tying the shoots down, an operation that requires neat handling as the shoots easily pull out. I usually tie the shoots together at the point where they branch out to prevent them splitting. Start them in a cold pit or frame, after which they may be stood outdoors in an open position, attend to them carefully as regards watering and tie down as they grow, syringing them every evening in dry weather. Young plants seem to grow with more freedom than old stools potted up to form specimens, and it is generally stipulated that the plants should show two or three inches of clear stem above the soil, and by running them up to 9 in. before stopping the specimens are higher in the centre and do not present a pancake aspect. I have found such varieties as Edwin Molyneux, Fair Maid of Guernsey, M. Astorg, Peter the Great, and Mons. C. Hubert, answer well. It is difficult to get the incurved varieties to carry their blooms erect. They should be disbudded, and the last tying should be done before the flowers commence opening, they can then be evenly distributed over the plants, and the flowers will right themselves. —*Geo. Potts, Heronden Hall Gardens, Tenterden, Kent.*

AMATEUR MUSHROOM CULTURE.

A CORRESPONDENT, writing for advice, remarks as follows: "In my little greenhouse I have boxed off the space under the bottom shelf, and have been trying to grow Mushrooms. The temperature is always about 60°, and the house is heated by a Bunsen burner in the centre of the house, the productions of combustion being carried outside. I fear the spawn was not good, as after being set a month I pulled up some of the pieces and they showed no signs of life. I thought of taking them all up and planting some fresh spawn, but find the heat has gone out of the manure considerably." And he puts these queries—"Would it do to get some fresh horse dung and mix with what I have to increase the heat? What is the best manure to grow them in? Describe the general appearance of good spawn: should it have little white live fibres running all about it, when broken up, about the size of a pin?" Here then we get a good illustration of the difficulties which beset amateur Mushroom growing. A great many amateurs are endeavouring to cultivate a few of this popular esculent, and thinking it desirable the most reliable information possible should be furnished to our correspondent, his letter was sent to a Mushroom grower of large experience.

His reply runs as follows:—"Sixty degrees is rather too high a temperature; I prefer 55° as an average. The beds may be too dry with the kind of heating employed, which has, I think, a tendency to over-dry the house. There is, I fear, a great deal of bad Mushroom spawn about this year owing to the wet and cold summer. I have heard of various complaints, and in my own case, though the beds have been made up with the usual care and in the usual manner, the yield is a very doubtful one. If your correspondent's bed is fairly moist and its temperature ranges about 60° there is yet hope. The spawn will not always run or show so quickly sometimes as at others: it will occasionally lay for eight or ten weeks before evidence of vitality. If later on there is no sign of a crop the bed can be re-made, adding fresh manure to give sufficient heat. The best manure for the purpose is horse droppings with the short litter left in it. Good Mushroom spawn in the form of bricks should have a fair amount of white-looking mycelium, that is, the white lines running through the spawn, and possess a faint smell of Mushrooms, but not always capable of being detected. I do not understand your correspondent when he speaks of the spawn being broken up 'about the size of a pin.' Bricks of ordinary Mushroom spawn, such as can be purchased at the seed shops, should be broken up into about six pieces; this will allow of a fair amount of spawn or thread-like fibres to each. If the spawn was very dry, and the manure dry also, when the bed was made up, that would to a large extent account for failure. In such cases the spawn should be soaked in warm water just before insertion, but only for a few minutes, and the temperature of the water should not exceed 85°."

Now it is generally supposed that the parts which in reality are only the organs of fructification are the entire plant. The true plant, however, which feeds, grows, and finally prepares to flower, is the network of whitish threads which form what is commonly called the "spawn," or botanically, the mycelium of the mushroom. The growth of this spawn, which is suspended in dry weather, becomes active under the influence of moisture accompanied with a sufficient degree of heat, and is developed in an especial degree by horse-manure, which appears to be the most favourable medium of all for the growth of the Mushroom.

I know a case where a gardener made up a Mushroom bed in the usual way; and after waiting for the usual time, found he had never a Mushroom to reward his lahours. He fancied perhaps the spawn was old and therefore useless, and in his vexation and disgust, forked over the bed, throwing it up into a loose, conical heap, or rather heaps, for he made two. He had intended using the compost for potting purposes, and it was left for the space of eight weeks or so, exposed and uncared for; but happening to require some rich soil for Chrysanthemums, he went to the heaps for some, and to his great amazement found the beds covered with some of the finest Mushrooms he had ever seen. Here, then, was a case of failure of crop in a bed resulting from other than defective spawn.

I well remember many years ago seeing in the south of England a full crop of Mushrooms growing in the open ground. The soil was from an old pasture newly broken; it had been planted with spring-sown Cabbages, and on a warm summer day the ground was hoed to the depth of 2 ins. or 3 ins., and the soil drawn up on either side to the plants. Then some Mushroom spawn was broken up into small pieces, inserted in the little banks of soil, and covered. In the early autumn a remarkable crop of Mushrooms was gathered. It would, perhaps, aid the production of a crop if, soon after planting the spawn, a layer of short horse droppings was placed over it to the depth of 2 ins. or 3 ins.—*R. D.*

GROWTH OF THE NURSERY TRADE IN AMERICA.

COMMERCIAL tree and plant growing on one side, and the production and consumption of fruits on the other, are in close mutual touch. Their relation is as cause and effect, but the lines are not distinctly drawn, and it is not easy to say which of the two is cause and which is effect. Increased demand for fruit calls for increased planting; this for increased nursery operations. The increase in the number of nurserymen again brings greater efforts in selling stock, which efforts result in increased planting, increased supply and increased use of fruits, and so on in a steadily growing circle. Its growth may be watched at any of the three main phases, viz., the nursery interest, the fruit supply, or the sale of fruits.

The growth of any link in this endless chain is a pretty fair indication of the growth of all the others. Just for this reason it is interesting to note the gradual increase of the nursery interest in the United States, from the two nurseries existing here previous to 1800, one in New York and one in Connecticut, to an establishment of 32 new ones between 1840 and 1850, and finally to an increase of 1,757 such institutions between the years 1880 and 1890.

The census of 1890 was the first in which the nursery business was made the subject of special inquiry. J. H. Hale probably had some difficulties in getting at all the facts, but his skill knew how to overcome the obstacles; and we believe the figures given in the census reports and tabulations, so far as the nursery industry is concerned, are at least approximately correct. "It appears," says Mr. Hale, "that there are in the United States 4,510 nurseries, valued at $41,978,835.80 and occupying 172,801 acres of land, with an invested capital of $52,425,669.51, and giving employment to 45,657 men, 2,279 women, and 14,200 animals, using in the propagation and cultivation of trees and plants $990,606.04 worth of implements. Of the acreage in nurseries 95,025.42 were found to be used in growing trees, plants, shrubs and vines of all ages; and the figures, based upon the best estimate of the nurserymen, make the grand total of plants and trees 3,386,855,778, of which 518,016,612 are fruit trees, 685,603,396 Grape vines and small fruits, and the balance nut, deciduous, and evergreen trees, hardy shrubs, and Roses. The largest acreage is devoted to the production of Apple trees, namely, 20,232.75 acres, numbering 240,570,666 young trees, giving an average of 11,890 per acre; while the Plum, Pear, and Peach have respectively, 7,826.5, 6,854.25, and 3,357 acres, which produce respectively 88,495,367, 77,223,402, and 49,887,894 young trees, or an average of 11,307, 11,266, and 14,861 trees to the acre."

New York state leads in number of nurseries (530), acreage (24,840), capital invested ($12,202,844.50), and number of men employed (3,970). Next comes California, then Illinois, Pennsylvania, Ohio, etc. The figures clearly prove the steady growth of the industry, which appears to be general, the only states showing a falling off being Vermont, Maine (in several lines only), and Florida in respect to her Orange production. This decrease is plainly traceable to local causes. Otherwise the continued growth and prosperity of the industry is well assured, as it is, in a measure, a self-feeder, producing its own stimulus.

The lower prices of nursery stock are offset by greater knowledge in the art of production. Better culture gives better stock at less cost. These are conditions favourable to the planter, and not in the least discouraging to the nurseryman who understands his business.

To allay all fears that the production of these millions of plants and trees in these thousands of nurseries would soon overstock the country, we might endorse Dr. Beadle's statement, made less than a year ago before the Ontario Fruit Growers' Association, that of twenty trees set out, only one will ever bear fruit. It is a sad reflection on our methods of transportation, and on the skill of planters, but it does not come far from the truth. We have here a great waste of material and effort, which it behoves those who buy and plant nursery stock to prevent to a great extent in future. In the meantime, however, it will take all the efforts of our established nurseries to supply the demand of tree planters. The loss of trees, coupled with the steady growth of the country and the increased taste in horticultural matters, must of necessity cause the demand for nursery products to be even greater in the future than in the past. Twenty years ago a fruit orchard fifty acres in extent was considered a wonder; now in nearly every state Apple, Pear, and Peach orchards of 100, 200 and 300 acres are being planted, while in Georgia and California there are many Peach orchards of 1,000 or more acres each. The greatest and most steady demand, however, will ever continue to be for plants and trees for the home ground and the fruit garden. The latter, a luxury a few years ago, is fast becoming a recognized necessity.—*American Garden.*

CHRYSANTHEMUM NOTES.

WHAT IS A REFLEXED CHRYSANTHEMUM? IN reference to the question, "What is a reflexed Chrysanthemum?" raised by the Batley Society and discussed in your issue for January 2nd, will you kindly allow me space for a few remarks. At the Sheffield Chrysanthemum Show, held at the Corn Exchange, November 14th, 1891, prizes were offered in a class for "Six Reflexed varieties," and the first prize was given to an exhibitor who staged four Japanese reflexed and two reflexed varieties, viz., Dr. Macary, La Triomphante. Elaine, Mons. W. Holmes, Cullingfordii, and Dr. Sharp; while I, who staged six true reflexed, viz., Chevalier Domage, Dr. Sharp, Cullingfordii, Temple of Solomon, King of Crimsons, and Distinction, was awarded the second prize.

I appealed to the committee on the injustice of the decision, but failed to induce that important body to disqualify the winner of the first prize. I presented myself before the committee at a subsequent meeting, but as my objection had been overruled at a previous meeting, it was decided to allow matters to remain as they were; one member remarked that the exhibitor was right in showing "Japanese reflexed" as "reflexed." Unfortunately the Sheffield Society is not now affiliated with the National Chrysanthemum Society, or the classification of that society would have, no doubt, been adhered to.—*An Exhibitor.* [The winner of the first prize in this case should certainly have been disqualified.—ED.]

GARDENING MISCELLANY.

LUCULIA PINCEANA.

THE flowers of this species are white with a pink tube, and are also considerably larger than those of L. gratissima. The delicious and sweet odour given off by them during the day is not the least of the recommendations of this plant. Botanically the flowers are very interesting from the presence of a bifid outgrowth from the base of the corolla lobes, and such processes serve at once to distinguish the species from L. gratissima. The leaves are of a rich, dark green and beautifully ribbed. A flowering plant may be seen in the greenhouse at Kew, but the flowers have suffered greatly from the effects of the recent fog, although not to the same extent as those of the better known species.

LACHENALIA PENDULA.

WHEN well-grown the flowers of this species are larger than those of any other, although not so numerous as in the case of L. tricolor. The flower scapes are green or occasionally blotched with purple and red in the upper part. The leaves are altogether without spots. The flowers are red with green tips to the segments, while the inner series of three have a purple blotch on each side of the green. The secret with the culture of these Lachenalias lies in growing them in a pit or house where they can enjoy plenty of ventilation on all favourable occasions. A close atmosphere induces the leaves and stems to become unduly elongated at the expense of the vigour of the plant and the durability of the flowers. While the flower stems are being pushed up it is a good plan to place the pots on a shelf near the glass. At all events they should never be mixed up with other plants which would unduly shade them.

BILBERGIA SPECIOSA.

THE leaves of this plant are very thinly scaly, often spotted with yellow, as in the case of B. Bakeriana, and arranged in vasiform tufts, from the centre of which the flowers proceed. The arching axis is covered on the upper portion with large, lanceolate, highly-coloured bracts, which are even more conspicuous and ornamental than the flowers themselves, although the latter are certainly interesting. The outer surface of the bracts is rose-red, while the inner is of a pale rose colour. The sepals are pale green with a blue tip, while the petals, in the bud state at least, are yellowish-green and tinted with blue at the tips.

THE "JOHN DOWNIE" CRAB.

IN one of the gardening periodicals some time since, I forget which, I saw a notice of this new variety of Crab, as being seen, I think, in the Bagshot nurseries. It was raised in the Whittington Nurseries, Lichfield, by Mr. Holmes (formerly of the firm of Fisher & Holmes, Sheffield), and it is not yet known as its merits and beauty deserve. The tree is of erect habit, very free blooming and fruiting, the fruits bright in colour, large, and of an acorn shape, and it is an exceedingty handsome ornamental tree in fruit. At the sale of the stock of the nurseries some two or three years since, a quantity of the trees were purchased by one or more of the nurserymen of Lichfield, and I think the Sheffield firm have a stock of it. I saw the seedling tree in full bearing some five or six years since, and I shall ever remember how I was struck with its beauty, for it was loaded with bright, handsome fruit, and has a nice compact habit of growth.—*W. D.*

ÆSCHYNANTHUS PULCHER.

THERE are something like sixty species of this genus described in books, but only a relatively small number of them are in cultivation. The bulk of them are of climbing or pendant habit, throwing out roots from their slender stems, or hanging over the sides of the basket if so grown. Few have got the erect habit of Æ. speciosa from Java. That under notice has the pendulous habit of Æ. Lobbianus, which is one of the most common in gardens. The leathery leaves are elliptic, and of a rich dark green. The flowers are of a brilliant red or scarlet, with a yellow blotch at the base of the three lower segments, and the tubular calyx is occasionally more or less tinted with red. The species was introduced from Java to this country in 1845 by Mr. W. Lobb, who has enriched our collections with many things. There is a coloured plate of it in the *Revue de l'Horticulture Belge* for this month.

CALCEOLARIA 'BURBIDGE'.

THE value of this plant lies in the fact that it flowers in winter when all or most other kinds are out of bloom. The habit of the plant is somewhat pyramidal, and when it attains a yard in height, which it readily does under favourable conditions, it becomes a stately and attractive object. The leaves are peculiar in form owing to a broad wing which runs down the petiole from the base of the blade. The flowers are produced from the axils of the leaves and the apex of the shoots and stems in small cymes. The upper lip is of a pale creamy-yellow, while the lower lip or pouch is bright lemon. There is little difficulty in the matter of propagation and culture, provided the plants are kept cool in a freely ventilated house during the summer months. Newly rooted cuttings should be placed in 3-in. pots, and shifted into larger sizes as the pots become filled with roots. As the plant gets tall it should be removed into deeper frames or pits, always exposing it to plenty of light, although not necessarily direct sunshine. The greenhouse or conservatory is the best place for it from the time it comes into bloom, as a low temperature is all that it needs. It is a hybrid raised between C. Pavonii and C. fuchsiæfolia, and most resembles the former in foliage.

ORCHID NOTES AND GLEANINGS.

The Orchid Grower's Calendar.

CATTLEYA HOUSE.—There is very little to do as yet in this department, beyond keeping up an even temperature and a free circulation of air, watering as the plants require it, to prevent an undue amount of shrivelling, and damping the walls and paths, should the house dry up too much through the strong firing necessary during sharp weather. With such mild and bright weather as we had last week very little firing was necessary during the day, but they have to be kept going again now to keep the temperatures anywhere near the mark.

LÆLIA ANCEPS, now in bloom, should be arranged so as to show their flowers off to advantage. Where there is no house set apart specially for plants in flower, a good show might be made at either end of the house with a few Palms and Ferns interspersed. L. a. Williamsiana, now in bloom, still holds its own amongst the white varieties. It is a good grower, and never fails to flower freely, which cannot be said of the newer introductions. It is therefore truly an amateur's plant. When mixed with the very dark types, of which there are some grand ones now, they contrast well. As they go out of bloom they will receive a thorough clean up, and, should any have become somewhat shrivelled through carrying their blooms too long, they will be allowed to plump up their bulbs again before being repotted or rebasketted as the case may be. I notice that some of them are beginning to root freely, and will soon claim attention. Cockroaches are very partial to these flowers, and should any be lurking about no time should be lost in ridding the houses of them. The Acme beetle trap is a capital thing, as once they get in escape is impossible, and they are easily despatched by pouring boiling water over them.

COOL HOUSE.—Never have the Odontoglossums looked more promising than now, and strong spikes are pushing up in quantity. As each spike appears the plants should be suspended with fine but strong wire so as to prevent the slugs from devouring the sweet morsel. This is not always a safeguard, however, as I have caught many of these pests, not much larger than a good sized pin's head, secreted in the axils of the leaf patiently waiting the approach of the spike. Traps should be set, such as bits of Apple, Orange peel, etc., to be looked over when going round the last thing at night. The plants should not be hung too close to the glass in very cold weather or the tips of the leaves will become yellow, and sometimes the spike will go off.

SOPHRONITES GRANDIFLORA in the cool house is just now making a brilliant show. Some of the most successful growers recommend the culture of these charming plants in an intermediate house, and where one exists I have no doubt they do best; but it is not everyone who can give them this accommodation, and where choice has to be made between the Cattleya house and cool treatment, my experience certainly favours the latter. Of course they are placed at the warmest end.

WATERING, ETC.—All watering should be done in the morning, and any plants hanging immediately over others should be allowed to drain well after being watered before being put back in their places. Now is a good time, if not already done, to have a thorough clean up; also to get a good quantity of clean pots and broken pots for crocking in readiness for the busy time close at hand. Should the stock of peat have become short it will also be well to get in a good supply at once.

TEMPERATURES.—East India house, 65° at night, 70° by day; Cattleya house, 55° night, 60° by day; Odontoglossum house, 45° night, 50° by day, with a rise of 5° with sun heat in each instance.—*C.*

The Freelands Collection.

IN looking over the Orchids the other day at Freelands, near Perth, the beautiful residence of C. L. Wood, Esq., I noticed a splendid form of Lælia autumnalis alba. It was a large round flower of great substance and of the purest white, excepting a faint tinge of canary-yellow at the base of the throat. I have seen other white forms of this Lælia, but none approaching this grand variety. A fine plant of Vanda Sanderiana, with four spikes and deep coloured flowers, showed up well; also Cypripedium Harrisianum superba, and other choice kinds. Freelands is one of the happy homes of Odontoglossums, and Mr. Sharp will soon have plenty of grand flower spikes in return for the care he has bestowed on them.—*A. I.*

Cœlogyne Gardneriana.

JUDGING from the quantity of this Orchid which has been imported recently it should soon get common in collections, and prove valuable for winter flowering. Both the flowers and the pseudo-bulbs are so strikingly distinct from those of other species generally seen in cultivation as to call for culture on this account alone. The pseudo-bulbs are flask shaped, and vary from 6 in. to 10 in., or even more in length according to vigour, but as the leaves generally fall off in winter the plant flowers while leafless. The flower scape is pendulous, and the flowers are white with exception of a yellow blotch on the base of the lip. The sepals, petals, and lip, however, are erect, thus making the flowers appear half closed as they hang suspended from the plant, and in this respect they may be compared to those of a Cyperorchis rather than a Cœlogyne. In the aggregate however the flowers, supported as they are with large, white, fleshy bracts are showy and conspicuous. The pseudo-bulbs may be compared to those of Oncidium sarcodes, greatly enlarged.

Platyclinis Cobbiana.

THE species of Platyclinis are best known in gardens under the name of Dendrochilum. The flowers as a rule are very small and numerous, hanging in graceful racemes, which make the plants great favourites with the majority of growers. Those of the plants under notice are larger than the others in cultivation and are rendered pretty and interesting by the contrast formed between the straw-coloured sepals and petals and the orange lip. The recent severe visitation of fog seems to have had no influence upon either the plant or its flowers, a fact which should increase the value of the same for winter-flowering.

Catasetum saccatum.

THE flowers of the different species of Catasetum are as varied as they are peculiar. The variations, or the more striking of them, are confined to lip and column, and by the characters of those organs the species are generally defined and classified. The flowers of the species under notice are large although, like a great many others, not particularly attractive. The sepals are mostly brown, while the petals are yellow, and closely spotted with brownish-purple. In the early stages of the flower the latter lie closely against the upper sepal as if they formed part of it, and by so doing make it appear broad and showy. The lip is the most striking organ of the flower owing to its peculiar form; it is three-lobed, the lateral lobes being fringed and closely spotted with brownish-purple on a yellow ground. The middle lobe is ovate, serrate at the margins, reflexed and spotted in the same way as the side lobes. Near the base is an elevated, slightly toothed, white ridge, forming the mouth to a deep sac or pouch which, has given rise to the specific name. The species is a native of Colombia, and flowered quite recently in the warm division of the Orchid house at Kew.

WHAT TO DO IN THE GARDEN.

Temperature in the Stove.— Under favourable conditions the night temperature in the stove should stand at 60°. During weather such as prevailed at Christmas and some days previous to it, there are several reasons why it should be allowed to drop below that standard. Plants suffer from the aridity of an atmosphere caused by hard firing to keep up the temperature; and in the neighbonrhood of London and other large towns, where the great consumption of coal gives rise to smoky fogs, the occupants of structures where a high temperature is maintained suffer more from the effects of the impure atmosphere than those in cool houses.

Sooty Glass.—The filth deposited upon the glass during the recent fog is such that it greatly obstructs the light which the plants ought now to enjoy. The garden engine ought to be brought into requisition, and, after thoroughly wetting the glass outside, the latter should be thoroughly rubbed with a mop or hair brush to loosen the sooty deposit. A good washing from the garden engine will do the rest.

Evergreen Ferns.—In the precautions taken to prevent any undue amount of moisture in houses where Evergreen Ferns are kept, the fact must not be overlooked that those subjects require a considerable amount of water even in winter to keep them in health. If allowed to get dry the older fronds soon get brown and shabby, which would detract considerably from their general appearance. Trees Ferns always require close attention in this respect, and when the stems are covered with an interlacing mass of fibres, they should occasionally be well wetted.

Heaths.—Keep a constant watch upon these to prevent the inroad of mildew, which would soon play havoc with the foliage during mild weather. On the first appearance of the malady the plants should be well dusted with sulphur, which will check the spread of the disease.

Unheated Pits and Frames.—Ventilation must be freely given on all favourable occasions, not merely tilting up the lights, but drawing them right off during dry mild weather, to keep the plants hardy. All damping leaves should be removed to prevent further decay if possible. This applies more especially to such soft-wooded subjects as Auriculas, Himalayan Primulas, Pentstemons and others.

Vines.—When the bunches in the early house can be well seen, the weaker shoots should be disbudded, and the others tied down by degrees as they attain sufficient length. Syringe early in the afternoon, and maintain an equable temperature and growiug atmosphere. It must not be concluded from this that a high temperature is to be maintained unless it arises from bright sunshine during the day, About 58° will be quite sufficient on cold nights, and 60° when mild and open. Get another house ready for closing where a large supply of Grapes is required.

Peaches.—Syringe the trees morning and afternoon till they come into bloom, after which the atmosphere should be kept drier till the young fruits are set. A good syringing to wash off the withered blossoms will then prove beneficial. A night temperature of 50° will be quite sufficient for the present, giving a rise by day and more from sunheat, with ventilation to induce a circulation of air and cause the flowers to set more freely. Tap the stems to distribute the pollen, or use some other of the several means employed to effect that purpose.

Cucumbers.—From now till the days get longer and warmer the maintenance of a continuous supply of fruit from one set of plants will be found a difficult task, unless the gardener has healthy robust plants, and the sky during the remaining portion of winter remains tolerably clear, Remove all fruits as soon as they are fit for use and thin out the small ones, provided they are too crowded for the plants to bring to perfection. Sow seeds for the spring and early summer fruiting batch of plants, using 3-in. pots, in which the seeds should be sown singly so as to avoid disturbing the roots when a larger shift is given.

Forcing Pits.—It will prove highly advantageous during the prevalence of mild weather to admit a free supply of air during the day to pits containing Potatos, Radishes, Carrots, and similar subjects now being forced for an early supply. Introduce fresh batches of Rhubarb, Sea Kale, and Asparugus, to take the place of those getting exhausted. Where large supplies are required fresh batches will have to be placed in heat every two or three weeks.

QUESTIONS AND ANSWERS.

BUCKBEANS, ETC.—*Flos*: There is no reason for supposing that Buckbeans (Menyanthes trifoliata) require very hot weather to cause the expansion of the flowers, for the plant does best in cool situations with its roots in water, and thrives best in the far north or in boggy places in hilly districts, according to our experience. On boggy spots on the north aspect of the Grampian range of mountains we have seen it thriving luxuriantly and flowering most profusely. In the south, on the contrary, it requires plenty of water, and does not flower very freely while seeds are seldom produced. It seeds freely in the north. The trees that thrive best in this country in hot weather are those which come from comparatively warmer countries than ours, and require an unusually warm summer to attain their highest development. Some of these are the Tree of Heaven (Ailanthus glandulosa), also Catalpa syringæfolia, and some others which fruit only in exceptionally fine seasons. The same effect of a fine season is also well seen in our fruit trees. Besides heat, however, there is the question of moisture, and if trees of most kinds are starved for want of moisture great heat will have the effect of restricting their growth. Now this applies to trees which suffer during hot seasons. Lime trees show the effects of a hot summer sooner than anything. It might be expected that Poplars and Willows would soon show the effects of heat, but as they naturally grow or are planted in damp places they do not show the effects of heat. The Horse chestnut perhaps comes next to the Lime in suffering from hot weather. In a word it may be said that it is merely a question of moisture, and provided that is plentiful there are no trees in this country which will show any evil effects from all the heat we get in Britain.

WILLOW EMITTING BALM.—*Flos* wishes to know if there is any kind of Willow which emits a balm in very hot weather. If anything of the kind has come under the notice of the readers of the GARDENING WORLD, an answer would be duly appreciated.

SPORT FROM CHRYSANTHEMUM LADY SELBORNE. —*J Bryson*: The flower you sent us seems distinct enough to constitute a distinct variety, provided it is constant. It might, however, be better earlier in the season as you say the first flowers were so. The bloom sent us was too open in the centre showing green and yellow florets, which militate greatly against it and spoil its purity. You might give it another trial to see whether the defect mentioned can be overcome, at least when it first comes into flower.

PEACH STOCK.—*Guernsey*: Peaches are usually budded, only sometimes grafted, on the Muscle Plum, this being considered the best stock for our climate.

NAMES OF PLANTS.—*F. M.*: 1, Selaginella uncinata; 2, Paullinia thalictrifolia.—*M. J.*: Sparmannia africana; 2, Jacobinia carnea; 3, Scutellaria mocciniana.—*H. W.*: 1, Erica carnea; 2, Arabis procurrens; 3, Jasminum nudiflorum; 4, Thuya gigantea; 5, Cupressus nutkænsis.—*G. B.*: 1, Cypripedium insigne Maulei; 2, C. i. punctatum violaceum; 3, Dendrobium bigibbum.—*Amateur*: 1, Polystichum angulare var.; 2, Polypodium vulgare; 3, Curculigo recurvata (it is not a Palm). Cultural details next week.

EXCHANGING AT THE TERM.—*Allie Gharnolar*: We do not think it would serve any useful purpose to publish your suggestion, against which there are serious objections, the principal one of which we should consider its inquisitorial character,

RHODODENDRON DAHURICUM HARDY.—*F. Miller*: The plant is perfectly hardy, so that you need have no anxiety on that point. When we get a mild autumn, such as the past one, this Rhododendron is very liable to come into bloom, or partly so, and when the weather gets mild in spring the rest of the flowers will open almost before those of any other. The type, as a rule, loses its leaves in autumn, but the varieiy R. d. sempervirens retains them or partly so. Here again you need not trouble about protection for the plants, as they will stand the winter easily and renew their growth in spring.

BEDDING VIOLAS.—*M. J. L.*: The first of these were derived from Viola cornuta and V. tricolor lutea, as improvements of those types. The progeny has since been hybridised with the bedding Pansies which originated from V. tricolor. Within recent times all the kinds suitable for bedding purposes, owing to their coutinuous free flowering habit, have been intercrossed to such an extent as to make it difficult to say from what species they originally sprung. This can only be guessed at from the habit of the plant and the form of the flowers. Then as the yellows originated from a form of the Pansy namely, V. tricolor lutea it follows that many of them are so closely allied as to be inseparable botanically.

COMMUNICATIONS RECEIVED.—K. & S.—E. L. F. —Omega—E. B.—J. P.—W. N.—F. D.—D. M.—E. C.—T. W.—J. D.—J. W.—R. D.

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January 5th, 1892.

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January 6th.

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	s. d	s. d.
Apples... per ½-sieve	1 0	5 0
Canadian and Nova Scotian Apples per barrel	12 0	18 0
Cobbs... per 100 lbs.	30 0	35 0
Grapes .....per lb.	0 6	2 6
Pine apples. —St. Michael's, each	2 6	6 0
Peaches .....per doz.	0 0	0 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.
ArtichokesGlobe doz.	3 0	6 0
Beans, French, perlb.	0 9	
Beet..... per dozen	2 0	3 0
Cabbages ... per doz.	1 6	2 6
Carrots ... per hunch	0 6	
Cauliflowers, English, per doz.	3 0	6 0
Celery.....per hundle	2 6	
Cucumbers .....each	0 6	1 3
Endive, French, doz.	2 6	3 0
Herbs .....per hunch	0 2	0 6
Horse Radish, bundle	2 0	4 0
Lettuces ...per dozen	1 0	1 6
Mushrooms, p. basket	1 3	2 0
Onions.....per hunch	0 4	0 6
Parsley ... per hunch	0 6	
Radishes... per dozen	1 6	
Smallsalading, punnet	0 4	
Seakale ...per basket	2 0	3 0
Spinach, per strike ...	1 6	
Tomatos..... per lb.	0 6	1 0
Turnips ..... per hun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Bouvardias...per doz.	8 0	12 0
Chrysanthemums, doz	6 0	12 0
— large .....per doz.	12 0	24 0
Cyperus .....per doz.	4 0	12 0
Dracæna term., doz.	24 0	36 0
Dracænaviridis, doz.	9 0	18 0
Epiphyllum per doz.	9 0	12 0
Erica Hymalis, per	12 0	18 0
— gracilis, per doz.	9 0	12 0
Evergreens, invar. doz	6 0	24 0
Ferns, invar., per doz.	4 0	18 0
Foliage Plants, doz.	12 0	60 0
Hyacinths,...per doz.	6 0	9 0
Marguerites, per doz.	6 0	12 0
Palms in variety, each	2 6	21 0
—scarlet .....per doz.	4 0	6 0
Poinsettia, ...per doz.	9 0	18 0
Primula Linensis per doz.	4 0	6 0
Roman Hyacinths, per doz.	9 0	12 0
Solanums...per doz.	9 0	12 0
Tulips.....per doz.	8 0	9 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

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Acacia or Mimosa French per hunch	1 0	1 6
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Bouvardias, per hun.	0 6	1 0
Carnations, 12 blooms	2 0	3 0
Chrysanthemums, doz. blooms	0 9	2 0
Chrysanthemums, doz. bunches	4 0	12 0
Eucharis ...per doz.	4 0	8 0
Gardenias 12 blooms	4 0	6 0
Hellebore or Christmas Roses, doz. blooms	0 6	1 6
Heliotropes, 12 sprays	0 3	0 6
Hyacinths, Roman, doz. sprays	6 0	9
Lilac, French, per bunch	6 0	7 0
Lilium Harrisii, doz. blooms	6 0	10 0
Liliumsvar., doz. blms.	1 6	3 0
MaidenhairFern, 12bs.	4 0	9 0
Marguerites, 12 bun.	2 0	4 0
Mignonette... 12 hun.	1 6	3 0
Narciss, Paper White doz. sprays	1 0	1 6
Narciss, French, doz. bunches	4 0	8 0
Parme Violets,		
Pelargoniums, 12 sps.	1 0	1 6
— scarlet.....12 bchs.	5 0	9 0
Poinsettia, doz. blms.	4 0	9 0
Primula, double, hun.	0 9	1 6
Primula single, doz. blooms	4 0	6 0
French, per bun.	3 6	4 6
Dark " " "	2 0	2 6
Roses, yellow, dozen	3 0	6 0
— Red..... doz. blms.	1 6	2 0
— Saffrano...per doz.	2 0	3 0
— Tea ..... per dozen	1 0	3 0
Tuberoses, per doz.	1 0	1 6
Violets, English per bunch	1 6	2 0

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The Gardening World.

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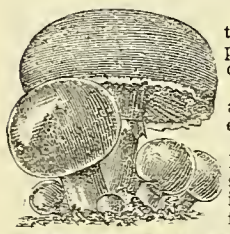

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GREEN and BLACK FLY, AMERICAN BLIGHT, RED SPIDER, CAMELLIA SCALE, MEALY BUG, BROWN and WHITE SCALE, WORMS, WOOD LICE, &c.

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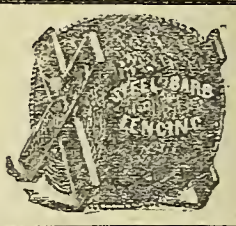

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ARE universally admitted to be worth a Guinea a Box for Bilious and Nervous Disorders, such as Wind and Pain in the Stomach, Sick Headache, Giddiness, Fulness and Swelling after Meals, Dizziness and Drowsiness, Cold Chills, Flushings of Heat, Loss of Appetite, Shortness of Breath, Costiveness, Scurvy and Blotches on the Skin, Disturbed Sleep, Frightful Dreams, and all Nervous and Trembling Sensations, &c. The first dose will give relief in twenty minutes. Every sufferer is earnestly invited to try one Box of these Pills, and they will be acknowledged to be

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For females of all ages these Pills are invaluable, as a few doses of them carry off all humours, and bring about all that is required. No female should be without them. There is no medicine to be found equal to Beecham's Pills for removing any obstruction or irregularity of the system. If taken according to the directions given with each box, they will soon restore females of all ages to sound and robust health. This has been proved by thousands who have tried them, and found the benefits which are ensured by their use.

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As a remedy for Coughs in general, Asthma, Bronchial Affections, Hoarseness, Shortness of Breath, Tightness and Oppression of the Chest, Wheezing, &c., these Pills stand unrivalled. They are the best ever offered to the public, and will speedily remove that sense of oppression and difficulty of breathing which nightly deprive the patient of rest. Let any person give BEECHAM'S COUGH PILLS a trial and the most violent Cough will in a short time be removed.

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7 beautiful Coloured Plates.

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Mrs. ROBINSON KING, 6 F.C.C.'s, New Golden Yellow sport from G. Empress. The WHOLE of the CERTIFICATED STOCK in my POSSESSION (see notice). PRELUDE or striped Alfred Lyne, Noel Pragnell or striped Empress. Excelsior, Jap., rose cerise, F.C.C. F. W. Flight, Jap., crimson carmine, 2 F.C.C.'s. G. C. Schwahe, J., carmine rose, 3 F.C.C.'s. Mrs. Nisbet, J., purple amaranth, F.C.C. Peter Blair, J., yellow and crimson, F.C.C. William Tunnington, J., chestnut red, COM. Atlantic, J., white and rose; Budget, J., red and yellow; Charles Bonstedt, J., lilac rose; J. Blenkinsop, J., crimson; J. P. Kendall, J., amaranth; Majestic, J., carmine rose; Masterpiece, J., ruby red: Mrs. Carr-Gomm, J, white; Mrs. C. Russell, J., buff; Mrs. Gladstone, J., cream; Mrs. H. F. Spaulding, J., black; Richard Nishet, J., red and yellow; Standard, J., rose magenta: Umpire, J., lilac rose; Miss Lillian Cope, J., or white Etoile de Lyon.

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A pretty and attractive variety of a charming rose-pink colour. Per Packet, 3s. 6d.

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Begs to draw attention to the great bargains he is now offering in

BEGONIAS.

Absolutely the best value for money ever offered.

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Single Begonias for Bedding.

These have been selected with great care, and may be relied upon to give a grand display.

	Per doz.	Per 100.
Very choice, all colours, mixed	3s.	20s.
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All the varieties offered under this heading are quite up to exhibition standard, and remarkable value for money.

12 finest selected, mixed colours, 4s. 6 finest selected fawn, bronze, terra-cotta, buff, apricot, and dark orange, 4s. 6d.; a unique collection. 12 fine selected, in 12 distinct colours, 6s. 12 very fine selected, in 12 distinct colours, 9s. 12, my very best selected, equal to the finest named varieties usually offered at 5s. each, in 12 lovely colours, 12s.

Double Begonias for Pots or Bedding.

6 fine selected seedlings, 6s. 6d.; 12 for 12s. 6 extra fine selected, suitable for exhibition, 13s.; 12 for 24s. Unbloomed doubles, 60 per cent. of these will be fine double flowers, 6 for 2s. 6d., 12 for 4s. Begonia seed, single, 1s. and 2s. per packet; double, 1s. 6d. and 2s. 6d. packet. *All Free for Cash with Order.*

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GARDEN.

BULBS, ROSES, &c.

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TO PREVENT DISAPPOINTMENT SOW SUTTON'S SEEDS AND HAVE THE FINEST VEGETABLES FOR THE TABLE ALL THE YEAR ROUND.

SUTTON'S COLLECTIONS prepared at the following prices, contain not only a most liberal supply, but all the varieties are of the very best, of excellent quality when cooked, and abundant croppers.

10s. 6d., 21s., 31s. 6d., £2 2s., £3 3s.

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"I am very pleased with your Collections; there is a large variety and good value for the money."—THOS. CARDER, Esq., Maiden, Bradley.

SUTTON'S SEEDS GENUINE ONLY FROM SUTTON & SONS, READING.

For Index to Contents see page 313.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

WEDNESDAY, January 20.—Sale of Plants, Bulbs, etc., at Protheroe & Morris' Rooms.

THURSDAY, January 21.—Sale of Lily Bulbs at Protheroe & Morris' Rooms.

FRIDAY, January 22.—Sale of established Orchids at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, JANUARY 16th, 1892.

THE CAPE PRIMROSE.—It may possibly have occurred to some of our readers, when looking at the admirable illustration of a plant of Messrs. James Veitch's & Sons new strain of Streptocarpus, which was published last week, that the strain has in it possibilities hardly less promising than have during the past ten years become great realities in the Gloxinia. There is much the same habit of growth, the fine depressed leafage, the flowers produced so abundantly from the crowns on single stems, their pendant and somewhat trumpet shape, in many features resembling the Gloxinia as it was not so many years ago.

Now we rarely see a pendant or drooping-flowered Gloxinia, and the superb erect blooms of to-day are such as even the most ardent raisers of a few years ago could hardly have looked for. But if we

do see in the Streptocarpus great possibilities of development it is because we have the example of the Gloxinia to stimulate our aspirations. It may be true that the Streptocarpus is not so facile a flower in the hands of the hybridist as the Gloxinia has proved to be, but it is certain that the new strain exhibits a great advance upon the older varieties. Then we have, as it were, but of late found out how to manipulate the blooms so as to ensure diverse variety in the seedlings. Presently, doubtless, as a reward for persistence in fertilisation and selection there will come some distinctive breaks of colour, and these again intercrossed on to others may give what is needed for a start, fresh and striking hues. Then we may look for the production gradually of erect flowers. Those, of course, will not come at once, for no hybridist ever finds the Golden Apple to fall into his mouth on the first shaking of the tree. Still some great development in the Streptocarpus presently seems assured.

Vegetables.—We have noted with exceeding satisfaction the fact that the first of the usual lectures given before the Fellows of the Royal Horticultural Society this year was on Vegetables, and given by a very able cultivator and expositor in the person of Mr. W. Iggulden, of Marston House, Frome. It is well that such very homely and utilitarian products as Vegetables should sometimes receive fitting notice. We are far too apt in all our garden associations to relegate these very tangible and valuable products to the background. They always play second fiddle to fruits, and third to flowers, so that too often the very things which are of the first importance in garden economy get indifferent treatment.

That the present series of meetings at the James' Street Drill Hall should be led off by Mr. Iggulden's paper is indeed satisfactory. We hope, in consequence, some effort will be made to give Vegetables greater prominence at the meetings. Gardeners, or at least many of them, are perhaps somewhat ashamed of Vegetables. More's the pity, for whatsoever may have been the mistakes in thus too far putting them into the background, it has less been the fault of growers than of those who have rather objected to soil their fingers with such common things.

What a wealth of fine Vegetables we have, and of the best we need, with proper care and culture, never have any scarcity. It is chiefly in the winter that we have need of greater variety, but still we have a good selection all the same. The production of a really wide variety, and abundant stock of Vegetables in the winter, proves to be a good test of any gardener's capacity, especially in having plenty of forced Vegetables, such as Seakale, Asparagus, Rhubarb, Cucumbers, Dwarf Beans, and similar and delicious products.

Heating Glass Houses.—The exigencies of gardening, whether for private purposes or for the supplying of public needs, all tend to the use of large areas of glass, which must, to be of service, be kept more or less heated, but in general considerably warmer, that rapid growth in plants and fruits may be produced. But whilst in all these cases the labour of creating the needful warmth is so systematic and admirably furnished that it creates little special pressure of any kind, all those who have mere greenhouses or even frames in which tender plants are housed for the winter are finding now the great need there is for some suitable provision for the supplying of heat, even to the exclusion of frost, if for no other purpose. That seems a small matter, and to the ordinary gardener is so, but to myriads of amateur or cottage plant growers the work is one of supreme importance as well as perhaps, to them, of anxiety.

So far, too many cases even now, in spite of all the publicity that has been given to economic methods of heating houses, there are too many such houses yet imperfectly heated, and which prove to be almost useless when the external cold finds out the weaknesses of their arrangements. It is only when the exigency comes that the negligence of better days is found out, and then it is too late. There are contrivances innumerable for heating with oil and gas, and many of them exceedingly cheap, but in a general way the system of heating with hot water pipes is the most reliable and serviceable. Once such an apparatus is fitted up, only the grossest negligence would allow plants to suffer from frost—such negligence as would indeed be inexcusable. No one can wish to see their tender plants, preserved so far through the autumn and winter with so much interest, absolutely destroyed by frost just as the worst period of the winter seemed to be past. That, however, is not at all an uncommon experience in small greenhouses insufficiently heated. Then there is the great advantage attendant upon ample heating powers, if the expense of firing be not regarded, that by keeping up a gentle temperature of from 45 to 50 degrees of heat many plants such as Chinese Primroses, Cyclamens, Zonal Pelargoniums, bulbs, &c., may be had freely blooming when otherwise nothing would be in flower.

The Gardeners' Orphan Fund.—The voting papers have now been issued to subscribers, and those who are in receipt of them by virtue of their right as subscribers can hardly fail to feel some sense of satisfaction that they are entitled to possess so real a privilege. Those who do not receive them, and especially gardeners, foremen in nurseries, or others similarly eligible, must feel anything but pleasure, and realize that a want of generosity of a very humble character has deprived them of a privilege which every gardener should earnestly strive to possess. With those who are subscribers and now voters the difficulty, no inconsiderable one indeed, is how to give their vote or votes to the most worthy of the twenty candidates for election.

How deplorable is it that out of these twenty—and all more or less worthy of sympathy—only eleven can be elected simply because the fund does not receive that support which it so much deserves. Every orphan child elected receives 5s. per week from the fund until it is fourteen years of age, and did but one thousand additional subscribers give but 5s. per year each it would enable the Committee to put on not merely eleven but all the orphans on the fund, so that out of the twenty present candidates none would be left to lament their misfortune. We always think most of those who, being rejected, are bitterly disappointed. They have no further hope from the fund until another full year has passed, whereas the small weekly payment of 5s. to the orphan child would to the widowed mother prove to be a veritable godsend. We would that the gardeners of the United Kingdom would realize the full force of the fact that the fund is for the special benefit of their class, and that it is one of the most meritorious ever created on a charitable basis.

It is to be regretted that out of the twenty gardeners whose lamented deaths have rendered these applications for the benefits of the fund needful, only two are reported as having been subscribers. Who cannot find 5s. per year for so good a cause? It is not too late yet to amend the error of non-subscription; send the money on at once to Mr. Barron, and qualify to receive a voting paper. All the circumstances of each candidate are fully stated, and any intelligent person can easily find out the most meritorious cases. Not a moment should be lost in securing the right to elect on the Orphan Fund.

Mr. Alexander Grant, for the last six years gardener to E. Beveridge, Esq., St. Leonard's Hill, has been engaged as gardener to Lord Heury Grosvenor, Bulwick Park, Wansford, Northamptonshire.

The Cattleya Rex Sale at Protheroe & Morris' Rooms on the 8th inst., brought together a considerable number of buyers, and there was a keen competition for most of the forty-two lots offered by the Messrs. Linden, which realised a total of over £400, the prices ranging from seven guineas to thirty guineas.

United Horticultural Benefit and Provident Society.—At the usual quarterly meeting held on Monday last, nine new members were elected, making the total roll of benefit members 423. The list of honorary members now numbers fifty-five, four having joined during the past year. It was also reported that four deaths had occurred during the year, and that the annual meeting will take place on Monday, March 4th, at 8 o'clock.

The Weather in Ayrshire.—Mr. Mackie, writing from Montgomerie Gardens, says:—In this district from the 7th to the 8th inst. snow fell to the depth of 2½ in., followed by the lowest temperatures we have had this season. Yesterday morning, the 10th, and this morning, the 11th, the reading of the self-registering thermometer indicated 20° and 18° of frost as having been the lowest from dusk the previous evenings. Most outdoor work in field and garden is suspended.

Death of Mr. John Dawe.—We regret to learn of the death recently from lock-jaw of Mr. John Dawe, gardener to Mr. Seale-Hayne, M.P., at Pitt House, Chudleigh, Devon. Mr. Dawe was one of the best known of Devonshire gardeners, and had been at Pitt House since 1852. He was sent there by the late Mr. Pince, of Exeter, to whom in 1859 he gave a bunch of Muscatel Grapes, from a seed of which the Mrs. Pince's Black Muscat Grape was subsequently raised. It seems that Mr. Dawe, who was sixty-six years of age, had a fall on the night of December 18th, and cut his thumb. He neglected to have the wound properly dressed at the time, with the result that a useful life was terminated by lock-jaw.

Torquay Horticultural Society.—At the annual meeting of this Society on the 7th inst., the honorary secretary, Mr. J. N. Whitehead, reported the receipt of a letter, signed by nearly all the Torquay gardeners, saying it was unfair to them that all classes at the autumn show should be open to all. The committee had considered that letter and had decided to provide classes for residents in Torquay, Cockington, Babbacombe, and St. Marychurch.—The spring exhibition was fixed for 22nd March, and that of the autumn for November 9th.

The Grand Yorkshire Gala.—At the annual meeting of the guarantors, held recently at York, the chairman of the committee, Sir J. Terry, had the pleasure of announcing that owing to a rearrangement of the committee, by which everyone had something to do, they had last year made the largest profit they had ever done since the gala was established in 1859. The total number of the visitors to the fête from 1859 to 1891 was 1,103,813; and the prize money awarded during the same period was £14,649 17s. 6d. Of their surpluses they had also given £1,447 10s. to the York charities, and had invested £2,000 as capital. The Lord Mayor of York was elected president for the present year, and the following officers were unanimously re-elected:—Sir J. Terry, chairman; Mr. Alderman Rooke, vice-chairman; Mr. J. Wilkinson, treasurer; Mr. Charles W. Simmons, secretary; and Mr. J.

Pearson, auditor. The following grants were made for the Gala next summer:—Flower Show prizes, £550; music, £120; balloons, £70; fireworks, £100; and entertainments, £150.

THE WILD CHINESE PRIMROSE.

When Primula sinensis was first introduced to this country, it had already been a cultivated plant in Chinese gardens, and considerably improved for horticultural purposes on the wild original. Until quite recently, however, no one could tell what improvements had been effected by cultivation till the wilding was discovered in its native habitats and sent home by Dr. Henry from the mountains of I-Chang in Central China. There it was found on the bare and dry ledges of limestone rocks, a small and apparently half starved subject, quite different from the magnificent specimens to be seen in the hot-houses of any good cultivator in Britain.

Already a great improvement has been effected in the wilding as the result of one year's cultivation. The amount of variation, however, is considerable even in a small batch of plants. The ordinary and the fern-leaved types are now well known in cultivation. The former exists in the wild or yet unimproved plant, and the latter is foreshadowed by plants having considerably elongated and lobed leaves, which would appear to be capable of development into the fern-leaved form. The flowers of the wild plant are very small, and of a pale lilac, but one year's cultivation has increased their size considerably, and, by seed raising and selection, they could no doubt in a few years be so improved as to be worthy of culture for decorative purposes alongside of the more favoured garden products. The calyx also shows great variation in size, inflation, and amount of fission, showing in fact a graduation towards that seen in the garden plant.

In all these points Primula sinensis shows itself to be a very variable plant, without being hybridised in any way; in fact all the garden improved forms have proceeded from a single species by seed sowing, selection, and the intercrossing of the varieties. At present the stock of the wild plant is in the hands of Messrs. Sutton & Sons, Reading, where we noted it a few days ago.

CYCLAMENS & PRIMULAS AT READING.

The low span-roofed houses in the Portland Road nursery of Messrs. Sutton & Sons, Reading, are now gay with a wealth of Cyclamens and Chinese Primulas. Just before Christmas Reading, in common with most other parts of England, had a visitation of fog, but being only a white one it was harmless compared with the black or yellow fogs of London and other large manufacturing places. The above-mentioned subjects have apparently not suffered in the slightest, for the earliest varieties, although sown at the same time as the late ones, are now passing rapidly into seed, while their large pyramidal trusses show what they have been. Later ones are either in their full glory or are just showing their first blooms. Cyclamens show a similar though not so extensive a gradation as to the time of flowering.

Cyclamens.

The seed was sown a year ago last November; the plants came into bloom in December last and will continue in perfection for six months. The seedlings for next winter's display are now appearing through the soil, and will come into bloom in December of this year. The seeds were placed about an inch apart each way in the pans, and will be allowed to make three or five leaves before being disturbed, as they will have formed tubers or corms before that time, and will therefore not suffer a check when potted off. The house in which the flowering plants are located is 76 ft. long, 12 ft. wide, and is divided into three compartments. The temperature now is kept at 46° to 48°, and everything looks clean and healthy.

The varieties are numerous, and all the leading and most distinct kinds are named. White Butterfly is considered the finest pure white Cyclamen, and although the plants are in moderate-sized pots we noted about 200 flowers and buds upon a single specimen. The flower scapes are short and the foliage compact and beautifully marbled. The secret of attaining results like this is to give plenty of moisture and a little shade in hot weather, with an equable temperature at all times, as draughts are most injurious to their well being. Vulcan has flowers of an intense crimson and cannot be overlooked in a collection, showing off as it does by contrast with the white varieties. The Giant strain is noteworthy on account of the size of the flowers. Those of Giant Crimson and White measured 5 in. across the segments of the corolla when spread out. The flowers of Giant White are wonderfully pure and have segments of great breadth. Those of Giant Rose were of a purplish-rose with a darker base. Giant Purple well describes itself. All of the Giant strain were very floriferous, a fact of unusual interest, considering the fact that even at exhibitions the plants are usually sparsely flowered.

The old Cyclamen persicum type was well represented in a great variety of colours, and the flowers in many instances were so large as to render their separation from the Giant type a matter of some difficulty. The name in most instances indicates the colour of the flowers. Purpureum, dark purple; Rubrum, deep red; Album, pure white; Roseum, rose with a carmine mouth; Roseum album, white with a rosy mouth; and Phœnix, intense crimson, were the leading colours. The sweet scented varieties of Cyclamen persicum are both rare and valuable. We noted a floriferous white variety with distinctly fragrant flowers. Altogether the Cyclamens make a fine display and are the first to catch the eye on entering the Portland Road Nursery.

Types of Messrs. Sutton's Chinese Primroses.

Chinese Primulas.

As house after house filled with this class of plants is entered the visitor becomes impressed not only with the display, but also the value of this race of plants for winter flowering. They were sown in June, and are now about six months old. As all the varieties have proceeded from a single species, that has not been hybridised with any other, the variations—not only in colour but habit—form of leaves, and precocity or otherwise, is something remarkable. Some have been in full bloom for a long time, while others have only a few of the first flowers expanded. Another point of interest to the botanist is that all the varieties having the ordinary heart-shaped leaves have a five-lobed eye to the flower with rounded lobes. Those with fern-like foliage on the contrary have a five-angled eye. Excessively large flowers have a tendency to be sterile, or to produce only a few flowers, a circumstance to be regretted, for the large flowers are certainly handsome.

Single Varieties.

The ordinary heart-shaped, or so called palm-leaved

type, shows a wonderful variation of rich colours. The flowers of Giant Crimson are rose-coloured at present, but deepen to crimson in February and March. It makes a grand companion to Giant White, which is compact in habit with flowers of great size and substance. Seeds of both are sold in mixture together with others not yet grown in quantity and which as a rule produce but few seeds. A handsome sort is Ruby King, with crimson-magenta flowers and a crimson eye. Reading Pink can hardly fail to be admired by all who see it on account of its delicate and pleasing colour. Reading Scarlet is as brilliant as it is floriferous, and the flowers are of large size. Brilliant Rose is an early flowering sort, and was in perfection when we saw it. Another variety of great merit is White Primula Pearl, with large, flat, pure white flowers and light green foliage. The red petioles, and large, richly-coloured flowers of Terra Cotta, show it to be a variety of great decorative value.

FERN-LEAVED VARIETIES.

The presence of finely cut, elongated, and fern-like leaves adds considerably to the decorative value of Chinese Primulas, and, whether the foliage has red or green petioles, also rivets the attention of the beholder, especially when contrasted with flowers of tints which we could hardly expect from the same. The Blue Fern-leaved has red petioles and flowers of wonderful richness, such as we seldom see in the so-called blues. Purity has pure white flowers and red petioles, and, being very floriferous, forms a strong contrast to the above. In this respect even more can be said of Gipsy Queen, for the dark brown, red petioled leaves are contrasted with pure white flowers. So distinct is it that it can be seen and distinguished by the foliage alone, even at a considerable distance off. It is well adapted for table decoration, as the metallic looking leaves are quite novel amongst Primulas. The earliest white variety is Snowdrift, a title it well merits, for the pure white flowers are not only produced in masses but such is their conformation that they hang on the plant till they shrivel up like tissue paper.

DOUBLE PRIMULAS.

The value of semi-double or double varieties of the Reading strain becomes apparent when we consider the fact that they can be raised in any quantity and with the same facility as the single varieties, without having recourse to the slow method of propagation by cuttings, as in the case of the old double with full, compact centres. The vigour of the foliage is also retained by raising the plants from seed. Double White varies with double and semi-double flowers, and has beautiful fern-leaved foliage. An idea of the flowers may be gleaned by reference to the lower part of the accompanying illustration, for which we are indebted to Messrs. Sutton & Sons. It is an early flowering variety of great decorative value, with huge trusses of bloom, and forms an excellent companion to Double Scarlet. The latter is roost in habit, floriferous, and remains in perfection for a long time. It has been honoured with a First-class Certificate. The rich, but delicate and pleasing flowers of Double Rose are also noteworthy, as a collection could hardly be complete without it. We were even more pleased with the Double Blue than its single counterpart, for the segments of the corolla were of a rich, dark tint, more worthy of the name of blue than most other kinds in cultivation. The margins were beautifully indented or fringed. Those who like fancy flowers could not do better than select Carnation-flaked, whose flowers are beautifully mottled, and striped with purple, on a pure white ground.

The moss-leaved varieties are very interesting in their way, and vary greatly in the size and colour of the flowers. The leaves in some cases remind the visitor of Curled Kail or Parsley. Some have large and others small flowers, both single and semi-double. The most of the above are arranged along the side benches of low, span-roofed houses, but a fine display meets the eye in one house, where all, or nearly all, the varieties in the collection are arranged in single or double rows on stages that ascend, tier above tier, till close to the glass. In frames close by are early batches of Cinerarias, many of which are now flowering finely.

Isoloma elliptica Multiflora.—The plants known in gardens as Tydæas are now included in the genus Isoloma. That under notice resembles a Tydæa, particularly in the form of the flowers. The leaves are obliquely ovate, and arranged upon the stems in whorls of three. The flowers are produced in small clusters in the axils of the leaves, and are notable for the shortness of the tube, which is covered with red hairs. The limb consists of five lobes, which are crumpled and toothed at the margins, and closely marked with purple spots and curved lines on a yellow ground. The markings are generally a conspicuous feature of the Tydæas, and the plants prove very serviceable in flowering in winter.

ORCHIDS AT "BROOMFIELD," SALE.

WHEN visiting some of the principal Orchid collections in the Manchester district, where good Orchids are perhaps more plentiful than in any other locality in England, I was particularly struck with the collection belonging to M. Wells, Esq., at present small, but almost unique, considering that Mr. Wells only commenced Orchid growing about eighteen months ago. He has got together a most interesting lot of plants; and unlike most amateurs—who, when starting in the Orchid world, commence with small, puny, and often half dead plants, at the time considered cheap, but very seldom giving any recompense for the time and trouble bestowed upon them—he began by securing some of the most rare and beautiful kinds, and, in some cases, absolutely unique specimens. Cattleyas, Lælias, and Odontoglossums are the favourites, and no plant finds a home here unless it possesses more than an ordinary amount of quality, either as a variety or species. The houses are nice, compact, and well adapted for the purpose of growing the plants.

We first entered the cool-house, which is well filled with a fine lot of Odontoglossums of different kinds, all healthy, clean, and well grown. I noticed a lovely form of Odontoglossum crispum called "Grandiflorum,"—the flowers are large, round, and well formed; the edges of the sepals and petals are crisped and broad, showing off the flower to advantage; Odontoglossum polyxanthum, with two strong flower spikes; O. Wilckeanum, a splendid variety with a fine flower spike; O. Hallii xanthoglossum, and the variety leucoglossum, with the white margin on the lip; O. Humeanum, a well coloured flower. Many of the finest varieties of the hybrid Odontoglossums, such as O. Andersonianum, O. Ruckerianum, O. spectabilis, O. Coradenei, O. baphicanthum, O. Chestertoni, O. hebraicum, all with good flower spikes, and shortly will make a grand display. In this house are many other cool Orchids, such as Zygopetalum crinitum cœruleum, with a large spike of its bluish flowers, which are sweetly scented. Oncidium macranthum does well here, also the lovely Sophronitis grandiflora, perhaps one of the best varieties, is in bloom; the flowers are 2½ ins. across and of the brightest colour. Many fine varieties of Odontoglossum Rossii majus are suspended from the roof, together with some fine forms of Lælia anceps, which are resting in the cool, such as L. anceps Sanderiana, L. anceps Dawsoni, L. anceps alba, L. anceps Schroderæ, L. anceps stella, and some dark form of L. anceps. There is a fine plant of Sobralia xantholeuca growing freely in the cool.

A warmer house is filled with different species. Many wonderful forms of Lælia elegans, which are thought a great deal of by the owner, L. elegans Turnerii being the favourite; L. elegans prasiata L. elegans rosea, L. elegans Blenheimensis, a new introduction into the collection, and many other forms are present. In bloom were some fine forms of Lælia anceps, L. anceps Barkeriana, L. anceps Cowanii, said by some judges to be the finest of all the dark forms of the species. Some Cattleyas are half resting in this house, such as Cattleya Hardyana, C. Mossiæ Hardyana, C. Wagenerii, and C. Skinnerii alba. C. Mendelii looks splendid, full of flower sheaths. Cymbidium Hookerianum is represented by a fine plant. There is also a magnificent plant of the rare Cymbidium Parishii, showing flower spike. Lycaste Skinnerii alba and Cœlogyne cristata alba are at home in this house, the bulbs being large and the flower spikes exceedingly strong. Some fine-grown specimen plants of C. cristata maxima and C. cristata (Chatsworth variety); also C. cristata Lemoniana are all in the best possible condition. Odontoglossum Roezlii grows beautifully on a shelf close to the glass, together with O. vexillarium and O. Phalænopsis, they are clean and making fine growth. Doubtless these plants will flower well. Oncidium Marshallianum and O. crispum grandiflorum are doing well, quite at home and free from all thrip marks so prevalent to these species. Other plants are looking the picture of health, such as Cymbidium eburneum with seven flower spikes; Cymbidium Lowianum with five strong flower spikes; Vanda tricolor, Vanda suavis, and Vanda cœrulea. The next house, which is warmer, contains a mixed lot of plants.

On entering I was startled with a most remarkable variety of the charming Cattleya exoniensis superba, or what was originally known as Veitch's long bulbed and long-leaved variety; this is a magnificent plant, and has four very large flowers on a spike, presenting one of the best sights of Orchid flowers I have yet seen; there are three distinct varieties of C. exoniensis, and this is unquestionably the finest. I believe this has not flowered so finely since the Edinburgh exhibition in 1876, when the large plant was exhibited. Some very fine varieties of the handsome Cattleya aurea were in full flower, one of which had five large flowers on a spike. The Lælia purpuratas look grand, having made strong growths, and have many flower sheaths. Lælia purpurata Schroderiana, L. purpurata Russelliana, L. purpurata alba are also conspicuous specimens. Cattleya maxima was well represented in full bloom; also the pretty C. Bowringeana.

The Dendrobiums are a feature in this house, and some of the choicest forms of D. nobile are to be seen in such condition as would do many Orchid lovers, as well as growers, good to see them. D. nobile Cooksoni, D. nobile nobilius, Dendrobium nobile (Hardy's variety), D. nobile album, D. nobile Cypherii, D. nobile Sanderiana, and a handsome Dendrobium (Sir William Marriott's Seedling) not yet named, but which will be in full flower shortly. D. venus, a lovely hybrid, between D. nobile and D. Falconerii, D. cassiope, D. Schneiderianum, D. Leechianum, D. Ainsworthii roseum, and the beautiful D. splendidissimum grandiflorum, are included in the collection. A fine form of Vanda Sanderiana was in full flower with five spikes and thirty-seven flowers. The Cypripediums look well. A fine form of C. Leeanum superbum variety giganteum is a grand acquisition to the collection, the dorsal sepal measuring 3 in. across, and nearly all white. C. Morganiæ, C. præstans, C. vexillarium superbum, C. Bartelii, C. ænanthum superbum are also fine. In full flower were C. Sedenii, C. calurum, C. Sedenii candidulum, C. Sedenii cardinale and C. Sedenii Ainsworthii, C. Harrisianum superbum, and many forms of C. insigne, of which the old "insigne Maulei" is still the best. Altogether they make a good show for this season of the year. Lælia grandis tenebrosa, a very dark variety, looks well amongst the various Orchids in bloom.

Passing through a small conservatory, nicely arranged with miscellaneous plants, such as Azaleas, Camellias, Daphnes, Chrysanthemums, and other showy things, we come to the house where many plants are resting in the cooler part. Here are many fine examples of Dendrobium Wardianum giganteum, with enormous bulbs, both thick and long; D. Wardianum album, a fine plant, will shortly be in bloom; D. crassinode Barberianum, D. crassinode album, D. Bensoni majus, D. Bensoni nigrum, a very dark form; D. tortile roseum, D. Devonianum album, D. Falconeri giganteum. A very fine piece of Lælia autumnalis alba is doing well; it has made large bulbs, and is rooting freely. Lælia Dayana superba and L. præstans are very fine, and do well at the cool end of the intermediate house. A small fernery, which is well kept, brings us to the end of the range of houses. One can spend a very pleasant afternoon with Mr. Wells in his Orchid houses viewing and admiring all the different subjects. He is a keen Orchidist, and no one could better appreciate a good plant or a fine growth, especially when made under his own glass. It certainly is a great pleasure to go through the houses, which are patterns of order and neatness. The plants are in the finest health, and many of them are simply marvels of high cultivation, and reflecting the greatest credit on Mr. Wells' intelligent gardener, Mr. Hinde.—*J. B.*

Coccocypselum Discolor.—Notwithstanding the unwieldy length of the name, the plant itself is very ornamental in more ways than one, more especially when grown as a basket plant and suspended so as to show it off to advantage. The stems are slender and creeping, and fall loosely over the sides of the basket when so grown. The leaves are covered on both surfaces with violet hairs, and are frequently of the same hue on the under-surface, hence the specific name. Flowers are produced in axillary clusters, but they are by no means conspicuous or ornamental, though they are followed by large deep blue berries, which are both unusually conspicuous and highly interesting. The plant requires stove treatment, but beyond that propagation and culture is of the easiest. Fruits are produced with the greater freedom when the plant is hung up near the glass.

GARDENING MISCELLANY.

PSYCHOTRIA CYANOCOCCA.

The dark, almost indigo-blue fruits of this plant are very peculiar, and when produced in quantity on a well-grown plant, are very ornamental during the winter months. As the species is a native of Nicaragua, it requires stove temperature to grow it to perfection. As far as the flowers and foliage are concerned there is nothing striking to attract the cultivator's attention; but the uncommon colour of the berries and the length of time they hang on the plant during the dullest part of the year is sufficient to recommend this subject for stove decoration. Something like 500 species of Psychotria are known to science, but very few of them have been introduced to cultivation. The best known to gardeners is P. jasminiflora, usually called Gloneria jasminiflora. The bulk of the species are of no horticultural value.

NERINE FLEXUOSA.

The flowers of this species are smaller than those of N. curvifolium or N. sarniensis, but they are graceful and pretty owing to the undulated or wavy character of the segments of the perianth. When grown in pots the flower stems attain a height of 18 in. to 20 in., and are surrounded at the base by narrowly linear, bright green leaves which are contemporaneous. The flowers are blush or rose-coloured with a darker midrib fading with age. The bursting of the seed vessels, and the exposure of the seeds while yet relatively small is a peculiar feature of the Nerines, and as this species produces a large number of seeds, the umbel, as the flowers wither, becomes laden with green or whitish seeds that ultimately become reddish, mottled with a darker hue. Their development can be no advantage for the bulbs, and unless seed is required, the flower scapes should be removed after the bloom withers and the foliage encouraged to make as good growth as possible, and gradually ripened off only after it naturally shows signs of decay.

DÆDALACANTHUS MACROPHYLLUS.

Both this and Eranthemum pulchellum are often grown for winter decoration, and are generally included amongst lists of winter-flowering plants, the latter perhaps being the most frequently grown, perhaps on account of its dwarfer habit and larger, more showy flowers. The plant under notice, however, produces the greater quantity of bloom, and when well grown is quite pretty. The flowers of E. pulchellum are always produced few at a time, and, although certainly pretty, have no duration. The flowers of Dædalacanthus macrophyllus are produced in long branching racemes, and commence opening from the base upwards, a considerable number being open at one time on the same branch. The whole inflorescence is often 12 in. long or more, and with its numerous branches is quite pretty. The flowers are very irregular in form, and two-lipped, with the upper lip consisting of four light blue segments, and the lower lip is deep blue and netted with violet veins. The leaves are elliptic and furnished with numerous strong incurved veins. The plant is a native of Burmah, and when grown as a winter-flowering subject in this country does best when propagated from cuttings annually, and grown on through the summer like other plants used for the same purpose.

CYCLANTHUS CRISTATUS.

The species of Cyclanthus are allied to Carludovica, but at present are rarely seen in gardens. Both are New World representatives of Pandanus and its allies in the Old World. Some of the species of Carludovica are amongst the most elegant of stove plants, rivalling the Palms. Cyclanthus cristatus appears worthy of attention as an ornamental-foliaged plant for the stove, judging from the bold and handsome character of its leaves. The bulk of the latter on a plant in the Victoria house at Kew are oblong-elliptic, on long petioles, with two strong nerves running down the lamina and about equally prominent on both surfaces. The object of those two nerves is not at first sight apparent, but a few of the leaves are bifid, and a still smaller number divided almost to the base into two pieces. The whole plant is about 3 ft. high, and forms a close mass of leaves of nearly upright habit, such as would prove useful for decorative purposes.

PILOCEREUS BRUNNOWII.

The species of Pilocereus, or such of them as are cultivated in gardens, become familiar objects from their slow growing nature, and the almost unvarying appearance which they present from one year's end to the other. The chief variation consists of the new annual growth, which appears fresher and cleaner than the old. The species under notice is of erect habit with numerous ribs and furrows between them. Along the edges of the ribs are clusters of sharp spines, in the centre of which is a long one; the whole are embedded in long cottony hairs on the upper part of the plant, and which are finer with a more silky appearance than in the case of P. senilis, known as the Old man, and a very familiar object in some old-fashioned gardens. The long cottony hairs fall away from the lower and older part of the plant, leaving the stems naked with exception of the spines, which are all but concealed on the upper and younger part of the plant. It is equally interesting as P. senilis, prettier and finer.

ABUTILON THOMPSONI FLORE PLENO.

When seen in good condition the flowers of this species are not without decorative value in the late autumn months. They are of moderate size, and perfectly double, although not in any way crowded. They are deep yellow or orange-coloured with purple-red veins running through them, as in the single and typical form. In addition to the flowers must be added the beauty of the foliage, which is handsomely blotched with bright yellow. To ensure dwarf yet vigorous plants it is necessary to raise a fresh stock from cuttings in the spring time and grow them on. Old plants would, however, be the more bushy of the two, and some might prefer them on that account. Then instead of throwing away the old plants, they should be hard cut back and repotted when they start into fresh growth.

SCOTTISH NOTES.

Aberdeen Gardeners and Fruiterers' Annual Assembly.—The annual assembly, under the auspices of the above, was held in the Royal Albert Hall, Aberdeen, on Wednesday evening, 6th inst. Under the decorative skill of Messrs. Shirras & Son, Schoolhill, Aberdeen, the hall was made to assume a festive and gay appearance in keeping with the occasion. Mr. A. G. Watson, St. Nicholas Lane, Aberdeen, presided, and on the platform were also Messrs. Asher (Messrs. Asher & Sons), Smith (do.), Leslie (Messrs. Leslie & Duthie), Milne (Messrs. A. Milne & Son), Johnstone (Messrs Smith & Johnstone), Darling (Messrs. Cardno & Darling), John Gray (Messrs. A. & R. Gray), Mitchell, Regent Quay; Robson (Smith & Sons), John Troup (Messrs. Ben Reid & Co.), &c. After tea the chairman made a few remarks relative to their trade. Compared with 1891, the prospects for the present year were much brighter, he said, for fruit growers and fruit sellers. The cultivation of fruit was extending both on the continent and in this country, and the means of transit had also been increased and considerably accelerated, the result being that the produce of the garden was brought into the market in better condition and much quicker than used to be the case. The trade was only now in its infancy, and would yet develop to greater dimensions. On the whole he did not think that traders or retailers had much reason to complain of the sales during the past year. He complimented the French on the manner in which they packed their fruit, and stated that other countries might take a leaf out of their book in that matter. A programme composed entirely of songs was then discoursed, and a dance followed, which was thoroughly enjoyed.

A meed of praise is due to Mr. Alexander Burns, Junr., New Market, the obliging and indefatigable secretary, to whose efforts was due much of the success that attended the assembly.

Glasgow and West of Scotland Horticultural Society.—At an adjourned meeting held on the 6th inst., it was resolved that the Society should be carried on for another year, and that two exhibitions be held in 1892, the one (a spring show) on Wednesday, 30th March, and the other (an autumn show) on Wednesday, 7th September; and that these shows should be held in the New Olympia Hall, in New City Road, a large and spacious covered enclosure, similar to the Waverley Market in Edinburgh, and eminently well suited for such a purpose as a horticultural exhibition. The committee further recommended the appointment of a new directorate, including eight nurserymen, eight gardeners, and eight amateurs; the election of Mr. Charles Macdonald Williamson, 194, West George Street, to the combined post of secretary and treasurer; the appointment of Mr. John Hamilton, gardener, Shawfield, Rutherglen, as collector. The recommendations of the committee were all adopted. A board of directors was afterwards elected.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.

We are indebted to the secretary, Mr. Ingram, for a copy of the statement of accounts, published herewith, to be presented at the annual meeting on January 15th, a report of which will be given in our next issue.

STATEMENT of the RECEIPTS and PAYMENTS of the GARDENERS' ROYAL BENEVOLENT INSTITUTION for the Year ending 31st December, 1891.

Dr.

	£ s. d.	£ s. d.	£ s. d.
To Balance, 1890	...	692 2 1	
„ Transfer from Deposit Account	...	1,000 0 0	1,692 2 1
„ Aonual Subscriptions...	1,339 10 0		
„ Donations at and in consequence of the Annual Dinner.....	1,241 3 0		
„ Collecting Cards.....	126 16 4		
„ Advertisements	47 18 0		
		2,755 7 4	
„ Dividends on Stock ...	685 8 9		
„ Interest on Deposits...	86 5 8		
		771 14 5	3,527 1 9
Stock Invested.....£25,000			
Pension Adjustment Account ...£2,650			
			£5,219 3 10

Cr.

	£ s. d.	£ s. d.	£ s. d.
By Pensions and Gratuities...	...	...	2,739 16 8
„ Late Secretary's Salary and Honorarium	132 10 0		
„ Locum tenens.....	64 0 0		
„ Secretary's Salary	65 13 9		
		262 3 9	
„ Rent of Offices (including Repainting).....	...	77 17 0	
„ Stationery	...	29 2 4	
„ Printing	...	157 14 6	
„ Postage and Expenses of Appeal	...	40 12 0	
„ Expenses of Annual Meeting and Election	...	18 17 3	
„ Marion & Co., for Frames	...	3 3 2	
„ Books of Cheques.....	...	6 13 4	
„ Wreath for Mr. Cutler's Funeral.....	...	4 14 6	
„ Advertisements for vacant Secretaryship..... ...	...	4 9 6	
„ Expenses of Annual Dinner	206 6 5		
„ Less Tickets Sold.....	123 18 0		
		82 8 5	
„ Postages, Wages, and Travelling Expenses	...	92 14 6	
			780 10 3
			3,520 6 11
Placed on Deposit with Bankers	...	...	800 0 0
			4,320 6 11
„ Balances:—			
With Treasurer at Bankers	...	888 16 11	
„ Secretary	...	10 0 0	
			898 16 11
			£5,219 3 10

EARLY *v.* LATE PLANTING OF POTATOS.

The results of early and late planting of Potatos, published at p. 289, simply justify what has previously been written with respect to this subject. They show to us nothing that is new, but may have helped to dispel some foolish ideas in relation to Potato culture, which spring up now and then when disease is more than usually destructive. Because the growths of Potatos are so slender, planters have always to steer carefully between the rocks of late spring frosts, or loss of crop from too late planting. But so far as what may be regarded as fairly early planting, and the 31st March is only fairly early, I have always held that such time is just about the average best for all main crops or late varieties, if the ground be vacant, weather and soil be accommodating, and the labour can then readily be furnished.

I prefer to plant the late tubers first, because these, being later in breaking, take fully two months or nearly as long before they appear through the ground. When, however, they do so the growths are of exceptional strength, because the shoots have had ample time to become well rooted. Then if the earlier sorts be planted through April, and if it be possible every tuber should be in the soil by that time, these having been naturally somewhat sprouted push growth soon, and are through the ground in a few weeks. Thus the late varieties, which need the longest growing season, get it, and the precocious ones the shorter season.

It is not a matter for wonder, apart from the short seasons given to Mr. Maldens late planted breadths, that the crops on these should become less just as they were later planted, because it was stated that the seed stocks were frequently turned over to destroy the eye buds and check growth. Thus the earlier planted tubers had the benefit of the first strong shoots, and the later ones only such as the frequent turnings and maiming of the growths had left, for of course such shoots must have been much weakened. That alone, apart from all other considerations, would account for greater lightness of the crops from the late planted breadths. There can be no doubt but that in the extreme south and west we may safely and advisedly plant Potatos in March, for the bulk of the kingdom in April, and the north in May; for no date absolutely can be fixed for all parts of the country alike.—*A. D.*

PLANTS IN ROOMS.

It is at this period of the year in particular that plants in a living room are doubly welcome. What with frost and cold, fog, snow, and rain, the outdoor garden is to a large extent closed to the lover of plants and flowers, and then it is that a greenhouse or conservatory is doubly valuable, because a screen of glass affords opportunity for looking over the plants, however bad the weather may be without. Those who have no greenhouse grow plants within doors, and succeed or fail with them according to the adaptability of the plants for the purpose, and the attention they receive.

The Garden in the House.

What can be done to make the interior of the house look bright and cheerful with plants and flowers during the winter time? One favourite method is growing a few Hyacinths in glasses, Crocuses in saucers, or any other shallow vessel in which a little cocoa fibre refuse, or sand and finely powdered charcoal can be placed; while a few single Daffodils and Tulips can be grown in pots, and we have seen how that variety of the fragrant Polyanthus Narcissus known as the Chinese sacred Lily can be grown within doors in a bowl of water, sand or soil. But all these things require to be grown near the light, where sunshine can fall upon them, and where they can have all the air possible. To grow them in a dark, close part of the room, or upon a mantelpiece over a fireplace, is to court failure. And care should be taken that loss of moisture through evaporation, or by the requirements of the plants, be replaced at intervals of two or three days as needed. Many little attentions suggest themselves to him or her whose heart is in the pleasant pastime of growing plants within doors—they are all of importance; it is the small attentions which go so much to complete the sum of success.

Flowering Plants for Windows.

One of the best of these at this season of the year is the gay and attractive Persian Cyclamen. I have known a plant, with proper care, to last in bloom, when kept in a window, for the space of three or four months. The pot containing the plant should be stood in a saucer, and if in the act of watering some water runs down through the soil into the saucer, it need not be turned out; the roots will suck it up in due course.

The leaves of the Cyclamen being thick and leathery, they can be readily sponged; a small piece of sponge or flannel passed over the leaves three times a week will keep them free of any dust deposit, and minister to the plant's health. The flowers, too, are thick, and their petals do not suffer as those of flowers of softer texture do. If gas is burnt during the evening in the room in which the plant is kept, I venture to suggest the plant might be removed while the gas is alight; this will help to maintain it longer in fresh bloom.

The Chinese Primula as an Indoor Plant.

Some recommend it for the purpose, but it does best in an uninhabited room where there is sufficient warmth to enable it to flower. The leaves, though thick, are rough on the surface, and not smooth like those of the Cyclamen, and they gather dust the more readily, but they can be cleansed with care. Gas is hurtful to the flowers. It is, however, a very free-blooming plant, and given adequate care, it remains in flower a long time. Care is required in giving water, and during dull, cold, damp weather it should be given only when required.

A Dry Atmosphere Injurious.

Undoubtedly one of the greatest obstacles to success in the cultivation of plants in rooms where a fire is kept, and gas or lamps are burned, is the dryness of the atmosphere. In consequence of this, such plants as I attempt to grow in this way are stood in earthenware pans, with a little water kept in them. Something in the way of evaporation goes on, which is helpful to the plants, though perhaps not in a large degree. One of my favourite plants for winter is Primula obconica, because of its perpetual flowering character. It seems the gas fumes do not injure the flowers so much as might be supposed, and certainly not so much as in the case of some other plants. Its freedom of bloom is one of the chief recommendations of this charming species of Primula, and it may be said to flower all the year round. As a matter of course, a certain amount of dust deposit gathers upon the blossoms and leaves; a small piece of sponge and a little chilled water soon cleanses the latter, while the dust can be shaken from the blossoms. Another good indoor flowering plant is Cyclamen persicum. I have known a plant of this to remain in good bloom for three months, with just a little attention in the matter of cleanliness. Foliaged plants, such as the Indian Rubber plant, and the thick-leaved Aspidistra lurida, are excellent for room culture, and one of the best ferns to grow is the crested form of Pteris tremula: but in all cases careful watering is needed during winter. There is prevalent such a common and fatal error that plants want so much water daily, that many an one is killed through mistaken kindness. It is impossible to lay rules for watering that will suit all plants, at all times, but it may be said generally that the amount of atmospheric moisture that there must be in the air for a young, healthily-growing plant is by no means inconsiderable; and in a warm, dry sitting-room, or in a warm but unshaded greenhouse, under certain circumstances of solar heat, drying winds, or overheating by artificial means, the air is drained dry as the driest sponge, the dryness being, as Dr. Lindley sets forth in his "Theory of Horticulture," in exact ratio between the heat inside and the cold without.

A Good Contrivance for Indoor Plants.

A friend of mine who has been very successful in growing plants within doors had a table suitably constructed, and he made a selection of the plants best adapted to a dry atmosphere. The table is the length of the windows and two to three feet wide, and the corners fit tight in order to add to its security, the boards forming it being tongued and grooved. Around the edges a strip is nailed 3 in. wide, thus forming a kind of shallow trough. Two inches of clean silver sand are put into it, and the plants stand upon it. On the top of the sand is placed a layer of nice green moss, and this not only retains and gives off moisture, but it has a pleasant appearance against the clean red pots. The water given to the plants passes through to the sand, which absorbs it, and it does not drip upon the floor. If any inconvenience is experienced in this way, it is best to make the table of zinc, or to make a zinc or galvanised-iron tray that will fit on the top of a table.

With such an arrangement as this in use, the plants can be frequently sprinkled with water, which cleanses the leaves from impurities and promotes their health. The sand should be watered should it become dry through insufficiency of water passing through the soil in which the plants are growing.

Ordinary Flower Stands Unsuitable.

The flower stands — generally made of stout iron wire—are unsuitable for a room; the surplus water, dead leaves, &c., fall upon the floor, soiling the carpet and giving the room an untidy appearance. It may be said that this can be avoided by placing the stand in a zinc trough, to catch the moisture, but it will be a good deal better to have the trough on a table as above directed. My friend has his table on rollers, so that it can be moved aside without the trouble of moving the plants when it is necessary to clean the floor.

Knowlege Gained by Experience.

In plant treatment, as in many other avocations, but especially with plants, much more is learned by experience than by hearsay. This comes to all who take pains. At the outset many failures may result, but every one of them, if carefully studied, will be the means of obtaining information of a very serviceable character. Indeed, there is no better teacher than experience, as hundreds of men and women are finding every day of their lives.—*R. D.*

MARICA NORTHIANA.

On the appearance of "Effendi W. Beigh's" note in your issue for December 19th, I at once wrote to a friend in Oldham asking him to procure me two plants, one for myself, and the other to send to you, that you might be able to satisfy your correspondent as to its identity. It does seem strange that it should be priced so high in nurserymen's catalogues. I have one before me in which it is quoted at 7s., but I cannot understand why such prices should be asked for a plant that was introduced so long ago, and which is so easy of propagation. Loudon says it is readily increased by division and by seeds, but the latter are seldom available owing to the shy flowering of the plant. As to offsets, well, they are plentiful enough. The plants received by me had three buds on them just above the roots, which I have no doubt will make plants in the spring. The friend who sent them also pointed out another means of increasing them, i.e., by the small buds or bulbils which occasionally (not generally) form on the leaves, and which soon grow into plants. This habit was new to me. I may tell your correspondent that window gardeners about Oldham do not pay 7s. 6d. or half-a-guinea each for their plants. The odd sixpence is about their price, and that is about the actual value of a small plant of Marica Northiana. An error crept into my last which I take this opportunity of correcting. The name of my friend should read Mr. Councillor James Neild, not Wild.—*James Percival, Smithy Bridge, near Rochdale.*

[So far as we can tell in the absence of flowers the plant received is certainly Marica Northiana.—Ed.]

HYACINTHS IN GLASSES.

This is an old-fashioned but a very pleasant phase of indoor gardening, not nearly so much followed as it used to be. It is practically too late to place Hyacinths in glasses in order to ensure a satisfactory head of bloom, though I have done so as late in the season as the middle of January, and had excellent results. But some bulbs are much more lasting than others, and a great deal depends upon the manner in which they have been kept. I am pleased to note in several of the suburbs of London evidence that the old method is still being employed, though the old-fashioned tall chimney glass is still being used; the disadvantage being that no support can be fixed to the developing flower spike, as in the case of the newer goblet-shaped glass; and, secondly, because the base of the glass not being broad enough, there is great danger of the glasses toppling over when the flower spike becomes developed. The old chimney glass at best is ugly, and, unlike the new broad-

bottomed goblet-shaped glasses of highly ornamental character, cannot be employed for cut flowers in summer.

A caution is necessary in the case of those who grow Hyacinths in glasses. At this season of the year they are placed on the sills of windows in full exposure to the light. That is an excellent place by day, but somewhat risky by night while frost prevails. Therefore it is well to take them out of the window by night so that they may not be affected by frost. It is vexing to have a glass cracked and so rendered useless by the expansion caused when the water in the glass becomes frozen. Care should be taken that the water is sweet. Should it emit a disagreeable smell, it should be changed at once and replaced by fresh, washing the roots of the Hyacinth, carefully of course, and thoroughly cleansing the inside of the glass. Two or three small lumps of charcoal are of great assistance in keeping the water pure, and the presence of charcoal in the water is said to have a fertilizing effect. As the foliage develops and the flower spike rises, water will evaporate, and a little fresh should be added as required. As soon as the spike of bloom begins to rise, a wire support should be fixed to the glass, and the support, which is attached to the spike to keep it in its place, gradually raised as the spike increases in height.

The act of growing a few Hyacinths in glasses is a very pleasant feature of indoor gardening, and one not nearly so much followed as I think it should be. The measure of success is the measure of the amount of attention given to the bulbs during the time they occupy the glasses.—*E. W.*

Chrysanthemum J. Stanborough Dibbens.

CHRYSANTHEMUM J. STANBOROUGH DIBBENS.

New incurved Japanese Chrysanthemums attained great prominence during the November and December exhibitions of last year, by reason of the large number of first-class new varieties which have been raised and brought before the public. It is somewhat singular that so many of them should have cropped up in one year; but the improvements which many of them exhibit have caused the public to hail them with delight.

The variety under notice has globular heads of a large size, suitable for exhibition purposes, and wherever it was shown last autumn, growers and connoisseurs of Chrysanthemums were highly pleased with it. The head, as a whole, appears of a bright yellow, and when examined more closely the florets are seen to be broad, blunt, clear bright yellow on the upper surface and sulphur yellow on the reverse. When in perfection the florets are regularly incurved, but later on the outer ones are reflexed and incurved at the tips, while the middle ones are reflexed, and the uppermost ones erect quite filling up the centre of the flower. These peculiarities may often result, however, from conditions of culture as well as the age of the bloom; but when in its prime, the latter presents the regularly incurved form with interlocking florets shown in the illustration above, which was executed from a bloom sent us by Mr. H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham, S.E.

CHRYSANTHEMUM CULTURE.

By an Amateur.

To convey my ideas upon the subject in as clear and connected a manner as I am able, I have been compelled to enter into a fuller minuteness of detail than to our professional members will seem necessary; but being but an amateur I do not of course presume to convey any information to men of greater experience. My remarks must therefore be patiently borne with by them, as being more especially addressed to our amateur friends.

Before striking cuttings one must have a place to strike them in, suitable soil, pots, etc. We will therefore take these matters first.

The system I follow is similar to that advocated by Molyneux, slightly altered in detail but the same in principle, and less cumbersome for small growers.

I use some empty currant boxes obtained from the grocer. These are about 24 in. long by 8 in. wide and deep, with a sheet of heavy corrugated glass fitting closely over the top. This gives a cool close frame, capable of holding twenty four 2½ in. pots for a cost of 6d. Half a dozen of these make a very useful set of apparatus for striking, and will last for years; these can be used standing outside on the ground, or placed on the shelves of a greenhouse without inconvenience, owing to their handy size.

Soil.

For the soil I use equal parts of loam, leaf soil, and coarse sand, well rubbed through a sieve to fine down and thoroughly mix them. This porous compost I find encourages rooting better than an excess of loam. Take a 2½-in., or 3-in. pot, place a piece of perforated zinc over the hole at bottom—I prefer zinc to crocks, as it gives a more perfect drainage, and excludes worms and slugs. The snippings from a tin-smith's shop answer the purpose well, and cost next to nothing; one piece, completely covering the hole, serves well. Fill up the pot with the soil already mentioned, press it down slightly, and give a topping of about an eighth of an inch of coarse sand; it is then ready to receive the cuttings.

Taking Cuttings.

This requires considerable care in selection. Take the sturdiest of the suckers, about 3 in. long, coming up from the soil of the old plants. Sometimes they will have a few roots attached; if so, all the better, it is so much of a start gained, though frequently you must be content with cuttings without roots, and weakly ones at that. Cut clean across about a sixteenth of an inch below a joint, pick off the lower leaves, then, taking your already prepared pot, dibble a small hole about 2 in. deep at edge of pot, let a few grains of the sand topping fall in; this makes a foot for the cutting that encourages callusing; push the cutting in the hole, being certain it touches the bottom firmly, press the soil firmly round with the fingers, give a little water to settle closely, and you may consider it properly inserted for striking.

Three or four cuttings may be placed round each pot if desired. Always label each pot, giving the name of the variety and date of insertion. The reason I prefer suckers to stem shoots is that those coming from stems often develop bloom buds at the growing point, and while that exists rooting will not take place. The bud must be cut out, and the cutting having but little energy at this stage, you would very likely lose it—sometimes even your suckers will develop this bud. If such a thing does occur the only thing to be done is to cut off the top and hope for the best.

Well now that your cuttings are ready, put them in your little frames; place the glass on the top excluding air, and, the glass being corrugated, it gives a slight shade very desirable at this stage. While the cuttings are in this state, they naturally require a little moistnre, but generally the water given at insertion is sufficient to last until rooted; but, should they show signs of flagging, give a slight sprinkling from a fine rosed pot and place the glass on again at once. Each morning it is well to wipe off the moisture condensed on the inside of the glass, as it tends to keep the foliage dry. But when doing this or inserting fresh pots, make it a point to keep the glass off as little as possible, for, until rooting has taken place, they must be kept close.

The greatest enemy to young cuttings is mildew or damping. To check this I always puff a little brown sulphur over the box and its contents. The lower leaves naturally are most liable to this. If it appears, cut the leaf off, using scissors so as not to disturb the cutting.

At this point it may not be amiss for me to give what I consider the best dates for taking cuttings. My general rule is, to take all alike, as early as I can after the 15th October, so as to get them rooted before severe weather comes, but as dates may be desired, I would say 15th October to 15th November for late varieties; 15th November to 15th December for mid-season varieties; and 15th December to 15th January for early sorts; but if I saw a good cutting of an early variety in November, I should take it; it means so much more root, and that is above all the greatest object now.

Transferring the Pots.

Well, assuming that your cuttings are rooted after their stay in the first frame, they then require fresh quarters. Take another box similar to the first, place the rooted cuttings in this box, and gradually give them air, opening the glass a little more day by day as you find they can stand it without flagging. Admitting air will naturally cause dryness; water in the morning, just enough to effect the freshening, using a fine rosed can. In case of frost keep your glass close when the temperature is at, or below freezing, and, if very severe, throw a mat over the tops of the boxes if outside. The wisdom of keeping all fairly dry is here apparent, for if your earth and consequently the plants are sodden, and in that state get frozen, the earth will be converted into a block of ice, and the stems, by the expansion of the water in them, will most likely split. After taking every precaution should they get frozen, close up your frames and keep the mats over them until the frost is quite out of them; then gradually admit air and light—with this treatment little harm is likely to follow.

We will now suppose that the plants have been in their second boxes for a month or six weeks, having had an existence of about ten weeks from their parent plants; if not dead they are pretty sure to be nicely rooted. Those in the first set of boxes or frames require to be shifted into the second, and those in the second are ready for somewhere else.

Of course many varieties of Chrysanthemums may be successfully grown by those having no greenhouse, but to grow those blooms we see at the November shows one must have, even at this stage, a deep frame or greenhouse, where the plants can have plenty of air and light and necessary protection. Close to the glass in a greenhouse is the best place for those in the condition of those we have now taken from the second set of frames. Water when necessary, always in moderation, and do that only in the mornings; give all the air you can. This treatment encourages sturdy growth. If kept at a great distance from the glass, and in a close atmosphere, they grow weakly and lanky.

Potting off.

But before running ahead too far, another matter needs attention. Each of these pots contains several rooted cuttings, which must be potted separately, still using the 3-in. pots and soil as in the first place. Gently knock out from the first pot, and separate each plant with some soil adhering to the roots. Put a little soil over the drainage, set the roots out upon this, fill up with soil, pressing it gently but firmly with the fingers. Give a little water to settle the soil, label the pot, and the operation is completed. Many growers prefer rooting each cutting in a separate pot, but when one considers that if fifty varieties are being grown—and that is by no means a big lot—you would require at least three cuttings of each. This alone would necessitate 150 pots.

After your plants have each enjoyed a separate 3-in. pot for a fortnight or three weeks, cut them down to within two joints of the soil, and wait for fresh leaders to break from either or both joints; let them grow on a bit, then selecting the strongest, as best for the coming stem, rub out the other shoot, leaving but one to run up. If you select the lower one, cut the stem down to about a quarter of an inch above it. I think there is with some a little novelty in making this cutting down a general rule. I do it because I invariably find the new leader breaks thicker than the parent stem, and you get a cleaner and sturdier growth, and, while causing no injurious delay, it effectually stops the too early formation of buds.

When the plants have been growing on in this manner about a month or six weeks, it is reasonable to assume that the roots are well out to the edge of the pot, and ready for a further shift; if not, wait a week or two longer for the lazy ones, but pot on those that are ready.

I consider in all stages of potting that as soon as the roots are out to the edges of the pot in fair quantity, they are ready for shifting forward. I am convinced that it is a great evil to allow plants to get at all potbound before shifting. It is evident that if a mass of roots has grown round and round itself, all the nutriment in the ball is expended, and the outer surface only in a position to receive nourishment from the new soil.

Second Potting.

For the second potting I use 5-in. pots, well drained with zinc or crocks, and a soil composed of six parts of loam, two of leaf soil, and one of charcoal and mortar rubbish. The loam should be well chopped up, the leaf soil rubbed fairly fine, and the charcoal and mortar smashed up to about half-inch size, putting in the dust as well; thoroughly mix this together. Set the ball of earth and roots from the old pot upon the drainage of the new one; fill up with the compost to above the juncture of your leading shoot and the old stem, and so regulate it that about half-an-inch is left for watering.

This in a general way brings us up to about the first week in March. Keep the plants up near the light; water when they want it; put a stick to them as soon as they require support and training; give all the air you can, protecting from frost, and as soon as you feel sure frost is over, put your plants outside in full light and air. Standing them in a long row upon old slates or boards is the best way, as it allows full play of sun and air around them, and moisture to drain away freely, besides keeping out worms. Being out they will in dry weather require daily watering. Rain water is always best, but where that is not obtainable, use that which has stood in the open a day previous, so as to be of the same temperature.

Watch for green-fly and slugs; a little tobacco dust removes the fly; and a little lime dusted round the pots wards off the slugs; but look your plants over for any signs of the latter. The stems are yet but soft, and a slug of ordinary abilities can eat it through in its tenderest part in about two nights. With a light in the night-time is the way to catch them. Should you get a plant bitten through in this manner, the only thing to do is to cut down below the wound, and run up a fresh leader, but it is a dangerous delay. When side shoots begin to appear, pick them off as they show, but never nearer the top than about four joints, for then, in case of accident to the tip, you have a shoot to fall back upon.

Third Potting.

After the plants have been in their second pots about a month or six weeks, the final shift is at hand. Determine the time by the state of the roots as before. Professionals can indulge in 12-in. pots; amateurs do not like the expense and space they require, and I think that in nine cases out of ten they can succeed just as well with 7-in., 8-in., and 9-in. pots;—7-in. for the delicate rooters, 8-in. for the ordinary run, and 9-in. for the strong growers.

Drainage must be free. I prefer zinc even at this stage, a few crocks on the bottom, with a circular plate of perforated zinc over this fitting closely to the sides. It allows more room, and constitutes more perfect drainage than crocks; but if one dislikes the expense, clean crocks must be used: a rough piece over the bottom hole, then about an inch layer over the entire bottom of pieces broken to about ¾ in. and ½ in.

The Final Shift.

For this I use 8 parts of loam, 2 parts of leaf soil, 1 of charcoal, broken as before, 1 of mortar and granite sand mixed. Mix and chop up well together, sift out nothing. This mixture is porous enough without sifting, and is rich in plant food. If the soil is properly proportioned there is more sentiment than service in sifting; this applies also to the drainage. If the soil is properly porous an inch surface of drainage is all that is required—all the drainage in the world will not make a sticky soil perfect, and excess of drainage occupies the place of better stuff. The pots, drainage, and plants, being ready, place a few of the roughest pieces of soil over

* A paper read by Mr. George Crabbe, at the meeting of the Devon and Exeter Gardeners' Mutual Improvement Association on January 6th.

the drainage, set the ball upon this, and fill up to within 2 in. of the top. Ram all well, a little lighter for the delicate rooters, but very hard for the others. In ramming hold the plant firmly down and upright, but ram only round the edges—ramming the centre breaks roots, and it can be made just as hard from the edges. Let this operation, and that of placing the final stick, be carried out at the same time, for driving a stake later on through the roots must do great damage.

The final potting being finished give them slight watering, and stand in the shade for a day or so. The plants with their tall sticks can be well secured in the following manner:—fix securely in the ground at distances of 12 feet apart, a row of stakes, about 5 ft. above the ground. Run two lines of wire the entire length, one at the top, the other mid-way down. Along the foot of this fence place your slates or boards, stand the pots upon these, and fasten the sticks securely to the cross wires. You need two rows of wire because of the short growers. Still keep off the side shoots as directed, and they will now begin in many cases to show up from the soil; these must be nipped off level, not dug out, for by so doing you must injure roots.

The First Break.

We have now reached to about the middle of April or first week in May, and expecting soon to see the first break. This is the forming of a cluster of shoots at the growing point of the plant. These shoots are generally three or four in number, and surrounding a flower bud. This bud is worthless. Left by themselves the shoots will soon grow past the bud, but as by leaving the bud on the plant, one of the leaders often grows deformed, it is as well to remove it. Three is the generally approved number of these shoots that are allowed to run up, therefore if more than three show cut off the weakliest.

As these shoots lengthen and become liable to be broken, it is well to loop a piece of bass loosely round the three leaders and the central stick. The plants now require but regular watering, disbudding, and a good look out for caterpillars, fly, etc., and regular syringing, say twice a week, with soot water is very beneficial. This syringing is best done in the evening, when the sun is off the plants. Watering, too, during hot days will often be necessary twice—noon and evening. Syringing, to remove fly and other pests from the now large plants, supersedes the use of tobacco powder. Warm soapy water generally answers the purpose admirably. Another pre-preparation I would recommend is made as follows:—Boil 1 lb. of Quassia chips in about 3 gallons of water, allowing it to stand overnight that all the bitterness may be extracted from the chips; strain this in the morning to remove the chips, and put the liquid back again into the boiler; add another 3 gallons of water, boil up again, stirring in 1 lb. of soft soap, and ¼ lb. of hellebore powder. Let it simmer for about an hour. You can then add to this 12 gallons of water, and syringe with it warm. This removes the pests, and they are slow to appear again, the mixture seemingly leaving a bitterness behind it that they do not appreciate. It is a very convenient method to store the stuff in an old barrel in its strong state, that is before adding the final 12 gallons of water. It is then an easy matter to take out what quantity you require, and, adding double the quantity of warm water, make it ready for use; temperature always about 70° to 80°. I may add this also forms a splendid dip for Pelargoniums, Cinerarias, in fact, any plant, even when in full bloom—it cleans the leaves and freshens the plant splendidly.

Second Break.

We will now assume that the plants have grown on to about the first week in August, when we may expect the second break to appear any time between then and the second week in September, according to the variety. The "break" consists of a cluster of buds formed at the growing point of each leader. As soon as these appear give each plant a top-dressing of the following compost about an inch thick:—6 parts fresh loam, 1 part cow dung, with all straw removed, and 1 part of Ichthemic Guano. The latter ingredient I have always found first-class; it feeds strongly without burning or rushing the plants. A little liquid stimulant is now of great benefit. I carefully avoid sulphate of ammonia, and prefer, as being safer, a liquid of soot and sheep's manure made by putting a 7 lb. bag of each in an 18 gallon cask filled up with water. Give it a stir up before using, and apply to the roots only, for the first twelve days every third day, the next twelve days once every other day, and after that once every day.

Disbudding.

Well, returning to the buds, the centre of the group we left is the crown bud, which forms the finest and truest blooms. The surrounding buds if left to themselves will grow past the crown bud, forming terminal flowers; these shoots always show a tendency to grow from the centre, leaving the crown distinct. Disbudding must soon be performed, but not too hurriedly. Wait a few days until the buds show a slight neck, then carefully examine the crown bud to see that its shape is round and free from damage by insects, etc. If it is not so you must discard it and allow one of the surrounding buds or shoots to run up, when that will in its turn form a cluster of buds at its tip; these buds are all blooms, and the crown bud of this group is the one to retain as the best substitute for the first or true crown bud. Some disbud with their fingers, but working with such clumsy tools is risky business; a bruise or wound on the neck of the crown would very likely cause contract and your bloom come all on one side, like a sunflower. This would mean unequal opening, which is very unsightly even at the best. I prefer to use a narrow pointed penknife.

The buds having been successfully taken, the plants require but a continuation of the treatment already described. The buds will now commence to swell fast and

Housing the Plants

must soon be considered. The house should be dry, clean, light, and airy, thus all your operations must tend towards those ends. Damp floors, walls, and damp air must be carefully avoided. I find a good preventative to mildew on brick walls is to whitewash them with a mixture of five parts of lime and one of sulphur; and to dust the floors with this mixture dry where the pots are to stand arrests mildew, and stops slugs from crawling about. In arranging your plants in the house orderliness must be your chief aim, you may grow the finest blooms in the world, but if arranged in a slovenly, untidy style, all the fine effect is lost. The leaders loosely tied round with bass would decidedly be too bunchy for housing. I adopt the following: cut lengths of sticks or canes about 14 in. long, tie these T fashion to the top of the centre sticks, making a slight notch an inch from each end; tie out the two side leaders to these notches and the centre one to the upright stick; you thus have the plants like three-pronged forks; it keeps them shapely and allows free circulation of air and light. The sticks, unless of Hazel or other natural rods, should be stained a brownish-green, the bass dyed a similar colour. All this tends to throw up the colour of the blooms—unsightly light-coloured sticks and bits of straw-coloured bass here and there make the whole thing look ragged.

Before housing the plants give them another inch of the mulch as described at time of setting the buds. Then as every house has its early and late ends, select that part which enjoys most sun in autumn for the late blooming varieties, and place the early bloomers in the shadier spot, thus tending to hasten the late and retard the early ones.

With an ordinary season and fair cultivation the late varieties should be ready for housing by the 15th September, the mid varieties about the 22nd, and the earlies about the 30th September. This may seem too early to some, but I am convinced it is best for the following reasons:—the buds at this time are heavy, in some cases perhaps showing colour, and the winds and rains getting rough, the swaying about of the heavy buds, if not actually resulting in breakage, are very apt to get rubbed, or bruised, and you will find upon their opening, that each rubbed point means discoloured petals quickly damping off. Housing early is the safest. Keep the flowers as well up to the light as possible, and give air night and day when there is no frost or thick heavy air about. Frost injures the buds most when just begining to expand; an unopened or fully opened flower feels its effect but very little unless very severe. I always keep pans under my pots to prevent the draining from damping the floor, and I further stand the pans upon laths that the air many get under them. Water sparingly when once housed, and do this in the morning that the dampness may get away. Picking off the suckers may now cease—nothing is gained at this stage by removing them, and besides one must now think of next season's stock.

Colour.

Rich colour is naturally one of the greatest features desired in the blooms, and without going into chemistry, I may say that sunlight and iron are very necessary to this end. Free exposure to the sun has already been advocated, and for the iron I use a heaped up tablespoonful of sulphate of iron to three gallons of water, and am quite satisfied with the result. No burning occurred to even the young suckers, and all the colours came much brighter then I ever obtained without it. Sarah Owen came out orange and a rich coppery red, Etoile de Lyon a good pink and so on. I give them this once a week, as soon as they commence to show colour. The yellows I should mention also were first-rate with this treatment.

Charcoal.

The real service of charcoal as a food is sometimes questioned. One theory says it but acts as drainage or as a retainer of ammonia. Another that it is impossible for the plants to absorb carbon in this form, but I think if any will try the experiment, say with two scarlet Pelargoniums of the same variety, growing one with and the other without charcoal, although in every other respect exactly under similar conditions, they will agree with me that charcoal, whatever be its constituents, greatly helps to form wood, sustain foliage, and produce good blooms of good colour. I have brought some of my 1891 wood to show its work, even in such an unfavourable season as the last.

Collars.

For blooms of the type of Fair Maid of Guernsey, Mrs. J. Wright, and any requiring the lower petals to be supported, also of the type of Stanstead White, where compactness is desired, I use collars fixed under the bloom when just expanding. They are self-fastening, and, although retaining their position, the pressure exerted is not of an injurious nature. There are many other things that should enter into consideration in dealing with the subject of this paper, such as sizes of blooms, height of plants, early and late varieties, etc., etc.; but the present occasion does not admit of their consideration. I have simply done my best to lay before the Association the means I have followed to grow Chrysanthemums with what I think I may call a fair amount of success. With only ninety-six square feet of floor space in my greenhouse I yet manage to grow about six dozen varieties in 7-in. to 9-in. pots.

ORCHID NOTES AND GLEANINGS.

Odontoglossum Rossii albens.

Noticeable amongst a batch of well-flowered Odontoglossum Rossii at Messrs. Charlesworth, Shuttleworth & Co.'s nursery, Heaton, Bradford, is the rare and beautiful variety albens. The flowers are well-formed and of great substance, petals and lip pure white, sepals slightly green and faintly spotted. The plant carries two spikes of three flowers each. I believe there are only two other plants, one in the collection of R. Young, Esq., Linnet Lane, Liverpool, the second in the possession of T. L. Cater, Esq., Birkenhead.—*X.*

Cypripedium Spicerianum.

This is undoubtedly one of the most beautiful of Cypripediums, and, being of a robust constitution, easily cultivated, and flowering in gorgeous profusion during the autumn and winter months, it is invaluable for all kinds of decoration. It has become a great favourite with all Orchid growers, and many representatives are to be seen in all collections; but the finest specimen that has come under my observation is in the collection belonging to E. Barnett, Esq., Kenton Court, Sunbury-on-Thames. Its diameter is over three feet, and at the time of my visit there were upwards of thirty splendid blooms open, with many more to follow. Mr. Bowdon, who conducts the gardening operations in this establishment, informed me that prior to my visit many fine blooms had already been cut.—*J. McNab.*

Lælia Gouldiana.

The above name has been given to a highly coloured Lælia, a form of L. autumnalis, which is very much given to variation, although not to the same extent, perhaps, as L. anceps, another Mexican and closely allied species. The sepals of L. Gouldiana are lanceolate and purple, while the petals are elliptic or rhomboid and of the same rich colour. The lateral lobes of the lip are rose-coloured, while the middle one is deep purple. When in their prime the flowers are very showy, reminding one of L. autumnalis atrorubens, but the petals are broader, as often happens in the varieties of L. anceps.

WHAT TO DO IN THE GARDEN.

Gloxinias.—A small batch of Gloxinias for early work may now be put into heat to start them. Leave the tubers in the old soil until they have started, give a watering to moisten the soil when placed in heat. An occasional syringing afterwards will generally suffice until the young shoots appear above soil, when the tubers may be potted off. Use soil which is at the same temperature as that of the house, and, after the operation, give a watering to settle the soil. Very little will be required afterwards until the plants are growing freely.

Caladiums.—The usual plan of treating these is to put the tubers into small pots when starting them, so that they are less liable to get overwatered in the early stages. A large body of soil is apt to get into a sour or unsuitable condition by being much watered before it gets permeated by roots. As soon as the tubers commence to grow they should be shifted into larger sized pots by degrees. The compost should consist of fibrous loam, peat, a little leaf soil, and some well-rotted manure, in about equal proportions, with a liberal allowance of sand to keep the whole porous and open.

Thyrsacanthus rutilans.—Plants of this good old-fashioned subject which may have lost their flowers through the recent fog should not be thrown away, but rested for a time and then repotted to be grown on for larger or standard specimens next summer. The shoots may be stopped several times to induce them to form a bushy head, for plants of this form are both serviceable and attractive.

Begonia insignis.—Where this old-fashioned but useful subject is still grown, a few of the younger plants may be cut back and kept on for flowering next year. At the usual time for propagation, cuttings may be taken from them in order to grow on a batch for next year's use, so that there may be old and young plants to be put to different uses. The older batch of plants may be thrown away after the second flowering.

Bouvardias.—Some of the plants now out of flower should be cut back, and placed in heat with the view of taking cuttings a little later on. Be careful not to overwater them till they have fairly started into growth again. The finest flowers are obtained from young plants grown on in this way, than from old specimens cut back.

Fuchsias.—By striking a few cuttings now, plants of a useful size can be obtained for late summer and autumn flowering. Some old plants may be placed in heat now and started into growth in order to furnish a supply of cuttings. The least useful, that is the smaller and more unshapely specimens, may be used for this purpose.

Vines.—A little care should be exercised in ventilating not to admit cold draughts of air upon the tender foliage. On cold days it would also be unfavourable to the healthy growth of the vines to keep up a high temperature. The leaves, it is true, grow away more rapidly, but they get thin and flabby so that the first bright day has the effect of making them flag. When bright sunshine occurs, of course, every advantage of it should be taken to urge on growth. Muscats intended to be ready for exhibition purposes early in August, should be started now, otherwise they will not have sufficient time to get properly coloured.

Fruit Trees.—The present offers a favourable opportunity for the manuring of the fruit tree and bush quarters, which are often neglected in the matter of manure. Yet it is impossible to expect good results from old trees in a starving condition. Farmyard manure, although often of a composite nature, is one of the best to apply. Vegetable refuse from the rubbish heap, and the ashes obtained from the burning of prunings and old uprooted trees, act as good fertilisers for fruit trees by virtue of the amount of potash contained in the prunings and the plant food in the vegetable refuse.

Gooseberries and Currants.—In commencing to prune Gooseberry bushes, a general survey of the form should be made, pruning back those stems that would destroy the symmetry of the same, then thin out the shoots so as to admit plenty of light and air, shortening back the remainder just a little in Southern districts. Branches that trail on the ground should be removed. Red and White Currants require to be spur pruned in the usual way. The leading shoots need not be left longer than 6 in. to encourage the development of spurs upon them.

ROYAL HORTICULTURAL SOCIETY'S COMMITTEES, 1892.

Floral Committee.—*Chairman*, William Marshall, Auchinraith, Bexley. *Vice-Chairmen*, Rev. H. H. D'ombrain, Westwell Vicarage, Ashford, Kent; John Fraser, Lea Bridge Road, Leytonstone, E.; George Paul, The Old Nurseries, Cheshunt. *Secretary*, Archibald F. Barron, Royal Horticultural Society, Chiswick, W.

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Pearson, C. E., Chilwell, Nottingham.
Peerless, G. R., Park Hill House, Clapham.
Phippen, G., Victoria Nursery, Reading.
Ross, F., Pendell Court, Bletchingley.
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Turner, H., Royal Nurseries, Slough.
Walker, J., Ham Common, Surrey.
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Williams, W. H. (Keynes & Co.), Salisbury.
Wynne, B., 1, Clement's Inn, Strand, W.C.

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Cookson, Norman C., Oakwood, Wylam-on-Tyne.
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Veitch, P.C.M., The Royal Nurseries, Exeter.
Warren, W., Worton Gardens, Isleworth.
Weir, Harrison, Sevenoaks.
Willard, Jesse, Holly Lodge Gardens, Highgate, N.
Woodward, G., Barham Court, Teston, Maidstone.
Wright, John, 171, Fleet Street.
Wythes, G., Syon House Gardens, Brentford.

Members of the Council are Members of all the Committees.

SOCIETIES.

Royal Horticultural, *Jan.* 12.—The leading features of the meeting on Tuesday last—a small one owing to the cold, dull weather—were Chinese Primulas, Lachenalias, Orchids, and Apples. The Orchid exhibits were not numerous but choice; notable were the flowers of Vanda Cathcarti exhibited by Mr. W. Iggulden, gardener to the Earl of Cork, Marston House, Frome. A number of Cypripediums, including C. Leeanum princeps, C. Sedeni virginale, C. nitens, also a fine spike of Lælia anceps Schroderiana, were exhibited by Messrs. F. Sander & Co., St. Albans. Mr. C. J. Lucas, Warnham Court, Horsham, also exhibited cut flowers, including Lælia furfuracea, L. anceps Stella, Pescatorea Klabocheana, and others. Lælia anceps Ballantiniana, from G. Douglas, Esq. Dalkeith, was shown in Messrs. F. Sander's collection. A hybrid Cypripedium, named C. Parksianum, and another, named C. Enfieldense, were shown by H. M. Pollett, Esq., Fernside, Bickley. Cypripedium hybridum gigas was staged by Mr. Bond, gardener to Charles Ingram, Esq., Elstead, Godalming. Cut flowers of Cœlogyne and Angræcum were shown by Mr. J. Crook, gardener to W. H. Evans, Esq., Chard, Somerset. A seedling Cypripedium was shown by Messrs. Heath & Son, Cheltenham. Odontoglossum Rossi albens, Lælia præstans, Heaton var., and Maxillaria Sanderiana were shown by Messrs. Charlesworth & Shuttleworth, Heaton, Bradford. A fine seedling Calanthe with a crimson lip and a Cypripediun were shown by Norman C. Cookson, Esq., Wylam-on-Tyne. Cypripedium Godseffianum and another hybrid were exhibited by Messrs. Pitcher & Manda, Hextable, Swanley. Several fine flowers of Cypripedium, including C. insigne Sanderæ, also Odontoglossum crispum Schroderianum and some Lælias were shown by Mr. Ballantine, gardener to Baron Schroder, The Dell, Egham. Lælia anceps Sanderiana was exhibited by the Right Hon. Joseph Chamberlain, M.P., Highbury, Moor Green, Birmingham.

A Silver Banksian Medal was awarded to Messrs. H. Cannell & Sons, Swanley, Kent, for a showy group of Chinese Primroses, including such fine varieties as Peach Blossom and Pink Queen. A similar award was made to Mr. Wythes, gardener to the Duke of Northumberland, Syon House, Brentford, for a group of Lachenalia tricolor. Hamamelis arborea, H. japonica zuccariniana and Daphne Mezereum grandiflorum, cut from the open ground and in full bloom, were exhibited by Messrs. J. Veitch & Sons, Chelsea. They also had a box of Begonia Winter Gem in bloom. A Canna named Alphonse Bouvier was shown by Messrs. Paul & Son, Cheshunt.

At a meeting of the Fruit and Vegetable Committees, a Silver Banksian Medal was awarded to Messrs. Geo. Bunyard & Co., Maidstone, for a large collection of Apples, including fine samples of Bismark, Peasgood's Nonsuch, Warner's King, Blenheim Orange, and others. Mr. C. Leach had Gros Colmar and Mrs. Pearson Grapes, and an Apple named Albury Park Nonsuch. Mr. G. Wythes, gardener to

the Duke of Northumberland, Syon House, exhibited Tomatos. Some Apples were shown by Mr. A. Dean, Kingston-on-Thames. J. Holmes, Esq., Paston Rectory, Peterborough, also showed a seedling Apple. A collection of Onions, including some very large samples of Cocoa-Nut, The Lord Keeper, Royal Jubilee, and others, was shown by Mr. H. Deverill, Banbury. A small Silver Medal was awarded.

QUESTIONS AND ANSWERS.

**** Correspondents are requested, in order to avoid delay, to address all communications to "THE EDITOR" or "THE PUBLISHER," and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa London."*

DIOSCOREA WITH TUBERS ON THE STEMS.—*H. Alexander*: There is nothing unnatural about such an occurrence, for some species regularly produce tubers on the stems, and which constitute a means of propagating the plant by, which is termed vegetative reproduction. You will find it easy to increase your stock of plants by that means if necessary, Other plants, and more especially those coming from dry countries, develop tubers or thicken their stems in various ways as a means of resisting the drought and reproducing the plant.

SOOT AS A MANURE.—*A. Calder*: The manurial value of soot depends upon a small but variable quantity of ammonia which it contains, and which is therefore valuable to many garden plants which require or are benefited by nitrogen in some form or other. Amongst pot plants that derive benefit from it are Camellias, Chrysanthemums, Roses, and various others, to which it should be given in weak doses, while the water should be clean. The best way to apply it is to place some soot in a bag and plunge it in a tank from which the plants are to be watered. It should not be spread on the surface of the soil, as the latter soon gets clogged. Root crops, such as Onions, Carrots, Parsnips, and Turnips, also derive advantage from it both as a manure and for keeping insect enemies at bay while in the larva or grub state. Keep the soot dry until required for use to prevent the loss of the ammonia.

ORIGIN OF NOISETTE ROSES.—*G. C.*: The first of the Noisette Roses, so called, were produced in America between Rosa moschata and R. indica. They were sent to M. Noisette, of Paris, who put them into commerce under the name which they now bear. Many of them come so near the Tea-scented Roses that it is often difficult to distinguish them. The latter of course owe their origin to the Tea-scented varieties of R. indica, one of the parents of the Noisettes.

PENDULOUS TREES FOR A LAWN.—*J. Fiddes*: The following we consider should prove suitable and at the same time give variety; the selection however is too large unless your lawn be of considerable extent, and we mention the different kinds merely that you may make a selection according to taste. Moderate sized subjects are the Kilmarnock Willow (Salix caprea pendula), the Babylonian Willow (S. babylonica), the Weeping Birches (Betula alba pendula or B. a. p. Youngi, the latter being the best), the Weeping Sophora (S. japonica), the Weeping Aspen Populus tremula pendula), the Weeping Mountain Ash (Pyrus Aucuparia pendula), and the Weeping Laburnum (Laburnum vulgare pendulum). The Weeping Holly (Ilex Aquifolium pendulum) is very distinct, although not particularly graceful; the same may be said of the Weeping Beech (Fagus sylvatica pendula), but that, as well as the Weeping Ash (Fraxinus excelsior pendula), gets to a large size and would ultimately occupy too much space on a small lawn. The Weeping Elm (Ulmus montana pendula) is a characteristic and beautiful umbrella-like tree.

CULTURE OF FERNS.—*Amateur*: The two ferns you sent us and which we have named for you are both hardy British species. They can also of course be grown in a greenhouse or cool fernery. The specimens sent us have evidently been grown under glass in an atmosphere that is kept too dry for them, as both have been badly attacked with thrip. They should be potted in a mixture of loam and peat, with plenty of sand and some potsherds broken fine to keep the soil open. They will grow very well in a greenhouse provided you keep them in a slightly shaded position, giving them abundant supplies of water at the roots during the summer months while making their growth. Of the two kinds mentioned, the Polypodium need not have so much water as the other. The greenhouse must be kept cool all through the summer months by ventilation night and day, and the atmosphere should be kept moist during warm weather by frequently sprinkling the paths and woodwork of the house. The plants generally would also (with exception of Pelargoniums) enjoy a good syringing overhead just before reducing the amount of ventilation in the afternoon or evening. The night temperature in winter need not be higher than 38° or 40°

PLUMBAGOS.—*Amateur*: The cultivation of Plumbagos presents no difficulty as a rule. The compost should consist of fibrous loam with a little peat and plenty of sharp silver sand to keep the whole porous and open. We suppose you refer to the shrubby species—such as P. capensis grown in greenhouses, and P. zeylanica and P. rosea for stove culture. There are hardy annual and perennial species which require to be grown in the open border, and of course may not require either peat or sand.

VINE NEGLECTED.—*Aberdeen*: From what you say about your Vine being neglected we understand that it has been allowed to grow as it liked, and has not been subject to a regular annual pruning. To what extent this may be done now will depend very much on the condition of the rods. The Vine should be restricted to one, two or three rods according to the space at its disposal. The rods should run from the base to the top of the house. All laterals should be spurred or cut back to one or two eyes. The best shoot only from these two eyes should be allowed to grow in spring and the tip of the shoot nipped off above the second or third leaf beyond the first bunch of flowers that appears. The side shoots from the last mentioned should be stopped beyond the first leaf unless there is plenty of room to expose a greater number to full sunlight. We expect, however, that the wood gets badly ripened in autumn. The greenhouse should face the south if possible, so as to get plenty of sunlight. When the leaves begin to ripen off in autumn artificial heat should be given for about a fortnight to encourage the thorough ripening of the wood, as from such only can you expect a good crop of fruit. If you attend to the above particulars we see no reason why the plant should not become fruitful. Watering will have to be attended to in summer, and the soil should be manured if necessary, especially when the Vine is carrying fruit.

NATURAL BOWERS AND BRAMBLES.—*Flos*: We cannot always bind down poetical and other high-class or popular writers to speak the truth or stand true to nature. Their writings are often imaginative. There are few British plants which form bowers in spring, unless we speak of the Sloe or Blackthorn, which often flowers grandly at that time. In early summer we have the Bird Cherry (Prunus Padus), the Wild Cherry or Gean (Prunus avium), and others. Later on we get Roses and Brambles (varieties of Rubus fruticosus), the Virgin's Bower (Clematis Vitalba), Honeysuckle (Lonicera Periclymenum), and others which do form natural bowers or arbours. The Brambles are numerous in variety, are allied to the Raspberry, and are often spoken of under the name of Blackberries.

NAMES OF PLANTS.—*R. Winstanley*: 1, Cypripedium insigne; 2, Dendrobium Pierardi; 3, Cœlogyne cristata; 4, Peperomia Saundersii.—*B. Jameson*: 1, Selaginella uncinata; 2, Selaginella Willdenovii; 3, Pteris straminea; 4, Pteris quadriaurita tricolor; 5, Scirpus riparius, usually called Isolepis gracilis; 6, Cyperus alternifolius.—*H. Warder*: 1, Jasminum nudiflorum; 2, Helleborus niger maximus; 3, Erica carnea; 4, Chimonanthus fragrans.

COMMUNICATIONS RECEIVED.—A. G.—T. T.—H. J. J.—S. & S.—A. E.—W. C.—F. W. B.—W. N.—J. G., Rothesay (next week)—A. H.—W. F.—A.M.

TRADE CATALOGUES RECEIVED.

JAMES DICKSON & SONS, 32, Hanover Street, Edinburgh.—Vegetable and Flower Seeds.—

H. CANNELL & SONS, Swanley.—Descriptive List of Chrysanthemums.

ROBERT SYDENHAM, Tenby Street, Birmingham.—Vegetable and Flower Seeds.

JOHN DOWNIE, 144, Princes Street, Edinburgh.—Vegetable and Flower Seeds, &c.

W. DRUMMOND & SONS, Stirling, N.B.—Vegetable and Flower Seeds, Gladioli, &c.

W. BAYLOR HARTLAND, 24, Patrick Street, Cork.—Year Book of Seeds for 1892.

KELWAY & SON, Langport, Somerset.—Vegetable and Flower Seeds, Hardy Plants, &c.

ROBERT VEITCH & SON, Exeter.—Vegetable and Flower Seeds.

BARR & SON, 12, King Street, Covent Garden, W. C.—Flower and Vegetable Seeds. Hardy Perennials &c.

DICKSONS & CO.— 1, Waterloo Place, Edinburgh.—Garden Seeds for 1892.

JARMAN & CO., Chard, Somerset.—Seed Manual for 1892.

REID & BORNEMANN, Trewsbury Road, Sydenham, S.E.—Chrysanthemums.

FRANK DICKS, 66, Deansgate, Manchester.—Garden and Farm Seeds.

WM. CLIBRAN & SON, 10, 12, Market Street, Manchester.— Vegetable and Flower Seeds.

LONDON SEED TRADE.

January 11th, 1892.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report market for Agricultural seeds steady with a fair demand for Red Clover. Supplies of Alsike are small, new crop of English Red Clover is of poor quality and finds no buyers at present figures.

COVENT GARDEN MARKET.

January 13th.

FRUIT.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.
Apples... per ½-sieve	1 0	5 0
Canadian and Nova Scotian Apples per barrel	12 0	18 0
Cobbs... per 100 lbs.	30 0	35 0
Grapes .....per lb.	0 6	2 6
Pine apples. —St. Michael's, each	2 6	6 0
Peaches .....per doz.	0 0	6 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.
Artichokes Globe doz.	3 0	6 0
Beans, French, per lb.	0 9	
Beet..... per dozen	2 0	3 0
Cabbages ... per doz.	1 6	2 6
Carrots ... per bunch	0 6	
Cauliflowers, English, per doz.	3 0	6 0
Celery.....per bundle	2 6	
Cucumbers .....each	0 6	1 3
Endive, French, doz.	2 6	3 0
Herbs .....per bunch	0 2	0 6
Horse Radish, bundle	2 0	4 0
Lettuces ...per dozen	1 0	1 6
Mushrooms, p. basket	1 3	2 0
Onions.....per bunch	0 4	0 6
Parsley ... per bunch	0 6	
Radishes... per dozen	1 6	
Smallsalading, punnet	0 4	
Seakale ...per basket	2 0	3 0
Spinach, per strike...	1 6	
Tomatos..... per lb.	0 6	1 0
Turnips .....per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Chrysanthemums, doz	6 0	12 0
— large .....per doz.	12 0	24 0
Cyperus .....per doz.	4 0	12 0
Dracæna term., doz.	24 0	36 0
Dracænaviridis, doz.	9 0	18 0
Epipbyllum per doz.	9 0	12 0
Erica Hymalis, per	12 0	18 0
— gracilis, per doz.	9 0	12 0
Evergreens, invar. doz	6 0	24 0
Ferns, invar., per doz.	4 0	18 0
Foliage Plants, doz.	12 0	60 0
Hyacintbs,...per doz.	6 0	9 0
Lily of the Valley, doz. pots	12 0	24 0
Marguerites, per doz.	6 0	12 0
Palms in variety, each	2 6	21 0
—scarlet .....per doz.	4 0	6 0
Poinsettia, ...per doz.	9 0	18 0
Primula Sinensis per doz.	4 0	6 0
Roman Hyacinths, per doz.	9 0	12 0
Solanums...per doz.	9 0	12 0
Tulips.....per doz.	8 0	9 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Acacia or Mimosa French per bunch	1 0	1 6
Arum Lilies, 12 blms.	5 0	8 0
Bouvardias, per bun.	0 6	1 0
Carnations, 12 blooms	2 0	3 0
Chrysanthemums, doz. blooms	0 9	2 0
Chrysanthemums, doz. bunches	6 0	24 0
Eucharis ...per doz.	4 0	8 0
Gardenias 12 blooms	6 0	12 0
Hellebore or Christmas Roses, doz. blooms	0 6	1 6
Heliotropes, 12 sprays	0 6	1 0
Hyacinths, Roman, doz. sprays	0 6	0 9
Lilac, French, per bunch	6 0	7 0
Lilium Harrisii, doz. blooms	6 0	10 0
Liliumsvar., doz. blms.	1 6	3 0
Lily of the Valley, doz. bunches	9 0	18 0
Maidenbair Fern, 12bs.	4 0	9 0
Marguerites, 12 bun.	2 0	4 0
Mignonette... 12 bun.	1 6	3 0
Narciss, Paper White doz. sprays	0 9	1 0
Narciss, Freucb, doz. bunches	3 0	6 0
Pelargoniums, 12 sps.	1 0	1 6
— scarlet.....12 bchs.	9 0	12 0
Poinsettia, doz. blms.	4 0	9 0
Primula, double, bun.	0 9	1 6
Primula single, doz. sprays	4 0	6 0
Roses, yellow, dozen	3 0	6 0
— Red..... doz. blms.	1 6	2 0
— Saffrano...per doz.	2 0	3 0
— Tea ..... per dozen	1 0	3 0
Tuberoses, per doz.	1 0	1 6
Violets, Parme, Frncb per bunch	3 6	5 0
— Czar, Frencb, bcb.	2 0	3 0
— Dark, French, doz. bunches	2 0	4 0
— English, doz. bcbs.	1 6	2 0

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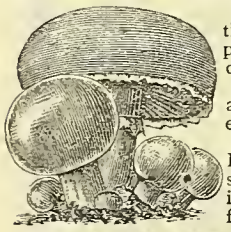

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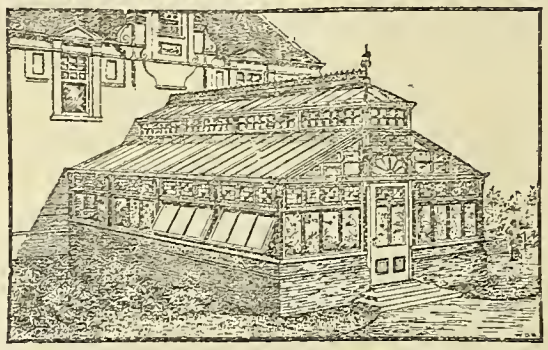

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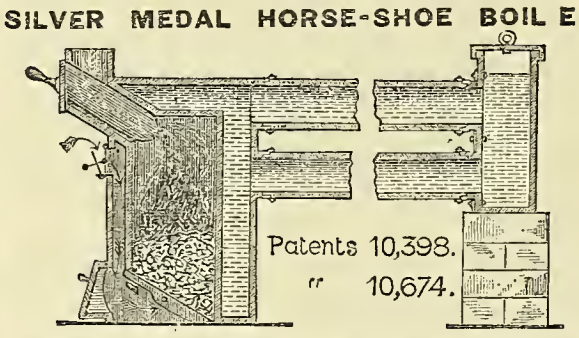

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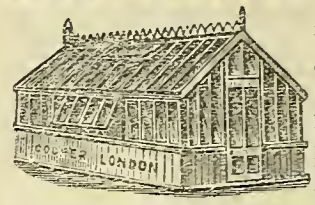

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8 ft.	5 ft.	7 ft.	4 ft. to eaves	3 10 0	5 0 0
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10 ft.	7 ft.	7 ft. 6	4 ft. 6 to eaves	5 0 0	6 15 0
12 ft.	8 ft.	8 ft.	5 ft. to eaves	6 0 0	8 0 0
15 ft.	10 ft.	8 ft. 6	6 ft. to eaves	8 10 0	12 0 0
20 ft.	10 ft.	9 ft.	5 ft. 6 to eaves	12 0 0	16 0 0
25 ft.	10 ft.	9 ft.	5 ft. 6 to eaves	17 0 0	22 0 0
50 ft.	10 ft.	9 ft.	5 ft. 6 to eaves	30 0 0	40 0 0
100 ft.	10 ft.	7 ft.	5 ft. 6 to eaves	50 0 0	70 0 0

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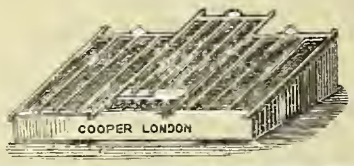

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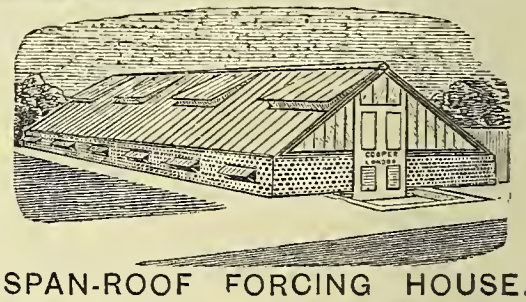

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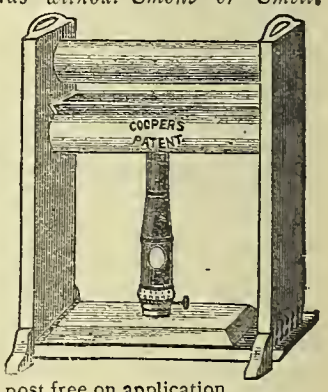

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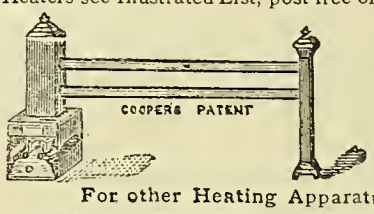

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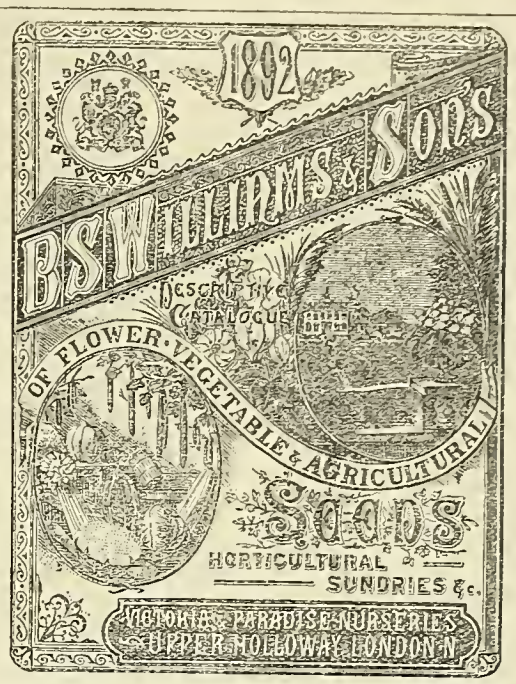
BULBS, ROSES, &c.
FOR whatever is wanted, mentioned or not in these columns, please to write immediately to H. CANNELL & SONS, whose Seed and Nursery Stock is very complete and extensive, and where nearly everything for the garden is grown and supplied in large quantities in the finest possible condition, at the lowest prices, consistent with correctness and superior character. Never has there been such a complete Autumn Catalogue issued of everything required for the garden as the one we are now sending post free. Neither has there ever been such a splendid stock of best varieties of the many families of plants necessary to keep the garden in the highest state of perfection as we are now soliciting orders for. Our climate, soil, and facilities give us and purchasers many advantages, and we ask all to send for a Catalogue.
H. CANNELL & SONS,
SWANLEY, KENT.

New Chrysanthemums.
CARTERS' LIST OF THE BEST SORTS for 1892 Now Ready, gratis and post free on application to the QUEEN'S SEEDSMEN, 237 & 238, High Holborn, London, W.C.

TO ANTHRACITE CONSUMERS.
THERE appears no probability of further reduction in price of really Best Anthracite, but the reverse—Lower quotations mean inferior quality of "Best." This is self-evident, because it will not realise the price of that known in the Market as "Best." The Anthracite I supply can be guaranteed to do 20 per cent. (about 4 - per ton) more work than cheaper kinds, and to be three times superior to Gas Coke. It is also weighed by Railway Company. *Bona-fide references and testimonials.*—WILLIAM H. ESSERY, Anthracite Collieries Office, Swansea.



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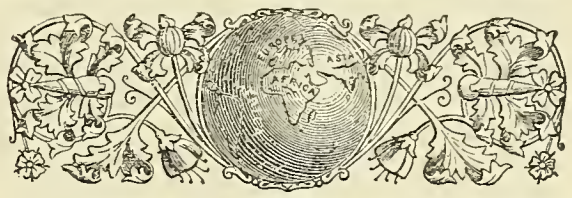

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, January 25.—Sale of Border Flowers at Protheroe & Morris' Rooms.

WEDNESDAY, January 27.—Sale of Azaleas, etc., at Protheroe & Morris' Rooms.

THURSDAY, January 28.—Sale of Lily Bulbs at Protheroe & Morris' Rooms.

FRIDAY, January 29.—Sale of Orchids at Protheroe & Morris' Rooms.

The Gardening World.
Edited by BRIAN WYNNE, F.R.H.S.
SATURDAY, JANUARY 23rd, 1892.

GARDENERS VERSUS COOKS.—We seem in some degree in danger of seeing revived another, and perhaps less humorous version of the famous comic law-suit of "Daniel *versus* Dishclout." Not that the Daniel in question was a gardener; he was indeed a groom, or something of that sort, whilst Dishclout was not even a cook, but a sort of kitchen helper only. Now we see the parties to the new controversy somewhat more elevated, as it is a case of gardener, or chief of the outer domain, against the cook, or chief of the inner, or kitchen regions.

We have a well-known, and able gardener, Mr. Iggulden, publicly charging cooks with wastefulness of good vegetables, in wilfully spoiling them, and in generally presenting vegetables on their employers' tables in an improper condition. The charge is a grave one, for it seriously affects the reputation of the cooks, whilst it presents an equally grave case so far as gardeners and employers or consumers of garden products are concerned. We should like to hear the cooks reply to this charge; indeed it was well suggested, at the close of

the discussion which followed the reading of Mr. Iggulden's paper on "Winter Vegetables" at the meeting last week of the Royal Horticultural Society, that in common fairness the cooks should have ample opportunity given them to answer the indictment. It need hardly be said that such an opportunity would be regarded by the public as one of exceeding interest. The matter does not alone concern cooks in high places, or gardeners in large establishments; it concerns the entire fraternity of gardeners and cooks wherever found. It is no new remark to say that if God gave us foods the Devil gave us cooks to spoil them, because that apothegm, wise or unwise, true or untrue, is as old as the hills.

We had hardly thought to have seen this controversial matter revived in the present day in this form. The gauntlet has, however, been boldly thrown down, and it should be as boldly taken up. It is very probable that Mr. Iggulden, who is the first gardener thus ready in so public a fashion to break a lance with the knights of the kitchen, may find in his profession a great number of persons who think as he does, but have lacked his courage. We wait for the next round of the contest with extreme interest, and trust the cooks' champions will prove to be worthy and capable antagonists.

Artificially-coloured Flowers.—Attempts have been made, and, so far as the Hydrangea is concerned, with some degree of success, to infuse into flowers of one natural hue of colour a tint that is unnatural and artificial, by watering the plants producing the flowers with a chemical compound, calculated to produce the desired results. With the exception named, so far as we are aware, nothing of a particular nature has come out of these experiments. But now we learn of artificial hues being produced in natural flowers of pale colour, by setting the stems when freshly cut into water, coloured with certain chemicals, to produce certain tints, with, it is said, some degree of success.

The flowers must be fresh cut, and at once placed into the coloured liquid; thus it may be possible to give to white or yellow, or pink, or other pale coloured flowers tints of diverse and curious nature, because it would be so odd to see a pink or red Narcissus, pale blue Lilies of the Valley, and so on. Of course there must be a limit to any such colour products, because, whatever may result in a trifling way, nature has limits, and the capillary attraction which a flower, even if ever so fresh, can exercise on water in which it is stood is not considerable. Probably nothing of any appreciable moment will ever come out of these assumed discoveries. What a pretty sensation would be created were some Dahlia or Rose exhibitors for instance to cut their blooms overnight, stand them in chemically prepared water, and then find their flowers next morning of such erratic hues that no mortal fellow could recognise them—why we might even find them produce that *rara avis*, a blue Dahlia or Rose.

The idea seems to be a very comical one, but would be a trifle the reverse where there any probability that imaginary anticipation would be realised. We have no objection whatever to any sort of chemical application to flowers whilst growing, which shall aid to enhance their natural hues, or to brighten their recognised tints, that would leave nothing to complain off. So far as cut flowers are concerned, however, we hope chemists or other ingenious persons will kindly leave them to us in nature's uniforms.

Fruit dealing Amenities.—Not at all a pleasant quarrel is that which has been entered into between certain Covent Garden Fruit salesmen, on the one side, and certain salesmen's critics on the other, in one of our evening contemporaries. It is at all times very easy to formulate charges, but it is far from easy to prove them. When the critics charge upon salesmen that they offer the public certain samples, and give out goods that are half spoilt or greatly inferior, or that much of the bidding is of a bogus kind, or that other evils are countenanced in the market, it is only possible for those whose actions are criticised to give general denials to such charges. It is when charges become personal, or are as it were levelled distinctly at firms or individual dealers, that it is possible to investigate them and ascertain what truth may or may not be in them.

We don't suppose that Covent Garden Market is any more free from trade improprieties than is the Stock Exchange. The practice of "besting," as it is called, so widely prevails in commerce that we look for absolute honour and purity of conduct in trade in vain. Still there seems to be an absence of proof in the case referred to, and the charges resolve themselves into general innuendo. If evils, as said, exist they should be shown up and punished. If they do not exist it is cruel to make charges which cannot be sustained.

There is one matter in which we can agree with one of the critics, when he complains that, whilst imported fruit may be sold in any quantity and of any sort in the City of London, free of all market dues, our own home grown fruit sent to Covent Garden can only be sold after heavy market dues have been paid; that is not free trade or fair trade, but it is the reverse. We shall never have anything fair in the matter until the London County Council takes over the market and greatly moderates the fees, and does all that is possible to extend market areas for the direct benefit of the public.

The Recent Royal Bereavement.—Whilst men may come and men may go the ordinary stream of human life rolls on perhaps for ever, and with it the absolute necessity for existence. Were we living in a purely elementary or savage age, existence would present but little difficulty, and our wants be but few. Now, because of the highly strung nature of human life and its civilised associations, existence for humanity is one hard, continuous struggle for the bulk, and anything which interposes obstacles to the success of that struggle in any way comes as a great disaster. Thus, at the present moment, whilst the nation is mourning the lamentably early and pathetic death of the Duke of Clarence and Avondale, a large section of the community are contemplating its effect upon trade, and through that upon the means of existence, with intense alarm and painful interest.

Our modes of trade and of life are so evenly balanced that any very important event serves at once to depress the scales, and that depression is always against the interests of trade and of living. So far as regards the horticultural trade in which gardeners are engaged, there is too much reason to fear that it will suffer appreciably with the rest, indeed the outlook for those who grow for market is of the most depressing character, nothing but serious losses staring them in the face. It is a trade very largely dependent upon the fancies and requirements of the wealthy, and when that section of the community goes into mourning, the pinch comes home to myriads of growers as quickly as it does to any others engaged in trade.

After all it is doubtful whether more real and continuous suffering does not in the end result indirectly from a calamity of this sort than comes in a restricted circle from the calamity itself. We venture to hope that so soon as the sharp edge of the great sorrow has worn off, it will be recognised that Society so-called has its duties as well as its privileges, and amongst those duties may be found the greatest one of keeping alive and in actual operation our national trade, so that those engaged in it, and especially those whose livelihood is so precarious, may not suffer. It is a very serious matter, and demands earnest attention.

The Clifton Flower Show will take place in the Zoological Gardens, Clifton, Bristol, on June 29th and 30th.

Mr. Westcott, of Raby.—We regret to hear of the death of Mr. Richard Westcott, for many years gardener at Raby Castle, Durham.

Gardeners' Orphan Fund.—At Messrs. Protheroe & Morris' Sale Rooms, on the 15th inst., Mr. F. Sander offered a magnificent piece of Cattleya labiata for sale which realised 50 guineas, and he has very generously sent that amount to the Gardeners' Orphan Fund, as a New Year's gift.

The Tottenham Nurseries, Holland.—We are informed that the Nursery business so long carried on by Mr. A. M. C. Jongkindt Coninck at Dedemsvaart has recently been converted into a limited liability company, and will in the future be carried on under the style and title of the Tottenham Nurseries, Limited. Mr. Jongkindt Coninck and Mr. Van der Elst have been engaged as Managing Directors.

Mr. King, late gardener at "Glenchess," Loudwater, Rickmansworth, has been engaged as gardener and bailiff to W. Jenks, Esq., Canons Park, Edgware.

Market Gardener and Prime Minister.—The *Western Mercury* states that "The new Prime Minister of South Australia, Mr. Playford, pursues in private life the humble career of a market-gardener. Similar combinations of calling are far from infrequent in a country where many a sturdy Cincinnatus is called from the counter to the Cabinet, presides with equal dexterity over governments and groceries, and dispenses pickles and policy with the strictest impartiality of hand. In the absence of a leisured class no other *regime* is possible in the most democratic of all communities."

Birmingham and Midland Counties Gardeners' Mutual Improvement Association.—A special tea an social gathering of members and their lady friends will be held at the Colonnade Hotel, New Street, on Thursday evening, February 4th, to celebrate the sixth anniversary of the association, when it is hoped that all members who can possibly make it convenient will attend on this occasion. The annual general meeting will be held on February 3rd, after which date no applications for tickets will be entertained. Mr. J. Hughes, the Hon. Secretary, who is also the indefatigable local secretary of the Gardeners' Orphan Fund, has also issued the following circular to the members:—"At a general meeting of the committee of your Association on January 14th, 1890, it was unanimously resolved that an annual appeal should be made to the whole of the members for small contributons in aid of the Gardeners' Orphan Fund, and that the amount so raised shall be sent as a contribution from the members as a body, the smallest contribution will therefore be most thankfully received at the general meeting on February 3rd, and as it is not the intention of your secretary or committee to appeal to you again in this year of 1892, it is requested that those members who find it impossible or inconvenient to attend on that occasion, will kindly send their contributions to the secretary on or before that date; as the orphan of one of our late members has been elected on the funds, who is now receiving and will, if necessary, continue to receive 5s. per week for the next nine years, it is the earnest wish of all concerned that the amount so raised shall be in proportion to the

numerical strength and importance of the Gardeners' Association of the City of Birmingham and the surrounding district, thereby assisting to supply the means for further extending the blessing of this noble institution."

What is the Value of a Tree?—This question, with one or two others connected therewith, has been settled recently by the Queen's Bench Division for the special benefit of the London and North-Western Railway Company. A gentleman named Gill, residing in Adelaide Road, Haverstock Hill, near the company's line and hard by the Chalk Farm tunnel, had two Normandy Poplars in his garden, which gratefully shielded him from the smoke and deadened the noise of passing trains. These the company desired to remove, because somehow they interfered with the traffic. Mr. Gill, it appears, was willing to lop off branches that were in the way, but, as a screen against the sulphurous emanations from the company's engines, he desired to retain the Poplars. Negotiations failing, the company sent their own men, felled the trees, and then paid £50 into court. Later they increased this sum to £100. Suburban residents who dwell near the ironways of all-powerful railway companies may be glad to learn that the Court assessed the value of the trees at three times this amount, and gave damages for £200 in addition to the sum paid into Court.

The Ancient Society of York Florists.—The annual meeting of this ancient society was held at York on the 12th inst., Mr. W. C. Millburn, vice-president, presiding. Mr. John Lazenby, the secretary, read the report, in which the committee deeply regretted the death of one of the vice-presidents, the late Mr. Ald. Matthews, Lord Mayor of York, who was a consistent supporter of the society for over twenty years. The balance sheet shows that the tide of prosperity was flowing. The gross income reached £620. The expenditure, although necessarily larger than hitherto, viz. £445, consequent upon the growing character of the society's transactions, left a balance to the society's credit of £175. There had been a nett increase of thirty new members during the year. The summer shows in the Guildhall continued to be much appreciated by the public, and the exhibitors increased in number. The Chrysanthemum show was perhaps the most successful the society had held. It was visited by about 10,000 persons, and the receipts exceeded those of the previous year by about £30. In accordance with the custom of the last two or three years, a flower service was held in the summer at St. Michael-le-Belfrey's Church, and the offertories enabled the committee to present to the County Hospital and York Dispensary £5 5s. each. The funds of those institutions were further benefited to the extent of £2 2s. 10d. each at the Chrysanthemum show. The report and balance sheet were adopted unanimously. Ald. Sir Joseph Terry was elected president, and the Lord Mayor (Mr. Ald. Close), the City Sheriff (Mr. Councillor Foster), and Mr. McIntosh were elected as vice-presidents, for the ensuing year. Mr. W. R. Robinson was chosen as junior steward; and Mr. Fielden and Mr. Lazenby were re-elected treasurer and secretary respectively. The election of a committee of eighteen followed. The sum of £50 was allocated to the minor shows of the ensuing season, and £130 to the next Chrysanthemum show, November 16th, 17th, and 18th being the dates fixed for the latter.

CHRYSANTHEMUM MISS ANNA HARTSHORNE.

When reading Mr. Dean's remarks on New Japanese Chrysanthemums in your issue of January 2nd, I noticed that Mr. E. Tautz was credited with having had a fine bloom of Miss Anna Hartshorne May I be allowed to state that Mr. Tautz has not grown that variety, and that I think I am the only person who grew it in Ealing last season. As I had a splendid bloom of it, which Mr. Dean saw, I think there can be no doubt he intended to refer to my bloom, and mentioned Mr. Tautz's name in error. I quite agree with Mr. Dean that it is apt to show its buds precociously, as even the cuttings or suckers show a bud before they are 2 in. long. I should like to say a few words with regard to stands for Japanese varieties. I think it only fair that all stands should be of the same size, as the blooms look very different on a large board to what they do on a small one, as I found to my cost at the N. C. S. show last November. I am glad to see that the majority of growers do not favour the boards being over 4 in. wider than they are at present, but for my part I should prefer using boards 28 in. by 21 in., which I think would afford ample space for 12 blooms.—*C. Edwards, Gardener to W. Owen, Esq., The Elms, Castle Bar, Ealing.*

HARDY TREES & SHRUBS.

The Cotoneasters.

In our issue for December 5th, p. 213, we gave a description of a considerable number of the smaller growing species of Cotoneaster, together with a woodcut of C. buxifolia. The undermentioned are all strong growing kinds, which on account of their habit are to be considered as large bushes rather than trees. Although not by any means common in this country they can hardly be considered rare, and in the southern half of the country they prove quite hardy. They are very ornamental when laden with fruit, especially when the latter is red. They may be grown in the shrubbery where plenty of space can be afforded them, as they attain size, or they may be planted as isolated specimens on the lawn, where they will be seen to best advantage. In prominent positions near dwelling houses, birds will to some extent be prevented from eating the fruits, and the bushes will accordingly remain in beauty for a much longer time.

Cotoneaster frigida.—This species is decidedly the best of the large growing kinds, by reason of the

Cotoneaster frigida.

large umbels of red or scarlet fruit which it produces in great abundance on large well established bushes. Young ones also fruit fairly well provided they have been raised from cuttings or layers instead of seeds. Old bushes vary from 8 ft. to 10 ft. in height, and like other species show a tendency to develop numerous stems, sometimes as stout as hop poles, branching freely at the top, and ripening their umbellate cymes of red fruit about the beginning of September. Seedlings come into bearing in the course of three or four years. The leaves ars oblong-elliptical and of considerable length, deep green above and finely downy beneath. Our illustration will give an idea of their form as well as the character of the fruit. The species is a native of the Himalayas on the higher mountains of Nepal.

C. affinis.—By many this is considered merely as a form of the last-named species, differing chiefly in the form of the leaves, which, according to Lindley, who first described the plant, are ovate. A large plant at Kew shows them to be oblong-elliptic, very densely arranged, and relatively short compared with those of C. frigida. The bush attains a height of 10 ft. to 12 ft. and presents a rather scrubby and stiff appearance compared with C. frigida, and is irregularly branched. The fruit is red and produced in smaller clusters than in the last-named species. It comes from the lower country of the Nepal district

C. bacillaris.—The stems of this species attain a height of 10 ft. to 20 ft., and are very numerous and slender in proportion to their length. The specific name means staff-like, as the stems are much used for making walking sticks. The leaves vary in shape from oblong or elliptic to obovate, and are deciduous. The species is a native of Nepal and other parts of the Himalayas. The berries are small, brownish purple, and produced in cymes, otherwise similar to those of C. frigida. The habit of the plant is peculiar, but sufficiently ornamental to be worthy of a place in collections of ornamental trees and shrubs.

C. rotundifolia.—The striking feature of this species is the roundness of the leaves, which, in general terms, may be described as roundly-elliptic, thinly hairy above, but ultimately quite smooth, and of a deep shining green. The lateral shoots are often regularly arranged in two ranks, as occurs in C. horizontalis and several other species. The berries are produced in great abundance on the plants, but in very small clusters, or solitary, from the short lateral shoots or spurs. The white flowers open during April and May, and the red berries commence to ripen about the beginning of September. The stems vary from 2 ft. to 4 ft. in height, forming an ornamental shrub of medium size, and therefore suitable for shrubberies even in small gardens. The species is a native of Nepal, from whence it was introduced in 1825; and it proves evergreen in this country.

C. nummularia.—Like the last-named, this species is also notable for the peculiar rotundity of its leaves. The specific name refers to this, from the fancied resemblance of the leaves to pieces of money. They are orbicular, light glaucous green above and downy or felted beneath, with silky-woolly hairs. The white flowers are produced in clusters of two to five on short lateral spurs, and give place to small berries which become brownish-purple about the beginning of September, and later on almost black, hanging on the bush the greater part of the winter. The species comes from Kashmir, Western Thibet, and other parts of the Himalayas, proving sub-evergreen in this country and growing to a height of 10 ft. to 15 ft. It is both elegant and distinct, and is very ornamental even in small gardens, where we have seen it fruiting abundantly. It was introduced in 1824, and well deserves a more extended cultivation on account of its graceful habit and uncommon looking fruit.

APPLES.

In thus briefly describing the cultivation of the Apple, it will not be necessary for me to give the history of this most important fruit. We all know it is of great antiquity, that it has been cultivated from time immemorial. Unquestionably the Apple is the most important of all our hardy fruits, and no other kind of fruit tree is so well adapted for cultivation in the gardens of all classes, and none affords so lasting and generally useful a supply. The fruit of some of the earliest varieties is fit for use in July, whilst some of the late keeping sorts may be had in good condition until the same time the following year. Its usefulness both as dessert and for cooking will never be questioned. England is well adapted for the cultivation of Apples, and it is surprising that there are so few really good home grown samples to be met with in the markets during the winter; when we consider all the natural advantages we possess, it is no credit to us that America and other countries should annually drain our country of such large sums of money for Apples alone. There is no reason why the greater part of this money should not be kept at home, for we have clear proof that English grown fruit is superior to foreign in several points.

A great deal of attention has been paid to the subject of our fruit supply of late, and the question is a very important one from a commercial point of view. The several fruit conferences held throughout the country have brought together a lot of useful and practical information, which has been distributed throughout the land by the gardening press. And if we do not render a better account of ourselves in the future (by improving our supply of home grown fruit), it will not be for the want of sound practical teaching.

In the following paper I intend to treat the subject more from a private gardener's point of view than commercially, and for convenience I shall treat

it under the following headings:—Propagation, Soil and Situation, Pruning and Training, General Treatment, Varieties, Gathering and Storing, Enemies.

PROPAGATION.

Apples can be increased by several methods, the most important are grafting and budding. Increasing from cuttings and layers are sometimes adopted, but not generally. Seed is largely sown to obtain stocks on which to work improved and well-known sorts. It is also sown with a view to obtain new varieties. Budding is most generally practised by the trade growers, as it possesses several distinct advantages; especially is it suitable for propagating new varieties, as a plant can be obtained from every well-matured bud. It has also the advantage of being performed in the summer, when other work is not not so pressing; and if any fail to take they can be grafted in the following spring. The chief points to be observed in budding are to have the scions and stocks in good working order. In preparing the buds the wood should come out clean, without injuring the bud in the least. The bark of the stock should lift freely when the handle of the knife is inserted, and the whole when bound up must be air-tight.

Grafting is a very ready and sure method of propagation, and it is especially useful in renovating old trees or worthless varieties, which can be headed down and grafted with improved ones. There are several forms of grafting, but the one known as tongue grafting is the most useful for young trees and wedge grafting for old specimens. The essentia points in grafting are to get the cambium layers of the stock and scions together, they must fit on one side of the stock at least or no union will be formed. The cuts should be clean, and bound up before they get time to dry. The graft should be kept moist and air-tight—by some of the several waxes or clays—until the union is formed.

Layering comes next in importance, and is largely adopted for raising stocks, as by this method any particular variety can be had true. I have found that the best layers are produced from the shoots inserted about three or four inches deep. The layers are slightly tongued, and an opening made in the soil to receive them. They should be cut down to about three eyes when inserted, and strong stocks will be formed by the following autumn.

Cuttings are not generally employed, and success with them has been very varied. This is undoubtedly the oldest method of propagation, but it is almost abandoned now. In fact raising from cuttings would not pay, as it would be impossible for nurserymen to execute the orders entrusted to them if this slow process were adopted, hence the quicke and if carefully done, the more successful methods of grafting and budding now universally followed.

STOCKS.

There are a great number of different stocks, and they exercise a great influence on the trees worked upon them. Sufficient attention is not paid by all gardeners to the stocks on which their trees are, and serious mistakes sometimes follow by trying to train a tree to a form for which the stock is not suited. An extensive trial was made in the Royal Horticultural Society's Gardens some years ago with stocks; eighteen different stocks were collected and grafted with Blenheim Orange. Three years after grafting several of the trees flowered; the flowers were counted for five succeeding years, and the result carefully noted. The French Paradise and the Doucin were the most productive, whilst some produced no flowers at all. The French Paradise is very dwarfing and liable to canker; it should only be used where very dwarf trees are required. The Doucin is the most serviceable of all, as it combines a moderate growth with fruitfulness. The Crab, or Free Stock, is the one best adapted for orchard trees or where there is plenty of head room, as it is a strong grower and capable of carrying a large tree.

SOIL AND SITUATION.

Apples will grow in almost any well-drained soil of moderate depth; in small gardens there is sometimes very little choice, but if there is any scope in this way choose a good yellow loam of fair depth. If Potatos, Cabbage, etc., do well there is little fear that Apples will thrive. If the ground has a slight slope towards the south or south east it will be an advantage. Choose a dry position in preference to a low damp one, as spring frosts are generally more severe in low lying places. Strong winds must be guarded against; if there is no existing shelter, planting must be resorted to.

Having fixed on suitable ground the first operation would be to put it in order for planting. This like most others operations pays for being done well at first, by thorough trenching. It should be broken up to a depth of about 2 ft.; if the sub-soil is of a stiff clayey nature, do not bring it to the top, but break it up with a pick and leave it in the bottom. This is best done in early autumn, so that the weather can sweeten and pulverise it. If the soil is poor, advantage should be taken of the trenching to thoroughly mix some good farm-yard manure with it, being careful however not to make it too rich; as trees generally grow strong enough at first, it is better applied later, on the surface. If the soil is stiff, wood ashes or lime rubble should be applied. Of course if the ground is wet, attention must be paid to draining. Have a leader running along the lowest part of the ground, and let all the other drains that may be required in the plantation be conducted into it. This should be seen to before any attempt is made at trenching the ground. The depth of the drains will be guided by the nature of the soil.

The best time to plant is in the autumn just before the leaves fall.

Great care should be exercised in planting, as the success of a tree almost wholly depends on how it is planted. The roots should be examined and any injured ones removed, shortening back the long bare ones and those having a downward tendency. The holes should be wide enough to receive the roots to their full length, and be moderately firm in the bottom; care should be taken not to plant too deeply, as it is a great mistake to entirely remove the roots from air and light. The old soil mark on the stem should be the guide. Fine soil should be worked in between the roots as planting goes on. The uppermost roots should be raised by the hand to allow the soil to get between them as planting proceeds; the soil should be made firm, but not trampled too hard. All trees should be firmly staked when planted, but not tied permanently until they have settled down.

PRUNING AND TRAINING.

These are so closely allied that they may be treated under one heading. A great diversity of opinion exists as to the pruning of Apple trees, but I prefer to allow them as near as possible unrestricted growth. The object of pruning is to get a desired form of tree and to assist nature in the production of superior fruit. Whatever form of tree is decided upon it should have a clean stem of about one foot.

Ornamental training is not so much practised in the case of the Apple as with some of our other fruits. If maidens are planted in the autumn they should be cut back rather severely in the spring. For bush or standard trees the forms which we recommend three branches are best to lay the foundation with, any surplus ones should be cut clean out, the remaining three should be shortened to about 6 in., the uppermost bud pointing outward. From each of these two or three shoots will come, any that incline to the centre of the tree, or across another, should be removed. If the remainder are too close to allow the foliage full exposure thin them out; in the winter pruming they must be shortened again, but not so severely as the previous year. As the tree advances in age, less shortening will be required, more attention being paid to thinning out; always keep the centre open and the branches sufficiently far apart to allow the foliage and spurs full exposure to the sun.

Some varieties require a little different treatment to others; the habit of the tree should always be looked at first; upright growers should be made to spread out as much as possible, and drooping varieties helped up. Very prolific varieties, such as Lord Suffield and Stirling Castle, should be watched very carefully, as if the points are not taken out to encourage the production of wood they form all fruit bud.

Especially is this the case when they are worked on a dwarfing stock, they almost kill themselves with fruiting. Root pruning is of great service where the trees are growing too strong; it is generally *tap roots* which cause the mischief, therefore they should be got at and cut through.

Apples may be trained to any desired form. In Scotland the choice dessert varieties are grown on walls as cordons, espaliers, and fan trained; but in this neighbourhood wall space is too valuable for Apples when they can be had in such perfection from the open quarters. The only other form I recommend is horizontal cordons, as edgings to the fruit quarters. They must be on the Paradise stock. A maiden should be cut down to near the required height, and two eyes selected as nearly opposite as possible; the shoots from these should be trained to a stout wire, and any eyes which break below should be rubbed off. The strength of the growth must regulate the length retained each year (the stronger the growth the longer it must be left); it should not exceed 18 ins., for spurs will not form the whole length. All laterals should be stopped to about five or six eyes whenever the growth is about finished for the year. The stopping should not be done too soon as that would cause a second growth, which is worse than useless. In the winter these laterals must be shortened to two or three buds, to form spurs.

(To be continued.)

CHRYSANTHEMUM NOTES.

"WHAT IS A REFLEXED CHRYSANTHEMUM?

THE remarks of "An Exhibitor" at page 295, seem to me to render this question a greater puzzle than ever. Why some societies should recognise certain varieties of undoubtedly Japanese origin as reflexed, and not other varieties is very hard to understand, and shows how hard upon bona fide exhibitors diverse judgments may be. Thus I find in numerous cases Amy Furze is admitted amongst the ordinary "reflexed" flowers. Every one admits that it is quite as good a reflexed as are the Christines, and perhaps a better one. It would never be put into a stand of Japanese reflexed, because it is too small comparatively, and there are so many of the true Japanese form the which are so much finer. Then its seems as if the true crimson Cullingfordi, which is of true Japanese blood, is universally admitted amongst the ordinary reflexed, and certainly much to the gain of the section. Well, if Cullingfordi, why not Amy Furze? Who can give a logical reason why one should be admitted and the other excluded.

"Exhibitor" complains that whilst a competitor at Sheffield staged four out of six Japanese reflexed and was placed first, he was second with but one Japanese reflexed, because he had Cullingfordi. Perhaps the National Chrysanthemum Society authorises Cullingfordi to be shown as an ordinary reflexed; if so, why not Amy Furze? The admission in the one case and rejection in the other seems to be arbitrary. The ordinary reflexed class is of such limited nature that authorities should be only too pleased to assist in its extension, and the value of such forms as Cullingfordi and Amy Furze is shown by the fact that whenever allowed they are almost always included. Why, even with these two included, and Dr. Sharp, King of Crimsons, Chevalier Domage, Distinction, Cloth of Gold, Golden Christine, Miss Forsyth, Pink Christine, Peach Christine, and Phidias, there are hardly any left fit for exhibition.—*Chrysanth.*

SERVICEABLE FLOWERS.

THERE are a great many flowers cultivated under glass that are well worthy of the trouble taken with them, but the really serviceable kinds are by no means numerous. What is principally wanted now-a-days are flowers that will travel well and also keep fresh for some time in a cut state; but the list of these might be added to with advantage. In the autumn and early winter months we have to largely depend upon Chrysanthemums, and there is sufficient variety in these to please most tastes. Yet there is such a thing as having too much of the Chrysanthemum, and especially the heavy specimen blooms; and gardeners will do well to turn their attention more to the growth of the smaller varieties, including Pompons. Those two excellent late reflexed sorts Golden Gem and Boule de Neige ought to be more grown for the midwinter displays, even if at the expense of larger forms. By way of affording a relief to Chrysanthemums, it is advisable to grow a considerable number of zonal Pelargoniums, both single and double flowering. The former are particularly serviceable for vases and table decoration up to Christmas, while the semi-doubles, notably Guillon Mangilli, F. V. Raspail, Earl of Beaconsfield, James Vick, La Cygne, Heroine, Bruant, Mme. Thibaut, can be had in bloom all the year round. In many cases a warm airy house might with advantage be devoted principally or solely to the semi-doubles, these affording abundance of serviceable flowers,

especially in February, March, and April. Vases filled with one colour of these and forced Spiræa japonica are bright and attractive, and in passing I might add that the Spiræa just named cannot well be grown too extensively, the foliage, as well as the flowers, being serviceable. The same remarks apply to the Lily of the Valley. Roman Hyacinths, again, are very easily forced, it being possible to keep up a succession of bloom from November to March inclusive. Hundreds and thousands of these might well be grown where cut flowers are in great demand, but I have no great liking for the large-flowering double and single Hyacinths. The Polyanthus Narcissi are also serviceable for pot culture, none so much so, perhaps, as the Paper-white. Freesias (notably F. refracta alba), again, though less well known, are decidedly serviceable, and what adds to their value is the fact of the pots of bulbs increasing in value and usefulness the longer they are kept. These will eventually become as common and popular as Roman Hyacinths, or, it may be, more so, as the latter have to be replaced at a considerable expense every year. Of other deciduous bulbous-rooted plants, Lachenalias must not be omitted. They are not so generally admired as many of the preceding kinds are, but they are decidedly serviceable. The flowers travel well and keep fresh in a cut state for several days. Some of the best are L. Nelsoni, aurea, tricolor, and luteola.

Few now-a-days attach any value to Camellias other than the old alba plena or any other good white variety, and these are principally in favour with florists who have a good demand for wreaths and crosses. Azaleas are better appreciated, though these are of little or no value for packing; but the single and double white varieties are invaluable for home use. The beautiful and very sweet-scented hybrid Rhododendrons are also bad travellers, and it is worthy of note that very few flowers that have to be cut with a hard stem or length of ripened wood, ever last well in a cut state. This is the case with the hardy Rhododendrons, whether flowered under glass or otherwise, and the equally-gorgeous forced deciduous Azaleas are really anything but serviceable. Lilacs keep fairly well for a few hours, the pure white forms being of the greatest value. A fairly good substitute for the latter will be found in one of the Bladder Nuts, Staphylea colchica, this forcing readily, and lasting for two or three days in a cut state. The same plants may be flowered for several years in succession, and this cannot be said of Lilacs. Of the various hardy, or nearly hardy shrubs and plants that are amenable to forcing, none can be said to rival Roses, and of these the Teas and Noisettes are by far the most serviceable. The Hybrid Perpetuals can be flowered well in pots, but they only give one crop of bloom each spring, and the blooms soon lose colour and fall. One noteworthy exception to this rule is found in La France.

Of greenhouse plants, the most prominent place must be given the Carnation. More serviceable flowers than these could not well be grown, and I can quite see the force of building houses principally or solely for their culture. Many such are now to be met with, light airy structures suiting them well. The perpetual flowering varieties yield blooms throughout the late autumn, winter, and spring months, and these are available and much sought after for a variety of purposes. There is now quite a rage for the Souvenir de la Malmaison, this being the most fashionable of all Carnations, and just coming well into flower. A few dozen plants are thought nothing of, and I could name many private places where the stock consists of from 1,000 plants upwards, these filling one or more houses specially designed for them. Unfortunately, Carnations generally, and the Malmaison in particular, are liable to be overrun by a deadly fungus, with which in not a few places it has been found impossible to cope. There is a wide difference between Carnations and Arums, or, more properly speaking, Calla (Richardia) æthiopica, but the latter is also a very profitable and serviceable flower. It is effective in groups of pot plants, and is a noble vase flower. It is a comparatively easy matter to have it in bloom from Christmas to long after Easter. Imantophyllums, notably I. miniatum and varieties, are also very serviceable warm greenhouse plants, and very gay in their season. Strong plants produce a fairly long succession of flower scapes, the masses of orange-red flowers being very effective in vases or otherwise. They are worthy of more extended culture than is at present accorded them. Cinerarias and Calceolarias are very showy pot plants, but of no value whatever in a cut state, the same remarks applying to the single Chinese Primulas, but the old semi-double white form of the latter ranks among the most serviceable plants that can be grown. Persian Cyclamens are also serviceable, the flowers travelling well, and in small glasses, mixed with elegant greenery, are very effective.

Among heat-loving plants the first position may well be given to the Eucharis, including the old E. amazonica and the newer E. candida and E. Sanderi. Where there is a good batch of healthy plants there are nearly always a few or many flowers available, and these can be put to a variety of uses. Pancratium elegans is less valuable in some respects and more so in others. It requires very similar treatment, and the beautifully white sweet-scented and very elegant flowers are largely used in bouquets, wreaths, and vases. Stephanotis floribunda is omitted from very few collections of plants, but it cannot be said to be particularly serviceable. Dipladenias and Allamandas, if trained to the rafters, yield large numbers of flowers, and in the autumn they are of good service for table decoration. Ixoras are less ofteu met with, but they can be made to flower almost continuously, and their bright orange-red flowers are very effective in a cut state. Bouvardias require less heat than Ixoras, and are more serviceable. Fewer Gardenias are grown than formerly. They require to be kept very clean, must have a strong heat, and the flowers do not travel paticularly well. Euphorbia jacquiniæflora is both an old favourite and a most desirable stove plant. It produces grand branches, closely furnished with small scarlet flowers which last remarkably well on the plant or in a cut state. Bougainvillea glabra is usually grown in plant stoves, but if given a place in a warm greenhouse or conservatory the flowers would be of a richer colour and more serviceable. Orchids are nearly all serviceable.—*Field.*

SCOTTISH NOTES.

Hawick Horticultural Association.—The first meeting of the session was held on January 15th, when the president, Mr. J. Forbes, Buccleuch Nurseries, delivered an address. After reviewing the work of the past session he congratulated the members on the amount of work done and the lively interest that had been taken in the proceedings, as was evidenced by the spirited manner in which the discussions were invariably entered into. The young members of the association he advised to study their business and to study it well if they meant to excel in it. He believed there was a time when any tall strapping fellow with a spade in one hand, a rake in the other, and a blue apron tied in front of him in the orthodox manner, who could perform certain mysterious antics was considered a properly constituted gardener; but those things had passed away for ever, and those who only possessed such credentials were not in the running. A well-cultivated mind and abundant experience is wanted now. Any man may be considered a good gardener, and he may do fairly well, until things begin to go wrong. It is then that the battle begins, and where the full measure of a gardener's capacity is discovered. He had heard a number of old gardeners say that the race of gardeners is degenerating, and that when in the usual course of Nature the older men pass away their places can never be worthily filled; but he did not believe that. There are as capable and as well trained men in the ranks now as there ever were; but this is an age of amusement, and a large number of our best trained young men unfortunately allowed themselves to get in the swim of it and go with the current. Let them drop that, and study chiefly what they can turn to good account in their future lives. It was the man who was capable who elbowed his way to the front and kept there, and not the one who trusted to the length of his tongue. Mr. Forbes was warmly thanked for his address.

Scottish Horticultural Association.—The annual general meeting of the Scottish Horticultural Association was held at 5, St. Andrew Square on the 12th inst., Mr. W. M. Welsh presiding. The principal office-bearers were elected as follows:—Honorary president, the Duke of Buccleuch and Queensberry; president, Mr. W. M. Welsh; secretary, Mr. R. Laird, 17, Frederick Street; and treasurer, Mr. A. Mackenzie. It appeared from the treasurer's report that the balance in hand on account of the Chrysanthemum shows was now ove £500, and that the balance on the ordinary busines of the Association was over £40. The report of the secretary showed a total membership of 440, over 20 new members and seven life members having joined during the year. It was agreed to hold another Chrysanthemum show, on a similar scale as the last, on the 17th, 18th, and 19th November of this year.

Gleanings from the World of Science.

Effect of Exposure on Leaves.—A paper on this subject was read at a meeting of the Linnean Society by G. F. Scott Elliot, M.A., B.Sc., F.L.S., and is recorded in the journal of that body, Botany No. 196, Mr. Scott Elliot, in common with other observers, finds that the amount of leaf-surface on plants growing in fully-exposed positions is reduced, and that the breadth is more or less increased relatively to the width, and leaves also tend to increase in thickness under those conditions. The explanation is that exposure to bright sunlight has the effect of promoting transpiration, and the greater loss of moisture caused thereby prevents, so to speak, the amount of growth which would take place in sheltered or even shaded positions. The epidermis of plants in dry deserts and on the bare sands of the sea-shore always tends to thicken. Weisner has shown that the internodes or spaces of the stem between the leaves of the Dandelion get elongated when the plant is grown in a moist atmosphere without the bracing influence of a free play of air. The rate of transpiration, under those conditions, is very slow. Mr. Scott Elliot made a large number of observations and measurements on the leaves of grasses and other plants in Madagascar, and the results confirm the above statements. The measurements were made on two sets of plants, one in sheltered or shady positions, and the other in dry places fully exposed to sunlight.

Wireworms are hard to kill.—Numerous experiments have been made in America, as reported in *Bulletin* 33 *of the Cornell University Agricul tural Experiment Station*, for the purpose of determining a practicable method of destroying wireworm at various stages of its existence, and on a large scale, such as might be undertaken by farmers in their wheat and corn fields. The undermentioned are the results of the experiments made upon wireworm in the larva state, which of course is the most destructive to plant life. Two sets of cages were filled with soil and planted with seeds of Indian Corn. The seeds in the experiment cages were coated with some poisonous material, and the others used in the natural state by way of check. A number of larvæ were put into each cage, and their behaviour watched. The seeds in one series of experiments were coated Paris Green and flour, and the experiments were extended over nearly two years. The results were that the poisonous coating to the seeds retarded germination, but did not seem to injure the larvæ even when they ate the seeds. Somewhat similar results attended the coating of the seeds with tar. Germination is retarded, and it was found that wireworms would attack the seeds even when completely coated with tar. In other trials the seeds were soaked in solutions of salt for 10 and 18 and 20 hours respectively before planting, and they were greedily devoured by the wireworms which suffered no injury. Sulphate of iron or copperas was used for soaking the seeds, in a series of trials extended over two years, but the larvæ ate and destroyed the seeds without injury to themselves. Seeds were soaked in chloride of lime and copperas, and planted on April 27th, along with others that had not been treated. The seeds were destroyed in both cases before germination by the 15th of May, and the larvæ showed no signs of injury. Seeds soaked in kerosene oil fared in the same way in the course of a month. Spirits of turpentine were used in another case, but neither prevented wireworms from eating the seeds, nor did it injure them. What appeared to be more drastic measures were then undertaken. Some seeds were soaked for 18 hours in one part of sulphate of strychnine to 400 parts of water, and in another trial some seeds were soaked for twenty hours in one part of strychnine to 200 parts of water, and then planted. The poison neither prevented the worms from eating the seeds, nor did it injure them.

FLORICULTURE.

The Hollyhock.

This, the common name of *Althæa rosea*, appears to etymologists a somewhat perplexing word. The latter part, hock, is according to Dr. Prior clearly from the Latin, *Alcea*: but the holly seems to be very difficult to explain. Dr. Prior says, that the most probable origin of it is the Latin, *caulis*, with the meaning of a *calecolay*, or *Cabbage-hock*, and referring, as in *Cabbage-rose*, to its well-formed double flowers, or used in the sense of *stalk*, and referring to its lofty habit, in contrast with the lowly *Hock-herb*, or mallow. Cauli, or Coley-hock would easily pass into *Holly* and *Holly-hock*. It is an interesting and instructive study in seeking out the origin of common names, and the Hollyhock is no exception to the rule.

I have, in my time seen the development of the Hollyhock from a flower, only partly semi-double; and one of large size, high finish, and perfect doubleness. It now seems impossible to get much beyond what has been reached of late years, only that no one can forecast the possibilities of development in the flower. It is one requiring a good garden soil, which, to do the plants full justice, should be trenched to the depth of two feet, and well manured with something akin to that got from an old Cucumber bed. If good plants, whether obtained by seed or by means of grafting or from cuttings, are put out in April, they cannot fail to do well, grow into large size, and produce fine spikes of bloom. Messrs. Sutton & Sons, of Reading, who every season grow as fine a plantation of Hollyhocks as one can well desire to look upon, say with much truth that "in growing the Hollyhock it is necessary to remember that a large amount of vegetable tissue has to be produced within a brief period, so that the treatment throughout its career should be exceptionally liberal." This is quite true, and it is worthy of note that while the Hollyhock will take a large amount of moisture during the summer, it is rather impatient of it during winter; and especially is this the case with old plants, and one can therefore understand the reason why the late William Chater, of Saffron Walden, used to remove the soil from the necks of his old plants left in the ground for the winter, and piling up white sand round the neck, to the depth of six inches or so. The heavier and more retentive the soil, the more necessary is such a precaution. I have known some growers to lift their old plants, pot them, keep them in cold frames during the winter, and replant them in spring.

By sowing seeds early in January or February on bottom heat, growing them on freely in pots, and planting them out of doors in June, the Hollyhock can be made an annual, but the plants hardly become strong enough to show the true value of the variety. It is best to sow the seeds in June or July, grow the plants on in pots, winter them in a cold frame, and plant out in March or April as the weather suits. If the seeds be sown in the open, a warm border should be selected, and if the plants remain there until early spring before being placed in their blooming quarters, which is sometimes safer than transplanting in autumn, a little loose litter may be thrown over them with advantage during a time of severe frost.—*R. D.*

Pansies and Violas, etc.

This spell of snow and severe weather causes frames to be kept close and Pansies and other plants are shut up, and if they were not in a tolerably dry state before being shut up closely, they will probably be suffering more or less from damping. It will therefore be best, directly the frames can be opened, to do so and admit plenty of air and examine the plants, and if damping, *i.e.* decaying of the foliage, is visible, see to the removal of such leaves at once, using a pair of scissors, and I have always found a dusting of dry white sand a great help to its extermination. An application of flour of sulphur or even dry lime I have also used. But an abundance of air and the lights off as much as possible in dry weather should be seen to. Pansies, Violas, Carnations, &c., will begin to grow very soon, so they should be kept very hardy and tolerably dry, giving plenty of air, for it is a great mistake to keep these plants closely shut up in frames, excepting in very severe weather. Avoid any tender treatment and keep the plants hardy and exposed to the air, avoiding biting east winds, as these do infinitely more harm than frost, as the plants bear frost with impunity if in a tolerably dry state.—*D.*

FERNS: THEIR GROWTH AND CLASSIFICATION.

At the meeting of the Manchester Horticultural Improvement Society held on the 7th inst., Mr. W. Birkenhead, of Sale, read a paper on Ferns. At the outset he pointed out that Ferns, being flowerless, are spoken of as belonging to one of the lower orders of plants, but a full appreciation of the beauty and gracefulness which belong to them points to the higher education than is found among people who admire flowers only. It would seem that when the mind is first opening to a recognition of beauty in plants the most gaudy takes up the attention of the individual, some bloom of striking colour or of enormous size, perhaps a Pæony, or a Rose as large as a small Cabbage, arrests the attention. But as the mind opens to an enlarged conception of beauty smaller flowers are noticed, and interest is taken in those which beforetime had been passed by unseen, or at any rate unthought of. The awakening of the mind goes on as education on the subject advances, until it is seen that beauty does not dwell in colour alone, but that form comes within the range of vision as a competitor with colour in its demand for the admiration of the better educated portion of society.

The exquisite tracery of the branches of the leafless Elm, the gnarled branches of the majestic Oak, and the delicate divisions and sub-divisions of more humble Ferns are alike admired by those who have learned to see beauty in so many forms. In this advance we get the best evidence of a refined and elevated taste, a condition of thing which guarantees to the fortunate possessor a feast of far greater excellence than can be enjoyed by the enthusiast in colour alone. Admiration of form in no way deadens the enjoyment of colour, but the two together enter into and form a combination of beauty of a highly gratifying character. Ferns, being flowerless, it was interesting to notice their modes of reproduction, which are twofold, principally by spores, and secondarily by buds formed on the fronds of some species, on the rhizomes of others, and on the roots of others. These buds contain within themselves all the necessary power of vital force to enable them to grow into a likeness of the parent plant when placed in suitable relationship to of the elements nutrition. Mr. Birkenhead went on to explain at length the difference which exists between a spore and a seed. Seeds, he said, are always preceded by flowers, and are the advanced growth of substances generated in the sexual organs of the flowers. When perfect they contain the embryos of future plants, with vital powers ready to operate directly they come under the influence of necessary heat and moisture.

For the production of seeds the pollen or fertilizing substance of the male organs in the flower must be brought into contact with the stigma, or female organ, and a combination of the two elements must take place before the seed begins to form. But not so with the spores of Ferns. These are produced in millions without any semblance of a flower or the organs of a flower being visible in any way. These spores are blown about, or float in the atmosphere in countless numbers, where Ferns are growing, and when they alight upon a suitably moist and warm surface they adhere and presently begin to swell. They form cells containing a green coloured substance, and the cells increase in numbers until they present the appearance of broad flat scales, of a vivid green colour. Rootlets like fine hair are at the same time produced underneath, with which they fasten themselves firmly to the surface upon which they have alighted. Among these rootlets the sexual organs make their appearance, and thus fertilization is brought about In flowering plants the sexual fertilizing agencies are at work in the flower before seed can be formed, whilst with Ferns the sexual agents of reproduction are not discoverable until the spore has left the plant which gave it being, and has itself entered upon an independent existence. When fertilization has taken place soon there is an evidence of the fact by the upward growth of minute fronds, and from that point of time the development of the Fern goes on until the perfect plant is seen full of graceful beauty.

Mr. Birkenhead went on to notice the principle upon which Ferns have been divided into classes by botanists for the convenience of recognition and description. The various species are distinguished, he explained, from each other by the peculiar forms in which the sacs containing the spores are found to exist. Sometimes they are seen in roundish clusters, sometimes in oblong clusters, sometimes in short, and at others times in long oblique lines. In others again they are in a horse shoe form, while others are contained in little cups much resembling a wine glass in shape, others seem to be enclosed in receptacles like bivalvate shells, and still others like beads on the top of an upright stalk, on numerous branchlets at the upper part of the stalk, or at the end of an otherwise normal frond. This diversity of form made the classification of the Ferns very easy, and other varied forms made the task still easier.

THE ARUM LILY AS AN AQUATIC.

In an American gardening contemporary, I notice some remarks on this plant which bear out my ow experience, that the Arum Lily is a moisture lovin subject, for I have seen very fine plants standing in water in intermediate and other houses which seemed to revel in such treatment and produced very fine blooms. The writer of the notes in the American paper gives his experience of the growth of this plant in South Africa, where a creek ran through a long stretch of farm land, and by the side of, and in which, thousands of splendid Callas were in bloom, with grand leafage and tall large stems and enormous spathes.

On the occasion of a visit a year after he found that a herd of pigs had discovered the spot and rooted out the Calla roots and ate them, and in their native country they are called *Pig Lily*, on account of the fondness of these animals for the root. The Hottentots eat them, roasting them in ashes. The pigs that had feasted so luxuriantly on the roots are reported to have produced the sweetest and finest pork when killed of the whole herd.

Pigs are well known to have a very strong digestion, and Hottentots are evidently not very particular, as a pound or two of Colman's mustard at a meal would appear to be only a toothsome feed, according to the experience of a well known humorous writer on American horticulture, who writes as follows in *The Florist's Exchange*:—

"A rush of work has prevented my entering sooner into my investigation of the Calla Lily bulb as a food product, but to-day being Sunday, I thought it proper to have a tid-bit for dinner, if the bulb proved to be one, and if it did not, I could not choose a better day to enter on an investigation that was fraught with so much good for humanity at large.

"At 11.30.A.M. to-day I carried the bulb to the kitchen and gave it to the Negro cook, instructing her that it was a new kind of sweet potato of surpassing delicacy that had been sent to me from a distant land, and that she was to roast it and when thoroughly cooked inform me and I would dine.

"After roasting the bulb in a very hot oven for one hour, she sent me word that it was ready and I sat down to the table with several other guests to enjoy a square meal.

"I informed my companions of the commission I had received from the *Florist's Exchange*, shook hands solemnly, and received earnest, and I trust sincere, promises that my grave should be kept green.

"Peeling the Calla bulb carefully, I noticed that a small sucker had been removed from the side of the bulb, and guessed at once that the cook had decided to try a taste of so priceless a delicacy on her own account.

"I found the flesh of the Calla bulb to resemble very much in appearance the flesh of a sweet potato, but had a greater number of tough fibrous strings running through it; it was dry and mealy and looked and smelt good.

"Taking a good big mouthful, I masticated it thoroughly and swallowed it. 'How does it taste, Caldwell?' chorused my guests. 'Why, it don't taste of anything, it is absolutely tasteless,' I answered. Just then I felt a suspicious tingle in the tip of my tongue that I knew too well. It was the Calla Lily leaf over again, and I piled into the butter dish at once. At this juncture a prolonged

howl of agony came from the kitchen; that little sucker had caught a bigger one, and the negro cook was gasping and spitting and rubbing her tongue with a piece of fat bacon, and ejaculating: "Fer Gawd's sake, what kind of a sweet tater is dat?" A wooden man could not eat the Calla Lily bulb, and at 4 P.M. my tongue is still tingling.

SIX GOOD GENTIANS.

THESE hardy Alpine flowers are very easily cultivated in almost any moist situation, while the deep lue of some of the varieties is not surpassed by any other flower. Wherever Alpine subjects are valued Gentians are particularly deserving of a place. The most generally grown species is the Gentianella, or Gentiana acaulis. A good rich loam, with a little peat or leaf soil intermixed with it, and upon a cool subsoil, will grow the majority of the Gentians to perfection. I have found that where the soil is light and rather dry that a tile placed beneath the plant, say a foot or fifteen inches, and the upper soil made of clayey loam and peat, intermixed with the natural soil, will generally cause them to thrive well. Gentians like a cool, moist soil, but the majority of them prefer it to be well drained. As all of the Gentians are very sensitive of any root disturbance, such as that caused by being transplantedor divided for stock purposes, they should not be disturbed more often than one can help.

Seeds are the best means of increasing these for this reason; but the Gentianella may be divided without much harm accruing, and the best time for this operation is early spring. Seeds are very slow of germination, and being minute they require careful attention, without any undue coddling. If sown as soon as ripened they will generally commence growth about the following spring, but this is by no means certain; while old seed, say a few months only from maturation, will often be as long as one and a-half to two years before it begins to grow.

The best compost for seedlings is loam and sand dressed down very fine, and in pots or pans that have been thoroughly well drained, as the seeds must be kept moist but not wet. A cool and moist frame or pit is the best place for them. I give a slight watering at the time of sowing, and then stand them in some secluded corner and lay a square of shaded glass over the pan. Should the surface of the soil become too dry at any time, you cannot be too careful in giving water, and using a very fine rose on the watering can. With the best of luck it generally takes three to four years to raise good flowering plants.

Plant very firmly. The best row of Gentians I ever saw were planted up a long row of several hundred yards in a nursery, and the foreman told me that he planted them after the wheel of a loaded dung cart had travelled over the edge of the path a number of times. He was quite certain, from previous observations, that the firmness of the soil had a great deal to do with their great success.

First among the Gentians must come the well-known Gentianella.

Gentiana acaulis.—This is a native of Europe, being found more plentifully in the Alps and Pyrenees. It is the most useful of all blue flowers for the rockery. The flowers are carried on short stems of some two inches high, and are a couple of inches in length by one across. The colour of this species is blue, with five yellow marks inside. Further description of this very popular Gentian is unnecessary.

G. verna.—A very common variety on the Alps and other European mountain ranges, and also to be frequently met with in this country. Some few years ago, when living on the borders of Ashdown Forest, in Sussex, I often came across a nice patch or two of this very pretty and dwarf Gentian. Flowers of distinct tubular or salver shape, five-cleft, and with five accessory segments of bifid form. The corolla of the flower is a most intense azure-blue, while the throat of the bloom is a light colour. It forms dense tufts of evergreen foliage, and is one of the finest for a moist rockery.

G. alpina.—This very much resembles the Gentianella; the leaves are smaller and the blooms are not so intense a blue, while the lobe of each petal has a white spot upon it. It flowers about a month to six weeks later than G. acaulis, and is therefore well worth planting with it to form a succession of flowers.

G. lutea.—This is a tall growing species, the flower stems reaching two and a-half to three feet in height, and keeping in flower from two to three months. It is also a very useful medicinal plant, as the Gentian of commerce is made from its roots. The flowers are yellow, and are veined and spotted very prettily. It is a good kind for the shrubbery, as when the long flower spikes are up, the whole plant reaches some five feet high. A native of Europe and introduced to this country in 1596.

G. Pneumonanthe (the wind flower).—This is another native species, found in North Britain and upon the Welsh hills. The flower is funnel-shaped and five-cleft; corolla deep blue, while the accessory segments are green. It grows a little less than a foot in height, and is a very pretty and showy species.

G. ornata, a variety from the Himalayas, having a white corolla tube striped with blue; while the lobes are a most intense blue, five in number, and triangular-ovate in shape.

Gentians are very hardy, but they should not be planted out into the open the first winter after germination. The chief points are to keep them moist and cool without being wet, to disturb them as little as possible, and to enrich the soil by an annual dressing of rich loam and manure. A few stones placed around them when they are in a somewhat dry situation are very beneficial, as these retain the moisture to a great extent.—*Experience.*

ASTER CORDIFOLIUS.

ASTER CORDIFOLIUS.

WE are now in a position to give an illustration of this beautiful perennial Aster, which should find a place in every collection of hardy border flowers. The figure was executed from a photograph taken in the gardens of the Royal Horticultural Society, Chiswick, in October last, when the collection of Asters and Sunflowers on trial there were in full bloom. There are comparatively few hardy plants to compete with those autumn flowering subjects at that time, and their presence is therefore invaluable where outdoor decoration is attempted at that season of the year. The accompanying figure shows the habit of the plant and its extremely floriferous character. The individual flower heads are small, but this is more than compensated for by their great number. The stems vary from 2 ft. to 3 ft. in height, and become very much branched in the upper portion, the small branches ending in a profusion of blossom. The rays are lilac or pale blue, while the disc is purple, making a beautiful contrast. A number of the larger flowering species can be appreciated for the size of their individual blooms, which are sometimes of rich colours; but the beauty of A. cordifolius consists in the graceful habit of the plant and the elegance of the myriads of flower heads. The leaves are heart-shaped, a form which is by no means common amongst Asters, so that the species is altogether very distinct. A. Drummondi is perhaps the only one with which it may be confused, but that is a much taller and more leggy plant, and not nearly so floriferous. A. cordifolius is a North American plant, from whence it was introduced in 1759, and is perfectly hardy.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.

THE annual meeting of the supporters of this Institution was held at "Simpson's," Strand, on the 15th inst., Mr. H. J. Veitch presiding. On taking the chair Mr. Veitch referred in appropriate terms to the National loss which had been sustained by the death of the Duke of Clarence and Avondale, and at his suggestion it was unanimously resolved that a sympathetic expression of condolence with the Royal Family be sent to H.R.H. the Prince of Wales, the Patron of the Institution. The usual preliminary business being concluded, Mr. G. J. Ingram, secretary, read the following report of the committee:—

"In presenting the 53rd report of the Gardeners' Royal Benevolent Institution, the committee are glad to be able to state that the benevolent objects for which the charity was founded—now more than half a century ago—have been carried out during the year 1891, and they would congratulate the members and subscribers on the continued and increasing usefulness of the institution towards a deserving class of the community.

"The committee desire to draw attention to the successful anniversary festival in July last, which was in a great measure due to the kindness of the Right Hon. Joseph Chamberlain in presiding, and to whom the committee would express their sincere thanks for the eloquent manner in which he pleaded the cause of the institution on that occasion. The committee are also anxious to express their grateful acknowledgments to those gentlemen who acted as stewards, and to those friends who so kindly sent flowers and fruit, which so materially helped in making the festival a success.

"The committee deplore the loss of many friends during the past year, amongst whom were His Grace the Duke of Devonshire (a vice-president of the institution), Mr. W. Richards (a member of the committee), Mr. Joseph F. Meston (also a member of the committee and formerly one of the auditors). All these gentlemen were warm friends of the institution, and will be much missed.

"The committee have also to record the loss they have sustained by the death of Mr. E. Roger Cutler. He had held the office of Secretary to the institution for fifty years, and was untiring in his energies and indefatigable in his zeal on its behalf, and the committee gratefully recognize his efforts and take this opportunity of expressing their deep regret at his decease.

"During the year now closed sixteen pensioners have passed away, three of them leaving widows; and these, after full investigations being found eligible, have been placed on the pension list in succession to their late husbands in accordance with Rule 7. One of them, however, was not destined to enjoy the pension for long, for she died before the year closed, thus surviving her late husband only a few months.

"In consequence of representations made to the committee they approached the son of a pensioner with a view to his foregoing the pension hitherto awarded to his mother. They are glad to announce that he met the committee in a kindly spirit and acceded to their requests, thus relieving the committee from any further payments on account of this pension.

"The committee desire to draw special attention to the fact that they have been enabled during the past year to expend in pensions and gratuities the argest amount on record, viz., £2,739 16s. 8d. This they consider is a matter for much congratulation.

"They have also determined to increase the number of pensions now on the book by thirteen, to be elected this day—six of them are recommended to be placed on the list without the trouble and expense of an election under Rule 7, the remaining seven to be elected in the usual manner. In thus increasing their liabilities the committee would confidently appeal to the many generous supporters of the institution to strengthen their hands by making its needs and the benefits it dispenses more widely known, so that the funds may receive a larger measure of support.

"Mention should also be made of the death of James Wells at the age of 103. He had been a pensioner for 31 years, and during that time had received no less a sum than £521 from the funds.

"In conclusion the committee would point out that this is the only society for granting pensions to gardeners and those engaged in horticultural pursuits in their old age. During the time the institution has been in existence they are pleased to remind their friends that upwards of £55,000 has been distributed in pensions and gratuities to aged and infirm gardeners and others. They would therefore earnestly appeal for continued and increased support to enable them to add to the number of pensioners and to carry on the good work in future."

On the motion of Dr. Masters, F.R.S., the report and statement of accounts for the past year (published in our last issue) were adopted *nem. con.* On the motion of Mr. James Webber, Mr. Veitch was again unanimously elected treasurer, and most cordially thanked for his services during the past year. Mr. A. Outram moved that Mr. H. Williams, Mr. H. J. Cutbush, Mr. W. Y. Baker, Mr. Osborn, and Mr. James Hudson be elected members of the committee, and this resolution was also carried without dissent. Mr. George Munro moved that Messrs. John Lee, James Webber, and Jesse Willard be re-appointed auditors, and this also was agreed to, as also was a resolution, moved by Mr. H. Williams, that Baron Schroder and Messrs. Baker, Cathay, Webber, and G. Munro be appointed arbitrators for the ensuing year. Mr. John Lee then proposed the election of Mr. G. J. Ingram as secretary, and in so doing alluded in feeling terms to the death of his old friend, Mr. Cutler. They had, however, succeeded in securing in Mr. Ingram a most able successor to him, and who had already given abundant promise of ability to carry out the duties of his office in a manner that would give satisfaction to all. The motion was seconded by Mr. Wythes, supported by Mr. Veitch, and carried unanimously. On the motion of Mr. W. Denning, John Alvey, Ellen S. Child,* Charlotte S. Cornwell, John Mundy, Simon Ross, and James Smith were placed on the pension list without the trouble of an election; and on the motion of Mr. B. Wynne it was resolved that as three pensioners had died since the issuing of the voting papers, the three next highest on the list after the seven for which the election took place, be placed on the pension list that day. Messrs. H. Williams, Arthur J. Veitch, and B. Wynne were elected scrutineers, and at the close of the poll the following were declared to be duly elected:—Mary Elizabeth Gray, Reigate (2523), Henry Martin, Redland, Bristol (1968), Henry Bartholomew, Hornsey (1892), Louisa Jennings, Huyton Quarry, Liverpool (1876), Jane James, Honiton (1839), George Medland, Exeter (1799), Lydia Bostock, Bootle (1586), Jemima Grace Truran, Launceston (1534), R. Elphinstone, Norwich (1400), and Elizabeth May, Bagshot (1224). The figures indicate the number of votes polled by the candidates.

In the evening about 100 members and friends dined together under the presidency of the Rev. W. Wilks.

NEW & RARE PLANTS.

THE undermentioned subjects were exhibited at the last meeting of the Royal Horticultural Society, on the 12th inst., and received Awards of Merit. The Orchids that were honoured with Certificates are mentioned under Orchid Notes and Gleanings.

PRIMULA SINENSIS PINK QUEEN.—The leaves of this beautiful variety of Chinese Primrose are intermediate, as it were, between those of the ordinary cordate type and the fern-leaved, and the variety might without much impropriety be included in the latter group. The whole plant is very vigorous, with short, broadly-oblong, shallowly-lobed leaves, all parts of which are of a light green. The flowers are very large, much undulated, or wavy, with broad overlapping segments, and are of a warm pink, with an orange eye tinted with green.

PRIMULA SINENSIS PEACH BLOSSOM.—All parts of the leaves in this case are of a light green, but the plant is very vigorous. The flowers are large, flat, or only slightly wavy, with broad overlapping segments of a deep peach-pink. The eye is five-lobed, or nearly circular, orange coloured tinted with green, and surrounded by a narrow white line. The leaves are of the ordinary cordate and lobed type. Both this and the previous variety were exhibited by Messrs. H. Cannell & Sons, Swanley, Kent, and were certainly fine sorts.

CANNA ALPHONSE BOUVIER.—Cut stems bearing leaves and flowers of this fine Canna were exhibited by Messrs. Paul & Son, Cheshunt. The leaves are lanceolate-elliptic, and of a deep glaucous hue. The flowers are very large for a Canna, and of a brilliant crimson-scarlet; the segments are also broad, resembling those of C. iridiflora Ehemanni. The variety should be valuable if it can be regularly flowered in winter.

* We regret to state that Mrs. Child died the same day.

MAGIC AND FLOWERS.

MY first thought was tricks with flowers, but I finally concluded to treat the subject differently. As far back as history will carry us there have been magicians, wonder workers, men who were supposed to be possessed of supernatural powers, giving them a place high among the rulers of the nation. At the same time mention is made of the lavish use of flowers at the entertainments and feasts of the ancients, so that these subjects may be said to be linked together in history.

At the beginning of the world we learn of the beautiful garden of Eden, commonly supposed to contain all the varieties of flowers on earth. Adam has been called the first gardener, as he was placed there to enjoy the enchanting spot and keep out all intruders. Then the gardener was counted among the "upper ten," as Adam was married to the first lady in the land.

It is the enchantment, the magical effect that flowers convey with them that in a great measure makes our business. If it were not for the beautiful sentiments they arouse and are used to voice we fear that many a flower would bloom to "blush unseen" that is now the object of admiration.

"Bring flowers to crown the cup and lute;
Bring flowers—the bride is near;
Bring flowers to soothe the captive's cell;
Bring flowers to strew the bier."

"Flowers so blue and golden,
Stars that in earth's firmament do shine."

"In the cottage of the rudest peasant,
In ancestral homes where crumbling towers,
Speaking of the past unto the present,
Tell us of the ancient games of flowers."

"And with childlike, credulous affection
We behold their tender buds expand,
Emblems of our own great resurrection,
Emblems of a bright and better land."

We might continue to quote volumes of poetry and prose, for flowers have been the favourite theme of poets in all ages.

How often we hear the expression, "yours is a lovely occupation, surrounded continually by such beauty. If I had to choose a business I should certainly be a florist."

"All the praise that has been sung
Is justly due the flower,
But have *we* not some claim against
Some part in nature's dower?"

There is no doubt about flowers being beautiful; perfectly grown they compel admiration, they *make* a place for themselves, and it is our business to keep that place filled. Herein lies the magic in the business. To change flowers into money—Ah! that's the trick. We are all magicians, performing our tricks with more or less success, and on the measure of our success depends our reward.

The loving swain's first attentions find expression in the cluster of flowers, blushingly ordered; the effect produced is cause for another and still another, until the best that nature yields is hardly good enough; finally comes the bouquet; presto! what a wonderful change the flowers have wrought, the lovely girl becomes a bride, and presto! another change, the swain disappears, we see him no more; there must be something wrong about the construction of a great many bridal bouquets.

"Oft has the poet's magic tongue
The Rose's fair luxuriance sung."

The magicians of Her Majesty, the queen of flowers, are perhaps the most numerous. Theirs is a grand calling, waiting on the queen (and what a wait some of them do have), looking for her to come, this way and that, because some one has told them or perhaps they have read about her journeyings in some book or paper. Finally, after many disappointments and almost without hope, they set out themselves to find her, carefully noting the surroundings as they go; they are after a while in the right path and soon their majesty's treasure box is open to

them. But they must remain loyal subjects, carelessness or neglect will not be tolerated and is sure to meet with punishment. The magician of all ages has always courted royalty, to appear before the queen was the height of his ambition, and success was almost sure to be crowned with any expressed wish. And so it is to-day. Those in favour with her royal highness, the Rose, want for nothing; houses go up, acre after acre is added to their broad domains.

Among the magicians who have become famous through their experiments with the Rose are Bennett of England—whose "Bennett," Laing and Her Majesty will ever be fitting monuments to his memory. His trick of turning a few plants into nearly £10,000 remains unequalled, while Prof. Klunder of New York juggled two blossoms of Her Majesty so successfully that they turned into more than their weight in gold.

Peter Henderson, one of our most brilliant performers, caught the golden hued Sunset from the Perle; it was fittingly named, as so soon after his light sank beneath the horizon.

To Magicians May and Taplin we are indebted for The Bride; this fact will ever place them in the front rank of their profession.

The Rose is the queen of flowers, but the Bride is the queen of Roses.

To the Messrs. Field is due all honour. These capital magicians have given us the American Beauty, a Rose in many respects unequalled and more popular to-day than ever before.

We would like to speak of the wonderful transformation scenes which take place in the change of Roses into gold; the great expectations that are rudely dashed to the ground; how the experiment fails for want of colour (too much sulphur), and another ealls the turn too soon and will not let the buds expand; another cannot stem the tide, as he will not cut them long enough, and still another waits until the eleventh hour, and finds the markets glutted, or perchance he finds that when he best could do the trick he has nothing to do it with.

But the magieian who understands his business, knows just what the public wants and when they want it, is quick to see that this or that trick is not taking and changes his programme aecordingly, has no failures, his productions are beautiful and the transformation a complete success.

The Carnation wonder worker is about to try and turn his product into gold, and this is the way he goes about it: The crop is on, and so is the green-fly; to-morrow morning bright and early (so as to catch the first express) the flowers are to be gathered; to-night he smokes and smokes until he says, "surely no fly can live through that"; the flowers are gathered, shipped and received, and the grower waits for his gold, but gets what? *Smoke.* The trick has failed. Again he tries, this time no smoke, but into boxes that have done duty at the grocer's he dumps his beauties rare and says, "now see the change take place." But alas! They were so exceedingly spicy that folks really sneezed at them and the magician hung his head. But every day the trick is done, and when done right it always takes Who ever saw fine long-stemmed Carnations with colours bright, the flowers well open, the fragrance unadulterated, but knew the master magician was there and almost saw the gold before the trick was finished.

Then there are the Violet conjurers. They have their little trick and some of them do it well, while others in getting ready are in such a hurry they gather all the flowers in sight, plucking even the very babies from their mother's arms, huddle them in with their older relations and hope everything will come out all right. Another says, "that's no way: I can beat that all to pieces and they won't catch me at it either," and in good time when his beautiful large blue (excuse me, I mean purple) beauties are exposed there is a chorus of ohs and ahs. A delightful fragrance spreads abroad, the transformation immediately takes place and the magician is loaded with questions. "Won't you do it again?" "Tell us how you did it." And the next time he is watched more closely, but he continues to astonish his audience and they finally conclude after many surmises that it must be his location.

And so we might continue. There are other magicians that we might speak of, those whose province it is to finish off and complete the work. They have their transformation scenes and produce enchanting effects that are appreciated to a greater or less degree and are rewarded accordingly; but it behoves us all as magicians to see to it that as we go along we leave a record behind us that after the last grand transformation shall have taken place it shall be said of us, "well done."—*Robert Kift, in The American Florist.*

GARDENING MISCELLANY.

NEW MATERIAL FOR TYING.

UNDER the name of Taroba, a new material for tying has been imported by Mr. P. McArthur, 4, Maida Vale, London, W. It is stated to be the inner bark of a tree, and is much used for tying purposes in the country from whence it is obtained. Mr. McArthur has used it in his Orchid houses for the past three months and finds it cheaper and more durable than raffia, so universally employed at present. It is stronger when wet than when dry and apparently should be wetted before use, so as to make it softer and more pliable when twisting it for use. Although it has chiefly been used for tying purposes in Orchid houses it may be used in any other where moisture is abundant. Some bundles of it have been sent us just as it was imported. The material is cut to a uniform length of 21 in., and the individual pieces vary from $\frac{1}{8}$ to $\frac{3}{16}$ of an inch in width. The latter can be split up so as to get sufficiently thin pieces for light work.

ECHINOCACTUS MYRIOSTIGMA.

THE stems of this plant are deeply five-angled, and completely covered with small white scales, but otherwise quite smooth without either bristles or spines. Owing to its remarkably slow growth, it forms an interesting subject to graft on the stems of some other upright growing kind, such as are found amongst the species of Cereus. This is what has been done in the nursery of Messrs. J. Carter & Co., Forest Hill; and the contrast between the many ribbed stems of the stock, with its tufts of spines, and the smooth Echinocactus on the top is striking. A large number of plants of this kind can be kept in small spaee, and require very little attention in the way of watering. Nor are repotting and cutting back often required, as in the case of most other kinds of cultivated plants.

DAPHNE INDICA.

THERE are red and white-flowered varieties of this plant, the dark one being the showiest as far as the flowers are concerned. Both kinds are remarkably fragrant, and on that account alone a plant or two should always be kept in the conservatory during the flowering period. The plant is a native of China, but only requires a greenhouse temperature for its preservation during the winter. In the summer time it may be turned out of doors in a warm sheltered place to make its growth or placed in a frame. In the early stages of growth the sashes might be kept on to encourage the production of wood, after which full exposure to light and air by taking off the sashes would be conducive to ripening. The plant may be had in flower at various periods during the winter, according to the time the wood has been made and ripened, as well as to the temperature to which it is subjected when placed in the houses.

AGAVE VICTORIÆ REGINÆ.

THE commoner species of Agave attain a large size even in pots after a number of years, but that under notice is of very slow growth and never becomes bulky. The leaves to the number of forty or fifty form a dense rosette, and as the individuals seldom exceed 6 in. in length and are frequently smaller, an idea of the size of the plant may be gleaned. They are lanceolate and gradually narrowed from a broad base to a hard spiny point. The surface is of a dark green margined with a white line, while there are other lines of the same hue on both surfaces, and which unite about the middle of the leaf. We noted it in the nursery of Messrs. J. Carter & Co., Forest Hill. At present it is by no means common in collections, but highly valued and appreciated where grown. It was introduced from Mexico in 1875.

MARICA GRACILIS.

IT seems singular that this plant should not enjoy the same popularity as Marica Northiana, which has recently been been discussed by your correspondents "Effendi W. Beigh" and Mr. J. Percival. M. gracilis is also a Brazilian species, and may be grown in a stove or greenhouse, while M. Northiana is usually considered a stove plant. No doubt M. gracilis could be grown in a window with the same facility as the other. The plant is dwarfer, the leaves narrower and more graceful, and flowers are produced with greater freedom. The latter are white, with the inner segments beautifully banded or spotted with brownish-purple. An individual flower lasts only one day, but others are produced in succession from the same spathe. After flowering the scape bends down and gives rise to numerous small plants at its apex, and which may be taken off and rooted as separate individuals with great facility.

APPLE ALBURY PARK NONSUCH.

THE fruit is of large size and somewhat globular, with five rather prominent angles on the upper half, terminating in elevations round the eye. In other cases it is inclined to be conical, especially when very large. The skin at this season is of a shining yellow, except on the exposed side where it is bright red, and the whole is thinly marked with small russety dots. The eye is open and set in a moderately deep cavity. The fruit evidently keeps well, as it is still quite firm. A dish of it received an Award of Merit when shown by Mr. W. C. Leach, gardener to the Duke of Northumberland, Albury Park, Guildford.

ORCHID NOTES AND GLEANINGS.

The Orchid Grower's Calendar.

ONE of the greatest errors that can possibly be made in the culture of Orchids, is to allow them to remain in one pot too long. I am convinced that more deaths can be traced to this cause than to any other. Never in my opinion should a plant be allowed to remain in the same pot more than two seasons; indeed if done at the proper time they might be re-potted every season with advantage. That they will grow and flower well without a shift for two and perhaps three seasons I know, but at the end of that time they will, if I mistake not, have lost some of their former vigour, consequently are not in a condition to take full advantage of the fresh material afforded them, and the result is a season or two of careful handling before it is again in a fit state to flower. More especially do these remarks apply to Cattleyas and Lælias.

I would here advise cultivators to keep a sharp look out for the somewhat new enemy with which the Orchid grower has to contend. I mean the fly that causes the root galls, as when once it gets a hold it is very difficult to eradicate. It generally makes its appearance in April. The fly deposits its eggs or larva on the very point of the roots of Cattleyas and Lælias, which causes the point to swell. The root grows away again and leaves an excrescence, which if cut open will be found to contain one or perhaps two maggots, which if left would in due course come out and renew the attack, in the shape of a fly. We make it a practice to overhaul fresh plants, imported or established, no matter from what source derived, before placing them with the others. Plants so affected should be isolated, and as opportunity offers they should be shaken out, have the roots washed, the affected parts cut away, and then be re-potted in some fresh compost. Fumigation will keep them in check.

Where Cattleya gigas Sanderiana is grown in quantity there are sure to be some starting into growth, and these should be placed in the warmest part of the house, or in the warmer section. I do not know of any other Cattleya that requires less water than this one. Ours are grown in the Cattleya house all the year round. It is a light, airy structure which seems to suit them well. They are all grown in teak baskets and suspended close to the glass, only just enough water being given to keep the bulbs plump until the sheath is in sight, when more should be given. Grown under these conditions they never fail to flower well with us, producing four, five and sometimes six flowers to a spike.

Cymbidium Lowianum coming into bloom should be given some stimulant to assist it to develop its spikes; we rarely give ours pure water. The best manure to use is the best Peruvian Guano. Its strength can be better gauged than when manure from the farmyard is used, but as a change the latter is useful. Odontoglossum citrosmum just starting into growth must only receive just enough water to keep the bulbs plump, or they will not flower freely, neither will the spikes be large. We

grow most of these in the Cattleya house, but this season we have grown a batch in the cool house, which have done wonderfully well. They were kept in the cool house until November 20, and then removed to the Cattleya house. By this method we hope to prolong the flowering season of this lovely Odontoglossum. The temperatures, etc., mentioned in the last calendar will still hold good.—*C.*

Cypripediums from Methven Castle.

We are in receipt of some well-grown Cypripedium blooms from Mr. Peter Whitton, the Gardens, Methven Castle, Perth, N.B. Although he confesses he is not an Orchid specialist, yet the blooms sent us give evidence of very high cultivation, or of good cultivation, which practically means the same thing. The clear atmosphere of that part of the country no doubt greatly assists the cultivator, judging from the substance of the flowers themselves. They were all of common kinds, but such as are useful for cut flowers or decorative purposes, for which they are highly appreciated at this period of the year. Twin flowers on Cypripedium insigne make their appearance year after year, but Mr. Whitton does not think them any improvement for cut flowers at all events. The graceful appearance of the flowers is certainly spoiled, because one flower partly displaces the other to its disadvantage as far as effect is concerned. The flowers of C. villosum were also of great size and substance, with rich shining brown petals. C. Harrisianum was very highly coloured, the upper sepal being of a dark purple shaded black on the veins and tipped with white. The upper longitudinal half of the petals were of a lighter and clearer shining purple, while the lip was of a claret hue. Owing to the great substance of the flowers they travelled well.

Lælia furfuracea Lucas var.

The sepals of this Lælia are lanceolate, recurved at the tip, of great substance, rosy lilac, and slightly paler at the base. The petals are similar in colour, but elliptic, very much broader, and revolute at the tip. The lateral lobes of the three-lobed lip are of a delicate, pale lilac and rounded; the middle lobe on the contrary is ovate, revolute at the tip and deep purple; the crest consists of two stout white ridges. The column is very pale lilac, with a yellow blotch at the base, and a few small purple spots distributed over the yellow. Cut flowers were exhibited at the last meeting of the Royal Horticultural Society, on the 12th inst., by C. J. Lucas, Esq., Warnham Court, Horsham, when a First-class Certificate was awarded the variety. The warm colours of the flowers and the great substance of all parts were very noticeable.

Lælia anceps Ballantiniana.

The varieties of Lælia anceps are now getting very numerous, but that under notice is particularly meritorious, not so much on account of the size of the flowers as their rich and handsome colours. The sepals are lanceolate, recurved, and of the palest lilac except towards the tip where they are darker. The broad petals are ovate or rhomboid, deep purple in the middle, paler towards the base, but intensely purple at the tips. The three-lobed lip has a pale tube, deep purple lateral lobes, and the terminal lobe is wholly of a blackish crimson; the crest is golden yellow, and the interior of the side lobes are striped with deep purple on a yellow ground. It was exhibited at the last meeting of the Royal Horticultural Society, on the 12th, by Messrs. F. Sander & Co., who exhibited it for G. Douglas, Esq., Dalkeith, Midlothian. A first-class Certificate was deservedly awarded to it.

Cypripedium Calypso Oakwood var.

This hybrid was obtained by crossing C. Boxalli atratum with C. Spicerianum, and the progeny shows the characters of both parents, but is largely influenced by C. Spicerianum. The upper sepal is very large, roundly obovate, with a white ground heavily marked with purple blotches in lines following the course of the principal veins; the midrib is of a rich purple, and the base is greenish in the centre showing the influence of C. Spicerianum. The petals are spathulate, undulate on the margin, and of a shining brown on the upper longitudinal half and paler on the corresponding half with a blackish midrib. With exception of the wavy margin, the other characters of the petals point to C. Boxalli atratum. The lip also points to the latter, and is of a shining yellow more or less shaded with brown in flowers taken from different individuals of the same batch of seedlings. The staminode is pale purple and green in the centre. It was shown at the Drill Hall on the 12th inst., by Mr. Murray, gardener to Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne, and received a First-class Certificate.

Angræcum Polyurum.

Flowers only of this plant were exhibited owing to the cold, frosty weather. Twelve of them were borne on an arching raceme, and they were in two evident ranks as in the case of most species of Angræcum. The sepals and petals are oblong, or the lateral sepals spathulate, deflexed and white. The lip is elliptic, slightly larger and of the same colour, while its spur is slender, cylindrical, reddish-amber, and about 2 in. or 2½ in. long. The flowers were exhibited at the Drill Hall, Westminster, on the 12th inst., by Messrs. F. Sander & Co., St. Albans, and were awarded a Botanical Certificate.

Cypripedium hybridum gigas.

The parents of this hybrid were C. Lawrencianum and C. Harrisianum nigrum, the latter being the pollen plant. The upper sepal is very large, orbicular, of a deep shining brown with deeper veins, and white at the edge. In these respects we see the influence of the last-named plant. The petals also point to the same parent, as they are spathulate and of a deep shining brown on the upper longitudinal half, and paler greenish brown on the corresponding lower half. The lip is very large and of a deep shining brownish-purple. The staminode is of a pale purple or almost flesh colour. A plant of it was exhibited at the meeting of the Royal Horticultural Society, on the 12th inst., by Mr. Bond, gardener to Charles Ingram, Esq., Elstead, Godalming, when an Award of Merit was accorded it.

Cypripedium Enfieldense.

The parents of this hybrid are C. Hookeræ and C. Lawrencianum. The leaves are oblong, very short, and beautifully tessellated with pale grey on a dark green ground as in the parents. The flower scape attains a height of 15 in., and is of a deep dull purple and pubescent. The upper sepal is roundish, heavily shaded with purple on a paler ground, with darker purple veins, and shaded with green in the central area of the base. The petals are spathulate and somewhat deflexed, with a few scattered black spots near both edges; the upper third of their length and the edges lower down are bright purple, the rest being greenish. The lip is of a brownish purple; and the staminode paler purple with green spots in the centre. An Award of Merit was granted it when shown by H. M. Pollett, Esq., Fernside, Bickley, Kent, at the Drill Hall, Westminster, on the 12th inst.

Odontoglossum Rossii albens.

Taken altogether this is one of the prettiest and most distinct of the forms of O. Rossii. The sepals are white, closely blotched with a pale tawny-green, which nearly covers the whole surface. The petals are also white with a few pale, tawny-yellow blotches close to the base. The lip is large, triangular, beautifully crisped and indented at the edge, and pure white with exception of the usual yellow cup-like crest at the base. In habit and other characters the variety does not otherwise differ from the usual forms of O. Rossii. The washing out of the dull brown from the sepals and base of the petals increases the beauty of the flowers considerably. A plant was shown at the Drill Hall, Westminster, on the 12th inst., by Messrs. Charlesworth, Shuttleworth & Co., Heaton, Bradford, Yorks, when it was accorded an Award of Merit.

WHAT TO DO IN THE GARDEN.

Soil for Potting.—A considerable quantity of soil will be necessary for repotting in the course of a few weeks, particularly for stove plants. A good supply should therefore be placed under cover if that has not already been done, in order to get it in good condition for the work. While dust dry soil is to be avoided, it must on the contrary be considerably drier when used than it would be if taken directly from the open air. Where it is to be used for potting plants in the stove, especially soft wooded plants, it should be kept in some warm house for a time, in order to raise the temperature more nearly like that in the pots. The principal ingredients for composts will be fibrous peat and loam, leaf-soil, and well decayed manure, all of which should be got under cover at once.

Achimenes.—A batch of these for early work should now be put into stove heat. The usual method employed and the best is to shake out the tubers from the old soil and place them in shallow pans specially prepared for the purpose. The compost to be used should consist of finely sifted leaf soil with a small quantity of loam similarly treated, and plenty of sand. No water will be needed at first—unless the compost is very dry—till growth commences. After the young stems appear well above the soil, the plants may be potted off, using all the stronger ones in pots by themselves, or at least putting the small ones round the outside.

Tuberous Begonias and Gloxinias.—A sowing may now be made of each of these subjects to get young plants into flower to succeed the old tubers. The seeds in both cases are so small that considerable care will have to be exercised in preparing the pans for their reception. The compost on the surface, at least, should be finely sifted, and pressed both level and firm as a bed for the reception of the seeds, which should be sown thinly and sprinkled over with silver sand, not sufficient to cover them, but simply to keep them in position till germination takes place.

Ten-week Stocks.—A pinch of seed sown now will give plants that will be found useful in the conservatory during the early part of summer to succeed Chinese Primroses and Cinerarias. They should be potted off singly, or transplanted into other boxes or seed pans to prevent damping. Successive repotting should be carried out before the plants become root-bound.

Flowering plants for the Conservatory.—Besides the few Chrysanthemums that still remain, Camellias can be turned to good account, together with the early-flowering Azaleas, Clivias, Chinese Primroses, Cinerarias, and Cyclamens. Forced bulbs will include Roman and other Hyacinths, Paper White Narcissus, early-flowering Tulips of the Duc Van Thol type, Lily of the Valley, and others. Then there is the winter-flowering subjects to fall back upon, such as Salvias, Sericographis Ghiesbreghtii, Libonias, Heaths, Epacris, and a host of others which will be found of great value at this season of the year when a display is to be kept up.

Melons.—If Melons were sown as previously recommended, they should now be ready for potting on. Give the seedlings a size or two larger pots and replace them from whence they were taken. Keep them near the glass, in a bottom heat of 75° to 80°. In getting ready a compost for planting them out in beds later on, it will be well to remember that Melons like a good turfy loam that has been cut from a pasture the previous season and stacked so as to get mellow by the time it is required.

Peaches.—The temperature of a house where the trees are in bloom should be kept about 55° at night, with a rise of 5° by day or 10° if the weather is bright. No attempt should be made at hard forcing in dull weather. While the trees are in bloom, however, a light and buoyant atmosphere should be maintained to ensure the thorough distribution of the pollen. The usual methods adopted to ensure this end should be resorted to.

Eucalyptus globulus.—If a supply of plants of this useful sub-tropical bedding subject is required for the ensuing planting season, the seeds should be sown at once.

Cannas.—A stock of these for planting out can be obtained from seeds if sown now so as to give them time to attain size. Old plants may be placed in heat for the purpose of increasing the stock. Divide them into single crowns with a sharp knife and pot up each piece separately. Place them in strong heat till fresh roots are produced and the buds commence to grow, after which they should be gradually inured to a greenhouse temperature and grown on slowly in such a house.

Obituary.

There were laid to rest the other day the remains of Mr. Peter Moir, Don Cottage, Kemnay, Aberdeenshire. He was born at Blairdaff in 1834, and from thence the family removed to Hill of Fetternear, where he lived until a few years ago, when he and his sister removed to Don Cottage, Kemnay (built for them by their brother, Dr. Moir, of the

Indian Army Medical Service). Mr. Moir was in many respects a wonderful man. When twenty-one years of age he had a severe attack of inflammation, which affected his eyesight, and rendered him totally blind when he was twenty-five years of age. He was possessed of shrewd judgment, clear intelligence, skill, and perseverance; he learned the blind alphabet, and could read books in the raised characters easily and profitably; but his great hobby was gardening. He has, indeed, made for himself a name as one of the first horticulturists in Aberdeenshire. For many years he took a first place in the prize lists—not only of the local horticultural societies' shows, but also in that of the Royal Horticultural Society of Aberdeen, and the great root, fruit, and vegetable exhibitions at Inverurie, N.B. He carried off yearly a large number of prizes, including many pieces of beautiful valuable plate, which he was delighted to show to his visitors. Mr. Moir was a man of striking individuality, straightforward and outspoken, possessed of a great memory, and took a lively interest in all that was going on in the district. As a neighbour he was respected and trusted, and he was a true and staunch friend. To the last he had a great love for children, who loved him in return, and were always ready to run and take him by the hand. In his own home, his lovely disposition, intelligent conversation, and hearty hospitality made him enjoyed by a wide circle of friends, which was amply testified by the large concourse which assembled to pay the last tribute of respect to his memory.

On the 13th of this month there quietly passed away one of the oldest gardeners in Scotland, Mr. John Mathieson, of Kinnaird, Stirlingshire. Born in the small Fifeshire village of Barnyards, he was apprenticed early in life to the gardener at Kilconquhar House. From there he went to Grangemuir, thence to Kennet House, from whence he went to take charge of the gardens at Plean for the late Mr. Vivian. The situation of gardener at Kinnaird becoming vacant, Mr. Mathieson was successful in obtaining the appointment, on which he entered on the 11th November, 1836, and, notwithstanding many tempting offers, held it for the long period of upwards of fifty-five years. He was much esteemed by all who knew him for his unvarying kindliness of manner and probity in all his dealings. His knowledge of his craft as a gardener was inexhaustible, and in forestry he also held a prominent place, and there were few of his younger brethren who could not have learned something from him. The gardens of Kinnaird, though unpretentious, were visited by many, who listened to the old man's words as those of an oracle, and his sage advice was treasured for future guidance. The craft has lost a fine old representative of their order in him who has now come to a peaceful and happy end at the ripe age of eighty-eight.—*X.*

QUESTIONS AND ANSWERS.

*** *Correspondents are requested, in order to avoid delay, to address all communications to* "The Editor" *or* "The Publisher," *and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed* "*Bambusa London.*"

Name of Apple.—*J. G., Rothesay:* Not known; most likely a local sort, of no particular character or quality.

Names of Plants.—*W. Richards*: 1, Adiantum tenerum; 2, Adiantum hispidulum; 3, Asplenium Fabianum; 4, Pteris serrulata major; 5, Asplenium cicutarium; 6, Pteris cretica albo-lineata. *L. M.*: 1, Luculia gratissima; 2, Eriostemon buxifolius; 3, Eupatorium riparium; 4, Erica Caffra. *A. G.*: 1, Sericographis Ghiesbreghtii; 2, Peristrophe speciosa; 3, Begonia metallica. *Chas. Brand*: 1, Cupressus nutkænsis; 2, Juniperus sinensis. *W. J.*: 1, Oncidium pulvinatum; 2, Epipendrum aromaticum; 3, Oncidium flexuosum.

Increasing stock of Dahlias.—*J. Lamb*: If you want to get as many cuttings as possible from certain scarce kinds, the roots should be put into heat about the beginning of February to start them into growth. Cover the roots with leaf soil, leaving the crowns bare, and occasionally damp them overhead with the syringe, which will be sufficient watering. Take off the cuttings when they have made about two joints, and they will root more freely than if allowed to attain some length. The old roots will keep throwing up fresh shoots which may in their turn be taken off and rooted. They should be placed singly in small pots in a compost of leaf soil and sand, and placed in a close propagating frame.

Early Sowing of Peas.—*J. W.*: Peas are often recommended to be sown at various times from November through the winter months; but it involves a great deal of trouble with the risk of losing part or the whole of the crop through inclement weather and the attacks of mice, which are often very plentiful in the neighbourhood of gardens. It is not particularly advisable therefore to sow in the open ground before February or the beginning of March, and then the sowing should be made on a warm border facing the south or west. You may with more certainty of a crop make a sowing on turves or in long narrow boxes, in a greenhouse, or other place where a mild but genial temperature is kept up. After the Peas come above the soil they should be well exposed to light to prevent their getting drawn. When two or three inches high they should be placed in a cooler house to harden them off, and as the weather gets warmer they may be placed out of doors in a sheltered place until such time as they can be planted in the open ground. Draw a little soil to the stems immediately they are planted and stake them at once.

Propagating Salvias.—*A. Kirk*: It is too early to commence the propagation of Salvias, as they grow rapidly and would attain too great a size before the temperature outside would be sufficiently warm to place them out of doors. April or May would be a more suitable time to do it for autumn and winter-flowering. You can then keep them growing on and stopping them in order to get a bushy form. Several repottings can also be given before the time comes to stand them in the open air for the summer months. They like a rich soil, so that after the first potting you may use a compost consisting of fibrous loam and well-decayed cow manure in about equal parts, with plenty of sharp sand to keep the whole porous and open.

Passiflora Macrocarpa.—*P. Hilton*: In order to fruit this species you must grow it in the stove and allow it to attain considerable size by training it up the rafters. When it has made some stems and attained a woody state you may expect some flowers from the young shoots annually produced. These shoots may be pruned back in the autumn with the view of restricting the plant within reasonable limits. When the flowers expand you should make sure that they get fertilised by dusting the stigma with pollen, otherwise, if they open at a time when insects are not plentiful, they might not set any fruit at all. Hence the reason for making sure that the process is effected.

Origin of the Fairy Rose.—*R. B.*: This is merely a small variety of the common China or Monthly Rose, and was originally described as a species under the name of R. Lawrenceana. Botanists now classify it under Rosa indica, calling it R. i. minima, which means smallest. The name Fairy Rose is more especially applied to the double forms, which are cultivated to some extent by specialists, and are getting more numerous. They have the same habit as the China Roses, but are very dwarf, with clusters of pretty and interesting but very small flowers. Unless you are particularly well favoured in the matter of soil and climate we should advise you to cultivate them in pots, keeping them in a cold frame during winter. You could then utilise them for the decoration of the conservatory when in bloom.

Communications Received.—J. A. K.—F. S.—A. F. B.—C. H. S.—W. C.—H. J. J.—A. M.—J. D.—A. E.—W. N.—A. J. B. (next week)—Perthshire (next week. A fraud).

TRADE CATALOGUES RECEIVED.

Levenshulme Horticultural Co., Levenshulme, Manchester.—Select Vegetables and Flower Seeds.

Alexander Findlayson, 42, Above Bar, Southampton.—Vegetable and Flower Seeds.

Herd Bros., Penrith.—Garden Seeds, Gladioli, etc.

Henry Eckford, Wem, Salop. — Sweet Peas, Vegetable and Flower Seeds, etc.

Charles R. Shilling, Winchfield, Hants.—Seeds, Plants, and Bulbs.

B. L. Coleman, Sandwich, Kent.—Flower and Vegetable Seeds.

John Peed & Sons, Roupell Park Nurseries, Norwood Road, S.E.—Flower and Vegetable Seeds.

W. Fromow & Sons, Chiswick, W.—Seed Catalogue and Gardening Guide.

LONDON SEED TRADE.

January 18th, 1892.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a brisk enquiry for White Clover, and a moderate demand for Red Clover at hardening rates. Alsike and Trefoil steady Ryegrasses unchanged.

COVENT GARDEN MARKET.

January 20th.

Fruit.—Average Wholesale Prices

	s. d.	s. d.		s. d.	s. d.
Apples... per ½-sieve	1 0	5 0	Grapes .....per lb.	0 6	2 6
Canadian and Nova Scotian Apples per barrel	12 0	18 0	Pine apples. —St. Michael's, each	2 6	6 0
Cobbs... per 100 lbs.	30 0	35 0	Peaches .....per doz.	0 0	0 0

Vegetables.—Average Retail Prices.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Beans, French, per lb.	0 9		Lettuces ...per dozen	1 0	1 6
Beet..... per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages ... per doz.	1 6	2 6	Onions.....per bunch	0 4	0 6
Carrots ... per bunch	0 6		Parsley ... per bunch	0 6	
Cauliflowers, English, per doz.	3 0	6 0	Radishes... per dozen	1 6	
Celery.....per bundle	2 6		Small salading, punnet	0 4	
Cucumbers .....each	0 6	1 3	Seakale ...per basket	2 0	3 0
Endive, French, doz.	2 6	3 0	Spinach, per strike ...	1 6	
Herbs .....per bunch	0 2	0 6	Tomatos..... per lb.	0 6	1 0
			Turnips .....per bun.	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d
Chrysanthemums, doz	6 0	12 0	Lily of the Valley, doz. pots	12 0	24 0
— large .....per doz.	12 0	24 0	Marguerites, per doz.	6 0	12 0
Cyperus .....per doz.	4 0	12 0	Palms in variety, each	2 6	21 0
Dracæna term., doz.	24 0	36 0	—scarlet .....per doz.	4 0	6 0
Dracæna viridis, doz.	9 0	18 0	Poinsettia, ...per doz.	9 0	18 0
Epiphyllum per doz.	9 0	12 0	Primula Sinensis per doz.	4 0	6 0
Erica Hymalis, per	12 0	18 0	Roman Hyacinths, per doz.	9 0	12 0
— gracilis, per doz.	9 0	12 0	Solanums...per doz.	9 0	12 0
Evergreens, invar. doz	6 0	24 0	Tulips.....per doz.	8 0	9 0
Ferns, invar., per doz.	4 0	18 0			
Foliage Plants, doz.	12 0	60 0			
Hyacinths, ...per doz.	6 0	9 0			

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Acacia or Mimosa French per bunch	1 0	1 6	Marguerites, 12 bun.	2 0	4 0
Arum Lilies, 12 blms.	5 0	8 0	Mignonette... 12 bun.	1 6	3 0
Bouvardias, per bun.	0 6	1 0	Narciss, Paper White doz. sprays	0 9	1 0
Carnations, 12 blooms	2 0	3 0	Narciss, French, doz. bunches	3 0	6 0
Chrysanthemums, doz. blooms	0 9	2 0	Pelargoniums, 12 sps.	1 0	1 6
Chrysanthemums, doz. bunches	6 0	24 0	—scarlet.....12 bchs.	9 0	12 0
Eucharis ...per doz.	4 0	8 0	Poinsettia doz. blms.	4 0	9 0
Gardenias 12 blooms	6 0	12 0	Primula, double, bun.	0 9	1 6
Hellebore or Christmas Roses, doz. blooms	0 6	1 6	Primula single, doz. sprays	4 0	6 0
Heliotropes, 12 sprays	0 6	1 0	Roses, yellow, dozen	3 0	6 0
Hyacinths, Roman, doz. sprays	0 6	0 9	— Red..... doz. blms.	1 6	2 0
Lilac, French, per bunch	6 0	7 0	— Saffrano...per doz.	2 0	3 0
Lilium Harrisii, doz. blooms	6 0	10 0	— Tea ..... per dozen	1 0	3 0
Liliums var., doz. blms.	1 6	3 0	Tuberoses, per doz.	1 0	1 6
Lily of the Valley, doz. bunches	9 0	18 0	Violets, Parme, French per bunch	3 6	5 0
Maidenhair Fern, 12 hs.	4 0	9 0	— Czar, French, bch.	2 0	3 0
			— Dark, French, doz. bunches	2 0	4 0
			— English, doz. bchs.	1 6	2 0

"Business at a complete standstill, owing to the Death of the Duke of Clarence."

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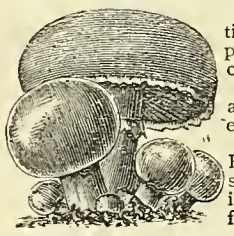

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Orders to the NATIVE GUANO CO., LIMITED, 29, New Bridge Street, Blackfriars, London, where Pamphlet of Testimonials, &c., may be obtained. AGENTS WANTED.

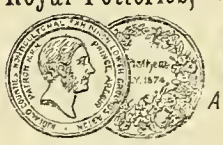
CONWAY G. WARNE

(LIMITED),

Successor to JOHN MATTHEWS,

Royal Potteries, WESTON-SUPER-MARE,

FOR



FLOWER POTS

And HORTICULTURAL POTTERY of all descriptions.

BENTLEY'S! BENTLEY'S!! BENTLEY'S!!!

CARRIAGE PAID. CARRIAGE PAID.

Bentley's Insecticide.

1 Gallon, 9/-; 3 Gallons, 8/- per Gallon.

Bentley's Soluble Paraffin.

1 Gallon, 5/-; 3 Gallons, 4/9 per Gallon.

SOLE MANUFACTURER:

JOSEPH BENTLEY,

Chemical Works,

BARROW-ON-HUMBER, HULL.

PROTECT YOUR PLANTS AND GLASS FROM FROST, DAMP, AND COLD WINDS BY USING

"FRIGI DOMO"

(REGISTERED TRADE MARK)

CANVAS.

Patronised by Her Majesty the Queen, for Windsor Castle and Frogmore Gardens; the Duke of Northumberland; the Duke of Devonshire; the late Sir J. Paxton, for the Crystal Palace; the Royal Gardens, Kew; the late Professor Lindley, for the Royal Horticultural Society; Baroness Burdett-Coutts, Lord A. Edwin Hill Trevor, &c., &c.

Made of PREPARED HAIR and WOOL. A perfect non-conductor of heat or cold, keeping a fixed temperature where it is applied. For all Horticultural and Floricultural purposes it has an intrinsic value. Introduced by the late Elisha T. Archer more than 20 years ago. Cut to any lengths required. To be had of all Nurserymen and Florists.

FOR PRICE LIST & PARTICULARS ADDRESS

BENJAMIN EDGINGTON,

2, DUKE STREET, LONDON BRIDGE.

PATENT HOT WATER APPARATUS

FOR GREENHOUSES, &c.

GAS OR OIL ONLY.

Call and see them in operation in the best Orchid House in London (on our own premises), fitted with our patent Fog Annihilator, and prepare for cold and foggy weather. Circulars free. Illustrated catalogue of Novelties, three stamps.

C. TOOPE, F.R.H.S., & SON,

STEPNEY SQUARE, HIGH STREET, STEPNEY, E

"PICRENA,"

THE UNIVERSAL INSECTICIDE,

SAFE—ECONOMICAL—EFFECTUAL,

FOR

GREEN and BLACK FLY, AMERICAN BLIGHT, RED SPIDER, CAMELLIA SCALE, MEALY BUG, BROWN and WHITE SCALE, WORMS, WOOD LICE, &c.

"15, PRINCES STREET, EDINBURGH, *15th July*, 1887.

"DEAR SIRS—I have thoroughly tested a sample of a new Insecticide which you were so good as to send me. At the rate of 1 oz. to a gallon of water at a temperature of 95° I find it kills Green-fly immediately. Double this strength, or 2 ozs. to gallon at 120°, seals the fate of Scale of all sorts in a few seconds; while 3 ozs. to gallon at same temperature effectually dissolves Mealy Bug, and so far as I have yet observed, without the slightest injury to leaf or flower, and it is withal a most agreeable compound to work with. All our insect remedies are applied through common syringe or garden engine, a much severer test of efficiency than when applied by hand-washing or spray.

"I remain, Dear Sirs, yours truly (signed) A. MACKENZIE.

(*Of Messrs. Methven & Sons.*)

"VICTORIA AND PARADISE NURSERIES, UPPER HOLLOWAY, LONDON, *7th January*, 1888.

"GENTLEMEN—I have given your Insecticide, 'Picrena,' a good trial in competition with many others. I am pleased to say that I have found it more effectual in destroying Mealy Bug and other insects than anything we have used. It ought to command a good sale.

(Signed) "B. S. WILLIAMS."

Sold by Chemists, Nurserymen, and Florists.

In Bottles at 1s. 6d., 2s. 6d., and 3s. 6d.; in tins (1 and 2 gallons), 10s. 6d. and 20s. each; in quantities of 5 gallons and upwards, 9s. per gallon.

PREPARED ONLY BY

DUNCAN, FLOCKHART & Co.,

Chemists to the Queen, **EDINBURGH.**

SPECIAL AGENTS—

B. S. WILLIAMS & SON,

Victoria & Paradise Nurseries, Upper Holloway, London.

AND

WM. EDWARDS & SON,

57, Queen Victoria Street, London.

GREENHOUSES.

These Greenhouses are made especially for Amateurs at a cheap rate, so that everybody can have one that any handyman or gardener can put together in a few hours, as the framework is made so complete. All the framework is of good, sound, well-seasoned red deal. The bottom part filled in with good, sound match boards, tongued, grooved, and beaded, and well seasoned. Ventilation given according to size of each House. The glass is good 16-oz. English, cut and packed (no charge for packing cases). The House is painted one coat of good oil colour, lock for door, all necessary iron-work for ventilation, stages on each side for plants. All parts carefully marked, securely packed and put on rail, or delivered, erected and glazed complete, within 20 miles of London Bridge, at the following respective Prices:—

(Proportionable Prices for other size, and for erecting in any part of the country.)

Long	Wide	High		On Rail.	Delivered & Erected Complete.
7 ft.	5 ft.	7 ft.	4 ft. to eaves	£2 16 0	£4 5 0
8 ft.	5 ft.	7 ft.	4 ft. to eaves	3 10 0	5 0 0
9 ft.	6 ft.	7 ft. 3	4 ft. to eaves	4 0 0	5 10 0
10 ft.	7 ft.	7 ft. 6	4 ft. 6 to eaves	5 0 0	6 15 0
12 ft.	8 ft.	8 ft.	5 ft. to eaves	6 0 0	8 0 0
15 ft.	10 ft.	8 ft. 6	6 ft. to eaves	8 10 0	12 0 0
20 ft.	10 ft.	9 ft.	5 ft. 6 to eaves	12 0 0	16 0 0
25 ft.	10 ft.	9 ft.	5 ft. 6 to eaves	17 0 0	22 0 0
50 ft.	10 ft.	9 ft.	5 ft. 6 to eaves	30 0 0	40 0 0
100 ft.	10 ft.	7 ft.	5 ft. 6 to eaves	50 0 0	70 0 0

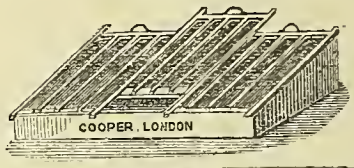
¾-Span-roofs, this quality, can be had at same price.

Estimates given for any size on application. Deduct 10 per cent. if required for brickwork.

STRONG GARDEN LIGHTS.

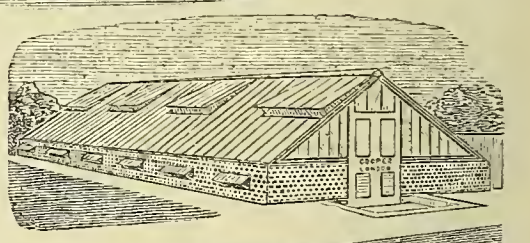
Painted and glazed, 3 by 4 ft., 6s. 6d.; 6 by 4 ft., 9s. each.

CUCUMBER FRAMES.



Complete from 18/-

See List for full particulars

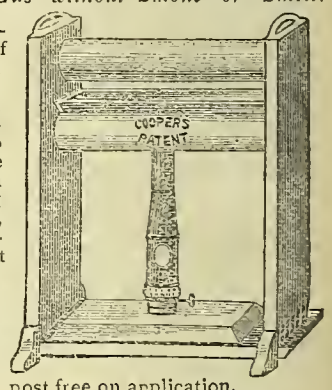


SPAN-ROOF FORCING HOUSE.

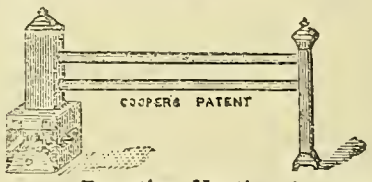
Built for brickwork 3 ft. high, of well-seasoned red deal; roof ventilation according to size; all 21-oz. glass. Suitable for Nurserymen, Market Gardeners, and all those who require a cheap, strong house for forcing or growing Cucumbers, Tomatoes, Melons, &c., &c. Delivered to any station in England carriage free. 20 ft. by 9 ft., £9. For Illustrations and Prices of other sizes see Illustrated Price List, free.

COOPER'S HYGIENIC HEATER,

Burning Paraffin or Gas without Smoke or Smell.



These Heaters are constructed as a means of Heating by Hot Air without the use of hot water or fire. Its peculiar construction economises the heat generated, so that there is no waste of heat or fuel. There being perfect combustion in this Stove, and nothing whatever injurious to plants, but actually everything conducive to their health, it should be observed that plants may be had in full bloom throughout the severest winter. From 20s. complete. For full particulars and prices of other sized Heaters see Illustrated List, post free on application.



AMATEUR'S ASSISTANT HOT-WATER APPARATUS.

From 21/-

See List, Post Free.

For other Heating Apparatus, see List.

GLASS! GLASS! GLASS!

Free on rail in London, packages included.

	15-oz., 100ft.	21-oz., 100ft.	15-oz., 200ft.	21-oz., 200ft.
4th.	9s. 6d.	13s. 0d.	18s. 6d.	25s. 0d.
3rd.	11s. 0d.	14s. 6d.	20s. 6d.	27s. 6d.

The following is a List of sizes always in stock:—

10 by 8, 12 by 9, 12 by 10, 14 by 10, 13 by 11, 18 by 11, 16 by 12, 18 by 12, 20 by 12, 17 by 13, 20 by 13, 18 by 14, 20 by 14, 22 by 14, 20 by 15, 20 by 16, 24 by 16, 20 by 18, 24 by 18.

Glass cut to any size required: 15-oz., 1½d. per ft.; 21-oz., 2½d. per ft. Large sizes for cutting up, 15-oz., per case, 300 ft., 26s.; 21-oz., per case, 200 ft., 26s. All glass is cut and packed in own warehouses and put on rail free of charge; quality of glass and careful packing guaranteed. Special quotations for large quantities. Have cash estimates from me before ordering elsewhere.

SASH-BARS.

Putty prepared especially for greenhouse work, 7s. 6d. per cwt. Every description of prepared Horticultural Timber; for prices see List, post free.

Send for COMPLETE ILLUSTRATED LIST, post free, containing specifications of Greenhouses from 41s. to £220.

Good, sound, well-seasoned materials only used. Estimates for every description of Horticultural Buildings, Plans, &c. free. All orders carefully packed and put on rail.

WILLIAM COOPER,

749b, OLD KENT ROAD, LONDON, S.E.

THE RICHEST FLAVOURED

TOMATO

CARTERS'

Blenheim Orange.

Should be grown by all Connoisseurs of this fashionable Fruit.

Price in Sealed Packets, 1/6, 2/6, and 3/6 each, post free.

Seedsmen by Royal Warrants to H.M. the Queen, H.R.H. the Prince of Wales.

237 & 238, HIGH HOLBORN, LONDON.

NOW READY,

HARPE'S ILLUSTRATED DESCRIPTIVE CATALOGUE

For 1892.—Post free on application to

CHARLES SHARPE & CO.,

Seed Farmers & Merchants, SLEAFORD.

Select VEGETABLE, Choice FLOWER, The best qualities at Moderate Prices. Delivered Free by Rail or Parcels Post.

SEEDS

The Best SEED POTATOS, Garden Tools, Sundries, &c., &c.

Illustrated Descriptive Catalogue, No. 403 POST FREE ON APPLICATION.

Dicksons (Limited) Seed Growers, Chester.

NEW ENGLISH CHRYSANTHEMUMS

For 1892.

Mrs. ROBINSON KING, 6 F.C.C.'s, New Golden Yellow sport from G. Empress. The WHOLE of the CERTIFICATED STOCK in my POSSESSION (see notice). PRELUDE or striped Alfred Lyne, Noel Pragnell or striped Empress. Excelsior, Jap., rose cerise, F.C.C. F. W. Flight, Jap., crimson carmine, 2 F.C.C.'s. G. C. Schwabe, J., carmine rose, 3 F.C.C.'s. Mrs. Nisbet, J., purple amaranth, F.C.C. Peter Blair, J., yellow and crimson, F.C.C. William Tunnington, J., chestnut red, COM. Atlantic, J., white and rose; Budget, J., red and yellow; Charles Bonstedt, J., lilac rose; J. Blenkinsop, J., crimson; J. P. Kendall, J., amaranth; Majestic, J., carmine rose; Masterpiece, J., ruby red: Mrs. Carr-Gomm, J, white; Mrs. C. Russell, J., buff; Mrs. Gladstone, J., cream; Mrs. H. F. Spaulding, J., black; Richard Nisbet, J, red and yellow; Standard, J., rose magenta: Umpire, J., lilac rose; Miss Lillian Cope, J., or white Etoile de Lyon.

Descriptions and prices, see Catalogue (free). Orders booked and executed in rotation during February and March.

ROBERT OWEN, Floral Nursery, Maidenhead.

For PLEASURE and PROFIT.

FRUIT. Nothing so Profitable and Easy to Grow. 74 *ACRES IN STOCK.*

See CATALOGUE for Simple Instructions, and kinds of Tree to suit all Soils.

ROSES. Hundreds of Thousands.

BUSHES. 8s. per dozen, 60s. per 100. *Packing and Carriage Free for Cash with Order.*

ROSES in Pots, from 15s. per dozen.

ORNAMENTAL TREES, 91 ACRES.

4 ACRES of GLASS.

CLEMATIS (80,000), from 15s. per dozen.

N.B.—Single Plants are sold at slightly increased prices.

SEEDS & BULBS | VEGETABLE, FLOWER and FARM.

DESCRIPTIVE LIST, FREE.

RICHARD SMITH & CO., WORCESTER.

GENUINE SEEDS.

JAMES VEITCH & SONS

Desire to direct attention to the following

CHOICE VEGETABLES

FOR PRESENT SOWING:

CAULIFLOWER, Veitch's Extra Early Forcing.

First-class Certificate Royal Horticultural Society. Of dwarf compact habit, beautifully close and white, small medium-sized heads.

Per Packet, 2s. 6d.

"The best forcing Cauliflower is Veitch's Extra Early Forcing. It is not large, but it is very close and white, and turns in quickly."—*The Garden.*

CARROT, PARISIAN FORCING.

Earlier than the old French Forcing. Shape, nearly round, of a bright red colour, with very small top; forces well.

Per Oz., 1s. 6d.

CUCUMBER, VEITCH'S PERFECTION.

"Telegraph is a good variety, but Veitch's Perfection is an improvement on it, and I can strongly recommend it to those who want a really good Cucumber.—J. SHEPPARD."—*Gardeners' Chronicle.*

Per Packet, 2s. 6d.

LETTUCE, VEITCH'S GOLDEN QUEEN.

Unrivalled for Early Forcing and Early Summer Use.

Per Packet, 1s. 6d.

RADISH, EXTRA EARLY FORCING SCARLET.

Of quick growth, coming into use before any other sort; fine for Forcing.

Per Oz., 8d.

JAMES VEITCH & SONS,

Royal Exotic Nursery, CHELSEA, S.W.

JARMAN'S SEEDS.

Jarman's New Pea,

"MARKET CROP."

Best Early, Height 2½ ft., 1/- per pint, 1/9 per qrt. post free.

From Mr. H. Clifford, Linton, Ross.—"I think it my duty to send you a testimonial as to the quality of your seeds. I have been a market grower of peas for 20 years, but I have never had one equal to your 'MARKET CROP' for productiveness and quality."

From A. D. Paul, Esq., Bank House, Chard.—"I am writing a line to say that the two rows of your 'MARKET CROP' Peas are the best peas I have ever seen. Standing in front one can see little else but pods. They are worthy of being photographed."

JARMAN'S ONION SEEDS. Prizes again offered this year.

JARMAN'S NEW TOMATO, "SUNSET," 1s. Pkt.

Prizes offered.

Full particulars see large Illustrated Catalogue.

Everything of FIRST QUALITY, GENUINE, & RELIABLE.

Our Catalogue has been posted to our Customers, and a copy will be sent to any address on application.

JARMAN & CO.,

Seedsmen & Nurserymen, Chard, Somersetshire.

AMERICAN SPECIALITIES.

We have this year without doubt the finest Novelties in

CHRYSANTHEMUMS

ever yet seen, and for which we received last year more

MEDALS, PRIZES, &c.

than any other firm. Our new descriptive

CATALOGUE NOW READY,

Post free, on application to

PITCHER & MANDA,

THE UNITED STATES NURSERIES,

Hextable, Swanley, Kent.

FLOWERS! FLOWERS! FLOWERS!

THE

Most Beautiful Flowers

CAN BE INSURED BY SOWING

SUTTON'S COLLECTIONS OF FLOWER SEEDS

SUTTON'S 15s. COLLECTION

Consists of Asters, Balsam, Phlox, Portulaca, Zinnia, and other beautiful varieties.

SUTTON'S 21s. COLLECTION

Consists of Aster, Calceolara, Cineraria, Petunia, Phloz, Portulaca, Primula, and other beautiful varieties.

SUTTON'S 31s. 6d. COLLECTION

Consists of Aster, Balsam, Calceolaria, Candytuft, Cineraria, Cyclamen, Phlox, Portulaca, Primula, and other beautiful varieties.

All Flower Seeds Free by Post.

SUTTON'S SEEDS

GENUINE ONLY FROM SUTTON & SONS, READING.

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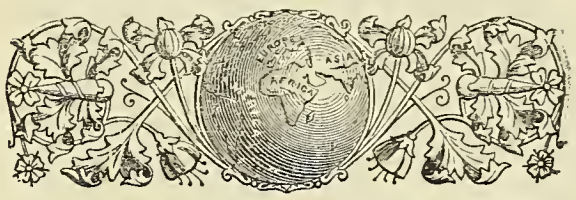


"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, February 1.—Sale of Florists' Flowers and Herbaceous Plants at Protheroe & Morris' Rooms.

WEDNESDAY, February 3.—Sale of Palms, Ferns, Lilies, &c., at Protheroe & Morris' Rooms.

THURSDAY, February 4.—Great Sale of Lily Bulbs, &c., at Protheroe & Morris' Rooms.

FRIDAY, February 5.—Sale of Orchids at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, JANUARY 30th, 1892.

THE NEW MISSIONARY.—Technical education has brought into existence a new mission. It is one of hope and life and higher work for the labourer. Nay, there are some of the efforts of the new mission devoted to the instruction of women, and in the direction of cookery, nursing, needlework, etc., it is hoped that some valuable good may be accomplished for the gentler sex. But our new missionary—that one with which we are most immediately concerned—is of the gospel of horticulture. The new technical education schemes have brought him into use, and he is now here and there, busy striving to inculcate into the minds of many hitherto too comparatively ignorant of the vocation, some of the better elements of garden knowledge.

Our new teacher and preacher is of a very unpretentious order. He may be met with unexpectedly in some of the dark lanes of the rural districts tramping along boldly and hurriedly through the snow, or it may be the mire, carrying perhaps long parcels of diagrams, or bags containing examples of work with which to instruct his auditors in some of those arts which have done so much in the past for the prosperity of the nation. It is usually late at night—often has the witching hour of midnight passed ere our missionary reaches his home from a long journey. The rural districts, which furnish so many centres and so many hearers, have furnished few if any instructors, hence the more intelligent towns have to furnish them. They find pleasure to hear of the new gospel of technical instruction, labourers, artizans of the true cottager type, some gardeners perhaps whose early opportunities have been few and gladly avail themselves of the lectures to acquire more information.

Some ladies and gentlemen are also found among the auditors occasionally, and as the mixed assemblage give attention of the most promising kind to what is being taught them, it is most obvious that gardening knowledge has charms for all minds, and finds a welcome in every breast. The new missionary, whatever may be the burden of his discourse, cannot fail to accomplish great good and assuredly will, if allowed free play, make his mark in the years that are coming.

Herbaceous Plants.—By the death at Clapham, on the 21st inst., of Mr. Robert Parker, formerly of Tooting, we are reminded of the admirable displays of hardy perennials and herbaceous plants which at one time formed such pleasing as well as conspicuous features at the Royal Horticultural Society's exhibitions in the old South Kensington days. The contest for supremacy then laid chiefly between such redoubtable opponents as Robert Parker and Thomas S. Ware, and generally the public benefitted perhaps more than the competitors, for the prizes were hardly such as to repay the cost of any very heroic efforts.

The public enjoyed this advantage, that during several months of the year, and usually from March till July, they saw all the best hardy plants in season set up in huge clumps—really large show specimens. For a sight of any such to-day we sigh in vain. There were many delightful features about the old Kensington shows and gatherings such as are absolutely lacking now at the Drill Hall meetings. Chiswick bears the reputation of having enjoyed the palmy days of the Royal Horticultural Society, but in spite of many drawbacks we give the palm to South Kensington, for that unfortunate place after all comes back to us in memory laden with a thousand pleasant recollections. It is impossible to read of the death of Robert Parker without recalling South Kensington, and its shows to mind. Mr. Parker was one of the constant attendants there for many years, but for a long time past the stalwart figure with the inevitable black bag has been missed from the usual haunts of London horticulturists. We still seem to feel, however, that we are standing beside him in front of one of his grand collections of hardy plants, whilst he discourses so affectionately on their characteristics and merits. He not only knew all about hardy plants, but he knew also how to grow and show them.

In spite of the assumed revival of taste for hardy plants in gardens, they seem in danger of disappearing from our shows. It is true that we see plenty of hardy flowers, but the plants as specimens find no encouragement. It may be all right, we won't quarrel with the newer style, but at least may sigh for a touch of that vanished hand in plant exhibiting which Robert Parker's death so forcibly recalls.

The Chicago Exhibition.—Our American cousins, with that energy and go which has ever marked all their undertakings, have resolved to hold in Chicago next year one of the greatest exhibitions of the world's Arts and Industries ever seen. We may take it for granted that this World's Fair, as it is not inaptly termed, will be one of the wonders of the nineteenth century, for although some very big things have been done in that way previously, the Chicago display of 1893 is to eclipse them all. Possibly then there will be a general disposition, to rest somewhat from efforts of this description, as they are enormously costly in every way, indeed it would be well perhaps to allow a few years to elapse ere Great Britain, for Europe, attempted to outdo the giant effort of the remarkable people of America.

We observe through the interposition of the Society of Arts some early effort is being made to induce our home nurserymen and traders in all descriptions of horticultural subjects to take part in this World's Fair, and to show to the admiring millions from all quarters of the globe who will be to Chicago attracted, what British horticulture is. There is already made an useful classification of subjects under the head of Viticulture, including all that relates to Vines, Wines, &c. Then comes Horticulture, which we infer includes practical gardening in relation to other things than flowers, which find their place in the Floriculture section, opening up an illimitable vista of beauty and effect created by the myriads of flower-producing plants in cultivation; Arboriculture; Pomology, a wonderfully interesting section, comprising preserved fruits and vegetables; and finally garden appliances complete the list. The Horticultural Hall, in the which all that relates to gardening is to be presented, will be an immense building 1,000 feet long and nearly 300 feet wide, and will include some heated departments for tender or tropical plants. Judging by information furnished the Exhibition will be in the Horticultural department alone a grand display, whilst the entire gathering will probably beggar all descriptions.

Soil Insects.—Whether it arises from a wider knowledge than we formerly possessed of the nature and habits of the various insect pests which infest our soils or to some other causes, it is certain that we seem of late to have discovered them in enormous abundance, and to have found in them special objects of terror to cultivators. It is not to be for one moment assumed that grubs, wire-worms, or similar insects are more abundant in the soil than they were a generation since. What is the case now probably amounts to this, that our natural history has been rubbed up, we have much more closely than formerly studied insect life, and have in consequence of that knowledge learned rather to regard the ordinary ground pests with more apprehension than they deserve.

We have been recently reading a report issued from the Cornell University, America, respecting wireworms, and the conclusion we have arrived at is that unless the American soil is cursed with these creeping insects beyond all precedent that there has been made in experimenting with methods for their destruction, efforts not unlike the familiar illustration of employing a steam hammer to crack a small nut. But after all there seems to have been not much of success to record from these experiments. We have heard the best way to kill a flea is to turn the creature on its back, tickle it till it laughs, then stuff a brick into its mouth, and so choke it. Of course, that is all coarse fun, and it would seem as if these American entomologists were poking fun a bit when they detail all the numerous and almost gigantic efforts made to destroy wireworms, but without effect. The soil infested by wireworms seems to have been all but utterly poisoned with all sorts of assumed destructives, but yet all to no purpose.

We at home have found exposing the soil frequently, to enable birds to feed upon the insects, setting traps of rape cake, or of similar fatty compounds, to have been effectual and simple, and have so far never gone mad over insect pests. It is not in the pursuance of wild theories that we shall effectually combat soil enemies: a little of common sense seems to be all that is needful, and not making your little insect troubles perfect mountains of difficulty.

Clay's Fertilizer and Invigorator.—We understand that the firm of Clay & Levesley, manufacturers of the well-known Clay's Fertilizer at Temple Mill Lane, Stratford, has been dissolved, and that the business will be carried on in future by Samuel Clay and Samuel Charles Clay under the title of Clay & Son.

Mr. H. Purser, formerly of Berwick House, Shrewsbury, and latterly gardener to Lord Zouche at Ravenhill, Rugeley, is about to take charge of his lordship's garden at Parham Park, Pulborough, Sussex, Ravenhill being let.

A Horticultural Improvement Society for Hertford.—At a meeting held recently in the Council Chamber, Hertford, the Mayor (Mr. Councillor R. Ginn) presiding, a Horticultural Improvement Society for the district was established on similar lines to the one at Ware in the same county, with the Mayor as president, Mr. J. Fears as treasurer, and Mr. W. Brett as secretary.

Mr. J. Doig, late gardener to the Hon. H. E. Butler, has been engaged as gardener to W. W. Wickham, Esq., Chestnut Grove, Boston Spa, Yorks.

The Rainfall at Madresfield Court.—Mr. Crump kindly sends us the following statement with regard to the rainfall at Madresfield during last year:—Monthly rainfall: January 1·90; February 0·12; March, 1·55; April, 1·41; May, 3·34; June, 2·15; July, 1·83; August, 4·61; September, 1·02; October, 6·94; November, 2·49; December, 3·47. Total 30·83. The average for the past ten years is 26·81 ins. The total number of days on which rain fell was 187, the lowest monthly record being two days in Febraruy, and twenty-six in October.

New Plants Certificated in Ghent.—At the last meeting of the Belgian Chamber of Horticulturists, Certificates of Merit were awarded to Mr. Léon Poelman for Lamprococus Weilbachi leodiense; to Mr. Gustave Vincke for Cypripedium Niobe, Odontoglossum Alexandræ var., Baronne Ruzette, and Odontoglossum Wilckeanum var.; to Mr. Auguste Van Geert, for Vriesia cardinalis; and to Mr. Delanghe for Lælia anceps var.

The late Duke of Clarence.—Out of respect to the memory of H.R.H. the Duke of Clarence, who honoured them last winter by lunching with his Royal Father under their roof on the occasion of his installation as Provincial Grand Master of the Berkshire Freemasons, Messrs. Sutton & Sons entirely closed their premises from 1 till 5 p.m. on the day of the funeral; and on the same day a magnificent wreath of Lilies of the Valley and Violets, which had been prepared by Messrs. Sutton by Royal permission, was personally presented at Windsor by the members of the firm.

The National Chrysanthemum Society.—With a view to providing a means of bringing the members together for pleasant social intercourse, the executive officers of this society recently organised a Smoking Concert, which came off with great *éclat* at Anderton's Hotel on the 23rd inst. There was a capital attendance, and over thirty "turns" were set down on the programme. Both the vocal and musical contributions were of a high order of merit, and the songs of Mr. G. S. Addison, the concertina solos of Mr. Harry Turner, and the musical melangé entitled "Exiphinisolosity" rendered by Mr. Sam Payne were especially received with vociferous applause.

"Nature's Greatest Curiosity."—A correspondent, "Perthshire," sends us a circular bearing an illustration of an extraordinary character, with the above heading. The circular states that the curiosity in question is the "Chinese Lily Bulb or Water Plant," the only plant in the known world that grows into a long Vine and produces beautiful flowers out of a glass of water. In the directions for growing the bulbs, it is stated that they float for several days, and take twelve to fifteen days before they commence to grow. The rudimentary illustration has evidently been drawn from imagination, and shows a climbing plant bearing a flower somewhat resembling a Nelumbium. Our correspondent had two seeds given him, and which were stated to be the Lily in question; but he evidently considers, as we do, that the whole thing is a fraud. The Chinese Sacred Lily, so called, is now pretty well known to be a variety of the ordinary Polyanthus Narcissus, viz. Narcissus Tazetta chinensis, and does not differ very greatly from some varieties which have already been cultivated in British gardens and elsewhere for many years. The importer hails from Old Street, St. Luke's, E.C., and naively requests that all applications should be made by post.

Railway Station Gardens.—The *Bristol Mercury* states that travellers over the South Wales section of the Great Western Railway will be pleased to learn that Mr. Baker, the station-master at the Ashley Hill station, has been awarded by the G.W.R. directors a special prize of £5 for his floral exhibition at the station last season. The competition for the premium was very keen, and Mr. Baker has received a congratulatory letter from Mr. T. W. Walton, the divisional superintendent. It is interesting to note that the number of competing stations was 457, being an increase of four over last year and it has been decided by the directors to appropriate the sum of £250 for the prizes, dividing £5 each to 12 stations, and ordinary prizes varying from £3 to 10s. to 150 stations.

The Cost of Melting Snow with Gas.—Mr. Thomas Fletcher, of Warrington (to whom all householders who use gas for heating or cooking are under such great obligations for his admirable mechanical appliances appertaining thereto), points out in a forcible manner the absurdity of melting snow by gas heat considering the cost of the operation. Mr. Fletcher says:—"Six inches deep of average snow, when melted, becomes half-an-inch depth of water, 24 square feet of which will weigh 62½ lbs., or 23·4 lbs per square yard. At this rate the snow on one mile (or 1,760 yards) of a street 20 yards wide would, if 6 in. deep, weigh 823,680 lbs., or 363¼ tons. The heating power of London gas is 660 units per cubit foot, i.e., one cubic foot of coal gas will heat 660 lbs. of water 1° Fahrenheit, and of this we may take it as a maximum that 500 units could be utilized. It has been proved repeatedly and beyond question that 1 lb. of snow at freezing point requires 150 units of heat to melt it and raise the temperature of the water obtained to 40° Fahrenheit, and this effect would be produced on 3⅓ lbs. of snow by the consumption of one cubic foot of coal gas. From the above data it will be found that to melt the snow in the assumed mile of street would require the consumption of two hundred and forty-seven thousand cubic feet of gas costing, at 3s. per 1,000 cubic feet, a little over £37, or at the rate of £3,256 per square mile."

Black Knot Fungus in Plum Trees.—At the last meeting of the Scientific Committee Dr. Masters showed specimens of this disease received from the United States. The disease occurs in Plum trees, principally the Greengage, and is due to a fungus, Plowrightia morbosa, which produces a black nodulated outgrowth—spongy within on the surface of the branch. The tissues affected seem to be the inner layers of the bark and the cambium layer, the cells of which are disintegrated and broken up into a spongy mass. The disease has been described by Professor Farlow, and is very common in America, but happily, it is scarcely, if at all, known here. Destruction by fire of the affected branches is the only remedy that can be suggested, though probably spraying with sulphate of copper in an early stage would be effective.

THE LATE
DR. W. R. WOODMAN.

We are indebted to the kindness of Mrs. Woodman and Mr. Napper for the opportunity of publishing to-day a portrait of the late Dr. William Robert Woodman, of Exeter, whose lamented death was recorded in our issue for January 2nd. Of Dr. Woodman it may truly be said that we could have better spared a better man, for he represented a type of English character all too few in number in these degenerate days—a man of high cultural attainments, whose exceeding gentleness of disposition and unbounded generosity in the cause of true charity endeared him to all who knew him. To what has already been said of him in these columns we may now fittingly add, with the concurrence of Mrs. Woodman, the following short paper on "Autumn Leaves," written by her late husband, which was found after his death.

"There is a placid beauty and rotundity about the very word October, redolent with the brewing of famous ale which bears its name, and luscious with its purple vintage. Of all the months of the year, October is the most enjoyable. It is true the days are short, but then the evenings are long, and the sun

The Late Dr. Woodman.

does not intrude into your bedroom in the middle of the night and bake you as you lie restless on your bed. You can have a fire or not of an evening just as you like; and if you do have one you can enjoy a long evening assisted by its cheerful glow. The glare of summer is over, the burning sky, the dusty hedgerow; you can walk or ride without fatigue, and we get many pleasant sunshiny days, many happy skies with soft roving clouds which, whilst they keep the earth cool, seem busy and active, flying hither and thither, gently impelled by breezes which exhilarate nature, exhausted by the potency of the all-powerful sun. The earth wants rest, and so do we, for light and heat are the great agents of life, and not only draw out of the earth its products, but seem also to stimulate man himself to his greatest efforts. However relaxing the weather, there is much work done in the summer, and nature now needs rest.

'The golden grain has been garner'd, the grateful gift of mother earth,
Brought from her choicest stores, and mellowed well by golden sunshine.'

"We all know how pleasant is the evening hour, when the book is closed, and work put away, and the business which has engrossed us is set aside, and we linger over the fireside enjoying the time after our several fashions, either in quiet conversation or calm contemplation, as it were preparing ourselves for that rest which is to recruit our wasted energy, and give us strength to enter on the busy scenes of the morrow. Such a respite is October. Nature seems hushed, everything is toned down, quite calm is the order of the day, and the sun itself seems afraid to come forth in its wonted splendour. There is a rich balminess in the air, with light clouds floating lazily in the higher atmosphere; nature is, in fact, preparing for its winter rest. The nights, though somewhat clouded over at times, are now often fine and clear, with the moon and stars yielding their pale light to help the benighted traveller, surprised by the rapidly shortening days, that give us a gentle hint of the approach of winter which, with all its dreariness and terror for the old and feeble, exercises a bracing and invigorating influence on the young and active, and more than anything else tends to render us the long enduring hardy toiling race we are, and has much to do with the development of English pluck. The landscape painter knows the value of the month, and his most favourite pictures glow with autumn tints: the heather-clothed hillside with its varied hues, and the wooded glade, the leaf ripe enough to be golden, not old enough to fall."

PODOCARPUS.

The genus Podocarpus is distributed over various parts of the world, including Africa, Australia, China etc., and as may be supposed comprises both tender and hardy species. The number of known species is between 50 to 60, but some are now unknown in gardens, whilst others are very scarce. They are all evergreen Conifers, and in suitable positions add not a little to the embellishment of the garden.

Of late years the greenhouse species have been very much neglected, as it is only in first-class collections of plants that they find a place; their neat appearance, however, together with their easy cultural requirements, ought to make them more popular in our conservatories and plant houses. Potted in good rough loam and peat, with a little sharp silver sand to keep the whole porous, and the pots well drained—or better still planted out in good open beds—they will be found to thrive well.

Practically, only three or four species are suitable for out-door cultivation, and these should be protected from cold piercing winds. They delight in a moist soil, but under no circumstances should water be allowed to become stagnant about the roots, as if so the plants will soon look sickly and present an unsightly appearance. The species most commonly met with in gardens are:—

P. chilina, very pretty and distinct Conifer. It forms a loose free growing tree, and is admirably suited for planting as single specimens on the lawn. Its numerous branches are freely clothed with narrow leaves 2 to 4 in. long, of a rich shining green above and slightly glaucous beneath. Its hardiness is beyond suspicion, as it has stood the severe test of recent winters without protection. It is a native of Chili and Peru and was introduced to our gardens in 1853.

P. alpinus, an extremely rare, small growing Conifer; is hardly ever found outside botanic gardens, but it should not be confined to the limits of such places, as it is entitled to more extensive cultivation. It is a capital subject for planting along the front row of the shrubbery border; but perhaps the place in which it is seen to best advantage is on the rockery, where it seems to be quite at home, and always looks well, especially in the depth of winter when most of its associates are devoid of leaves. Its long trailing or arching shoots, which sometimes measure from 18 in. to 2 ft. long, are well furnished with short linear leaves ½ in. long, the colour being of a dark on the upper surface and glaucous beneath, with a prominent midrib. If allowed to grow at will it forms a low, spreading bush, but when the leader is tied to a stake it takes the form of a small tree. Although hardy it should, if possible, be planted in a sheltered position, in a compost of peat loam and leaf soil, which should be pressed quite firmly round the roots. An occasional watering in dry weather will be beneficial. It is a native of Australia.

P. koriana—or more correctly speaking Cephalotaxus pedunculata fastigiata—is an old inhabitant of our gardens, having been introduced so far back as 1861. In general appearance it very much resembles the Irish Yew, especially at first sight, but on closer examination it is readily seen the two are quite distinct. Its rate of growth is slow even in good fibrous loam and leaf mould—a mixture in which it thrives best. Its thick, narrow leaves measure 2 in long, are of a deep shining green above aud paler beneath. It will grow in almost all positions, preference being given to open spots. Being of such a hardy constitution, and the foliage of such a distinct green renders it a very valuable garden plant.—*T.*

THE WHITE PINE.

Undoubtedly the most majestic and picturesque tree of northern forests is the familiar White Pine, Pinus Strobus, and no other is so valuable in the common arts of life. It has a wide range throughout the north, extending from Newfoundland to Winnipeg, and covering immense tracts in Maine, New York and Michigan. It is found scattered along the Alleghany mountains to Georgia, although in lower levels it reaches little beyond Michigan and New York. It follows the sandy shores of Lake Michigan throughout their length upon the east. The White Pine is the leading lumber-tree of northern forests, although much of the Michigan, Wisconsin and Minnesota Pine lumber is the product of Pinus resinosa, the red or so-called Norway Pine.

As an ornamental tree the White Pine deservedly stands high; for while it is a strong grower, its long and flexile leaves relieve it from that feeling of harshness which attaches to the Austrian and Scotch species. And its very familiarity is a strong point in its favour, for it strengthens the ties of old associations, and carries our thoughts into our own woods and over our own hill-sides. It takes kindly to cultivation, too, demanding only a dry and rather loose soil, and no extra attention. It is too coarse for the immediate vicinity of the house, yet it can come closer than the other large Pines. The long slim cones of this Pine distinguish it from all its congeners in the east, and they have about them more grace of form than any other Pine-cones which come within the possibilities of our gardens.

But the White Pine is most characteristically a part of our landscape when it stands alone in some field or on some declivity, shorn of some of its limbs, and bravely struggling against the inevitable march of time. We appeal to our readers to spare these isolated sentinels; and we hope that they will not forget to give the younger brood a place about the home.—*American Gardening.*

APPLES.

(Concluded from p. 322.)

General Treatment.

If the Apples have made a clean, healthy growth no manure is required; on the other hand, if they are stinted and covered with moss and lichen, it is a sign that more nourishment is required. Half-decayed farmyard manure is the most serviceable. 2 in. or 3 in. spread on the surface in November will be found the best mode of applying it. If manure can be spared to mulch with in summer, it will be found of great service, especially when the trees are worked on the surface rooting stocks, as it protects them from drought in hot weather. It should be applied before the warm weather sets in, about 3 in. deep. If the whole surface can be covered so much the better, if not, it should be spread as far as the roots extend. Old and heavily cropped trees are greatly benefited by mulching, and if weak, liquid manure can be applied when the fruit is swelling, it will be found of great benefit.

With young trees, over-feeding should be avoided as it causes an over-luxuriant growth, which does not ripen before winter comes. Some varieties bear very heavy crops of small fruit, and if a little timely thinning of the clusters is practised, the size will be greatly improved, and the crop will be of more value than if double the number of small fruit were allowed to remain. Then again some varieties bear an enormous crop one year and miss the next, the cause is, I think, exhaustion, more often than the weather which is so often blamed.

All the energy of the tree is required to ripen the heavy crop the one year, and no reserve kept for the next, therefore the tree requires time to recruit. All trees should be correctly labelled—our plan is to fasten wooden labels on with small wire; they should receive two coats of white paint, and be thoroughly dried, then one of black. The names should be scratched in with a nail before the black paint gets quite dry. If treated in this manner the labels will last for years, and the names be quite legible. In fastening them on, they should be put on one of the side branches, and the wire loose enough to allow the branch to grow.

Varieties.

There are so many good varieties of Apples that it is not at all difficult to maintain a supply from July until the following June. The number grown must of course be regulated by the demand and the conveniences at hand. The following is a list of the best dessert varieties, they are arranged in their order of ripening:—Early Red Juneating is the first, followed by Red Astrachan, Mr. Gladstone, Irish Peach, Kerry Pippin, Duchess of Oldenburg, Lady Sudeley, Red Quarrenden, Worcester Pearmain, Cox's Orange Pippin, Ribston Pippin, Blenheim Orange, King of the Pippins, King Harry, Claygate Pearmain, Hubbard's Pearmain, Scarlet Nonpareil, Royal Russet, Court of Wick, Court Pendu Plat, Allen's Everlasting, Sturmer Pippin, Duke of Devonshire, Old Nonpareil, Van Mons. Reinette, Baumann's Red Winter Reinette.

For cooking we have more varieties to select from than we have for dessert, and there should be no difficulty in keeping up a good supply. The earliest varieties are Lord Suffield, Lord Grosvenor, Manks, Codlin, Keswick Codlin, Golden Spire, and for mid-season, Cellini, Stirling Castle, Stones', New Hawthornden, The Queen, Golden Noble, Warner's King, Cox's Pomona, Ecklinville Seedling, Beauty of Kent, Frogmore Prolific, Blenheim Poppin. These in all ordinary cases will be found sufficient until Christmas, then the following will come in:—Dumelow's Seedling, Lane's Prince Albert, Alfriston, Winter Hawthornden, Improved Northern Greening, Bramley's Seedling, Yorkshire Greening, Hambledon Deux Ans, Gloria Mundi, Dutch Mignonne, Grange's Pearmain, Baumann's Red Winter Reinette.

For the convenience of those who have not the room to grow a large collection, I append a select list for cooking purposes:—Lord Suffield, Keswick Codlin, Stirling Castle, New Hawthornden, Warner's King, Ecklinville Seedling, Frogmore Prolific, Blenheim Orange, Dumelow's Seedling, Lane's Prince Albert, Improved Northern Greening, Grange's Pearmain.

Gathering and Storing.

These matters should have particular attention. Apples should be carefully gathered; the reckless method of shaking them down must be abandoned. The fruit should be perfectly ripe before gathering, that is to say it should part freely at the natural union of the stalk and spur when raised by the hand, and the seeds should be brown and loose in the cells. A fine day should be chosen for gathering the fruit, so that it may be stored in a dry condition. The less handling the fruit gets the better, as it is very easily bruised, and though the bruises do not show at the time they will do so soon after being stored.

Before storing all the fruit should be graded into bests and seconds. The seconds should be used up first, as the others will be found to keep best.

The fruit room should be cool and dark, and at all times kept thoroughly clean and sweet. The shelves are best made of laths, with a space left between each to admit the air equally all round the fruit. If space is no object, the Apples should be arranged in single tiers, and should not touch each other in the rows. If however space is limited they can with advantage be stored two deep. A careful watch should be kept for decaying ones, as they will soon spoil those nearest to them. Apples can be kept very well without an expensive fruit room; if they are carefully packed in clean boxes or barrels, and well protected from frost, they will keep almost as long as in any fruit room. When packed in this manner on no account must any substance such as hay be placed with them, as it taints the fruit and destroys the flavour.

Enemies.

These vary exceedingly, and some are exceedingly difficult to exterminate, principally on account of their minute size. It is not my intention to enumerate or describe all the various pests that come under this heading, but only to give what I consider to be the most important ones, and what have come under my own observation.

One of the most important is American Blight, a woolly aphis which infests both the roots and branches, causing the tissue to swell.

The insects take up their abode in any little hole or crevice in the bark, also in the angle formed by the leaf stalk and the branch. On its first appearance it should be treated to a little soft soap, fir-tree oil or Gishurst Compound, any of which will be found effectual, if applied to the affected parts with a stiff brush. The mixture should not be used too strong, especially on the young wood. If the insects do not find convenient hiding places on the stems, they conceal themselves just under the surface of the soil, all loose soil round the stems should therefore be burnt. Some varieties are more liable to be attacked by this insect than others, notably New Hawthornden and Small's Admirable; whilst others are altogether free from it, Winter Majetin, Northern Spy and Irish Peach will suffice for examples. These are what are termed blight-proof varieties in some countries. We have used Winter Majetin and Northern Spy largely and successfully as stocks in districts where the blight is very bad, thereby ensuring the tree clean below the union.

The Codlin Moth is another very troublesome foe, it is the cause of the Apples falling prematurely. If these fallen fruits are examined, it will be found that inside each is a small grub which is the cause of the Apples falling. All Apples that fall should be collected as soon as possible as the grub leaves the fruit soon after it drops. They can be trapped in large numbers with bands round the stems of the trees, smeared with some sticky substance. The bands should be collected in autumn and burnt.

The Winter Moth is also very troublesome, and can be partly prevented by the bands on the stems being applied not later than October. Rabbits and hares cause great damage to young trees, by eating the bark. If they cannot be prevented from getting in the enclosure, each tree should be protected by strong wire netting. Canker I attribute to cold, undrained soil, hard pruning or frost, all of which we think have a share in the destruction. The ill-effects of canker can to a great extent be prevented by planting in good soil, and following a liberal course of treatment.—*T.W.*

GARDENING MISCELLANY.

ROYAL HORTICULTURAL SOCIETY.

I am informed that a person is going about the country canvassing for the sale of a certain book on gardening, and stating that he is sent by our society, and holding out as an inducement that the purchasers will thereby become ipso facto Fellows of our society. It is simply needless to say that we have no knowledge whatever of the individual in question, and that his statements as far as our society is concerned are entirely unfounded.—*W. Wilks, Sec. R.H.S.*, 117, *Victoria Street, S.W.*

JASMINUM SAMBAC.

Sweet-scented flowers are highly esteemed by most people who use flowers largely in a cut state, and as this subject blooms all the year round under proper treatment, it should be more generally cultivated than is the case at present. Being of climbing habit the best results are obtained by planting against the pillars or rafters of a stove, where it can occasionally be pruned to restrict its limits. This might be done in spring, when flowers of other kinds are getting more plentiful, and can therefore take its place. The general appearance of the species is quite different from that of most other kinds in cultivation. The leaves vary from heart-shaped to oblong, but are perfectly entire, instead of being lobed or pinnate as in the hardy species as well as some of the hot-house kinds. The flowers are produced in small umbels or clusters at the end of the shoots; and the aim of the cultivator should be to encourage the development of these, thereby ensuring a succession of flowers. There are double varieties which may prove more acceptable to some cultivators than the single. Small plants may also be flowered in pots, but the same quantity of bloom cannot be grown from plants grown in this way.

AGAVE AMERICANA PICTA.

There are two variegated forms of the American Aloe, perfectly distinct and easily recognisable. A. americana variegata has a broad bright yellow margin on each side of a central glaucous green band. A. a. picta on the other hand has a broad central golden-yellow band along both surfaces; hence the variety is sometimes called A. a. medio-picta. It is also known as A. ornata. The leaves usually attain only 3 ft. in length, whereas those of A. a. variegata are sometimes twice that length on large plants. Except large plants are wanted for a particular purpose, a

stock of small or medium sized plants will always be found the most useful and accommodating for general decorative purposes. If it is desired to limit size then the smallest pots in which the plants can be accommodated should be used. A stock of young plants can always be obtained from the base of old ones; and even if the shoots should be devoid of roots they can easily be rooted when removed from the mother plant.

PELLIONIA PULCHRA.

The stems of this species are of much slower growth than those of the older and better known P. Daveanana; but owing to this very fact the plant is more refined in character and prettier in appearance, as indicated by the specific name. The stems are procumbent or creeping, and when grown in a basket suspended near the glass, or on a conical framework of wire filled with soil, the plant is seen to best advantage. The leaves are oblong or sometimes ovate oblique at the base, and heavily blotched with grey on a dark olive-green ground, while the principal veins are almost black. The under surface is flesh-coloured with reddish veins. The flowers are of no horticultural value, as they are of small size and insignificant in appearance. As a foliage plant of easy culture in a stove, it is however worthy of due consideration. It may be seen in the nurseries of Messrs. J. Laing & Sons.

DRACÆNA AUSTRALIS VARIEGATA.

In some respects this bears some resemblance to D. Doncetti, but is finer and more distinctly variegated. The long slender leaves are densely arranged upon the stems, and doubtless would hang gracefully when plants get sufficiently large to allow of it. The midrib is reddish, and there is a broad silvery band along the margins. The central portion on each side of the midrib is green, but very often even that is striated with silvery lines. The plant is amenable both to stove and greenhouse culture, for in fact it is so nearly hardy that it may be grown in the open air in the more southern and warmer parts of England. We noted some specimens in the nursery of Messrs. J. Laing & Sons, Forest Hill.

BEGONIA SCHARFFIANA.

The foliage of this plant when well grown is beautiful and interesting all the year round. The flowers are equally ornamental but not very freely produced. It may be that this species requires peculiar treatment in order to make it flower regularly, as some cultivators succeed better than others. The season of flowering also varies considerably, and no doubt corresponds to the state of growth and the treatment to which the plant is subjected. We noted a flowering specimen the other day in the uursery of Messrs. J. Laing & Sons, Forest Hill. The leaves are obliquely heart-shaped, densely hairy above, of a metallic red beneath, and closely arranged on short, stout, fleshy stems. The flower scapes just rise above the foliage and show off the blooms to advantage. The latter are white with a dense cushion of coarse, red hairs on the back of the two outer sepals, somewhat similar to what we see in B. metallica, B. Haageana, and others.

TILLANDSIA LINDENI.

The flowers of this Tillandsia are welcome whenever they appear, but doubly so in the winter months. The neat form of the plant also assists the flowers in making it a very ornamental subject. The leaves are narrow, very numerous, arching, densely arranged, and beautifully striated with red on the under surface as well as on the upper surface near the base; the lines in the latter case become less distinct from the middle upwards. The flattened inflorescence, with its bracts densely arranged in two ranks, is very characteristic of a number of Tillandsias, and in this case the bracts are green, although several varieties have them more or less coloured. The flowers are of large size, bright blue with a white eye, and are produced singly or few at a time, so that a single plant keeps on flowering for a considerable time. It is now flowering in several of the London nurseries.

IRIS BAKERIANA.

Hardy flowering plants are rare at this season of the year, and it is a pleasure to meet with those possessing the beauty and fine appearance of Iris Bakeriana. Of course no one could expect tender and beautiful flowers at this season of the year in the open ground. That under notice may be seen in the nursery of Messrs. J. Laing & Sons, Forest Hill, where it enjoys merely the protection of a cold frame. The bulbs are potted singly in very small pots. The leaves make their appearance about the same time as the flowers or soon after them, and are slightly flattened above and rounded on the back, but strongly ribbed. The scape bears a single flower, and the whole to the top of the latter is only 3 in. high. The falls are white on the middle, and blotched with deep blue, and the upper portion is blackish blue; the ridge-like crest is yellow, while the claw is striated with deep blue on a white ground. The standards are spathulate and of a rich blue. The stigmas are of a somewhat paler blue. The flowers are delicately fragrant.

PLATYCERIUM WILLINCKII.

In general appearance, Willinck's Stag's-horn may be compared to Platycerium grande, but it is smaller and more graceful. The barren fronds are erect, orbicular in outline and deeply lobed except the small ones surrounding the crown, and which are altogether undivided. The fertile fronds are slender, compared with those of either P. grande or P. alicorne, narrowly wedge-shape at the base, and drooping gracefully. A specimen in the nursery of Messrs. J. Laing & Sons, Forest Hill, is grown in a small basket, hung up near the light; the barren fronds dry up in winter and appear pale brown, but they persist evidently for a number of years. They also stand erect as if they were rooted on a block, stood upright in the basket, but the fertile fronds show that the plant is well suited for basket work. The species was introduced from Java in 1875, and requires the temperature of a stove.

BEGONIA ARTHUR MALET.

Amongst the smaller leaved kinds with dark purple foliage, B. incarnata atropurpurea is certainly one of the most meritorious. Now Arthur Malet is a garden hybrid with leaves somewhat of the same type, but two or three times as large. The upper surface may be described as of a warm purplish-red except the principal veins, which are of a deep green, and the whole is thinly covered with coarse, bristly hairs. The under side is dull purple. On the whole the plant is dwarfer and less branched than in B. incarnata atropurpurea or other of its varieties, but that is what might be expected in consideration of the greater size of the leaves of the plant under notice. The fact that it retains its leaves and their colour during winter should tell greatly in its favour for decorative purposes. The colour is the brightest of any in a collection of different kinds in the nursery of Messrs. J. Laing & Sons, Forest Hill.

MAMILLARIA FLAVOSPINA CRISTATA.

The Mamillarias generally are of very slow growth, and in order to render small pieces more conspicuous, they are sometimes grafted on stems of another kind. The stems of the Mamillaria in question are furnished with glaucous protuberances tipped with short grey spines. It gets the name of cristata from the stems being reniform and somewhat resembling a Cockscomb in shape. Double plants so to speak possess more interest than when grown naturally, because half the effect is lost by the short and slow growing stems being partly hidden in the pots. Grafting is a very simple operation amongst the Cacti, because if a cleft is made upon the top of one and another inserted upon it and kept steady for a time, union will take place. Specimens so treated may be seen in the nursery of Messrs. J. Carter & Co., Forest Hill.

THE REIGATE AND DISTRICT CHRYSANTHEMUM SOCIETY.

It may be of interest to some of your readers to know of the good work this society has accomplished during the past year. It was thought by the committee that it would be enhancing the interest of the society if we kept our charity at home, and several suggestions having been discussed it was ultimately decided to give thirty guineas to the Royal St. Ann's Schools, Red Hill, an institution for fatherless children, and one that is in much need of help. We were of opinion that by making this departure, for the one year only, we should enlist the sympathies of those who had hitherto refrained from helping us, and I think I may safely venture to assert that our efforts were crowned with success; for we not only handed the above sum to the executive of St. Ann's Schools, but were enabled also to give ten guincas to the Gardeners' Royal Benevolent Institution, and £10 to the Gardeners' Orphan Fund, thus making the total given to the three institutions during the three years the society has been established of £196 10s., made up as follows:—1889, Gardeners' Royal Benevolent Institution, £52 10s.; Gardeners' Orphan Fund, £50; 1890, Gardeners' Royal Benevolent, £42; 1891, St. Ann's Schools, £31 10s.; Gardeners' Royal Benevolent, £10 10s.; Gardeners' Orphan Fund £10. The foregoing figures speak for themselves, and are I think a guarantee of the success attained.—*Harry Bailey, The Briars, Reigate.* [The philanthropic efforts of our friends at Reigate deserve the best thanks of all interested in the gardening charities.—Ed.]

HEATING SMALL GREENHOUSES.

I was very pleased to see your remedy on this subject in a recent issue. Yes! the writer is quite right; it does seem hard that so many should lose their plants in small greenhouses for want of proper means of heating. I have two small greenhouses, one 6 ft. by 10 ft., and the other 6 ft. by 18 ft., full of beautiful plants, but the frost never gets into them. Why? because I have also got a little hot water boiler and pipes. The stove is placed in the greenhouse, and when the fire is lighted I have a bucket filled with small coal, costing about three-half-pence, which is put inside and lighted on the top with wood, when once alight this burns for twenty-four hours, and by no chance can it go out. I wish that the writer could see this, and then for once he would find that a small greenhouse could be heated well at hardly any expense.—*C. W. Butlin, Firydail Gardens, Leonard Stanley, Gloucester.*

EUPATORIUM RIPARIUM VARIEGATUM.

The green form of this plant is well known all over the country, and is grown solely for the production of flowers, which in all cases of good culture are borne in great profusion. Young plants are always best, and for this reason it is well to raise a quantity every year from cuttings, growing them on in the same way as other winter-flowering subjects. The variegated form is very distinct as regards the variegation, but some might object to it by reason of its clashing with the flowers which are very nearly similar in hue. The leaves have a broad, creamy margin, and occasionally a few are produced which are wholly pale yellow. Some variegated plants have a tendency to throw off the variegation and to revert partly to the green state, but the Eupatorium under notice keeps its acquired colour, or rather absence of colour, very well.

Gleanings from the World of Science.

Flowers of Veronica Buxbaumii.—The normal four-parted flower of Veronica is well-known to botanists, but some species are evidently liable to considerable variation, notably V. Buxbaumii, as recorded in the *Journal of the Linnean Society*, by Mr. W. Bateson. The four-lobed form of the corolla was supposed by Eichler to have been derived from the five-lobed form of corolla characteristic of most of the order of Scrophulariaceæ. The upper lobe he supposed had been formed by the complete fusion of the two constituting the upper lip. Variations or what are considered to be reversions should unravel the true origin of now existing forms; but the observations of Mr. Bateson evidently do not confirm Eichler's views in this case, although they do not definitely negative them. The first case he records was that of a single flower having the small anterior segment of the corolla duplicated. On the contrary, however, he found seven flowers with the posterior lobe duplicated, which would be more favourable to Eichler's supposition. Corollas with three segments are however extremely common and formed about six per cent. of the total. Corollas with two lobes constituted about one per cent. of the whole. Taken altogether the variations do not confirm the conclusions about the absence of the fifth lobe of the corolla. There can be little doubt however that the whole flower including sepals, petals, stamens, and pistil, is simply a case of reduction.

CHRYSANTHEMUMS
FROM SEED.

I AGREE with "A. D." that the time will probably come when we shall order our packet of Chrysanthemum seed as we do Cinerarias and other florists' flowers. I am raising seedlings so far superior to the old varieties that I am compelled yearly to discard many of them. It is with extreme reluctance, however, that I do so. I have much respect for the old varieties, but, one by one, they have to go. I do not save anything commonplace now, experience having taught me that out of the thousands raised annually only a few will be able to hold their own for any length of time, and I don't wish to send anything before the flower world which will be forgotten after a year or two.

I had always understood that English growers had been unable to ripen seed, but I never could understand why. I am glad to learn that Mr. Robert Owen had a fine batch of seedlings last year, and hope he will find them equal to his anticipations on further test. It is very interesting work. One strange thing I find is that many seedlings do not always come so good the first year as the second, and that many which are good on first trial prove worthless on the second. It is said that three years are required to fully test a variety. The best variety I have raised came poor the first year. I should not have tried it a second time but for Mr. Fewkes, of Newton Highlands, Mass.—the raiser of "Pres. Hyde"—who saw, as he thought, the making of a good variety, at any rate a new and distinct type. 1890 being my first year at the work I confess to having held over some very common varieties, and only one other out of eight have I thought worth perpetuating, and this only as a trained specimen, being low, neat and stocky.

In 1891 I grew a larger number of seedlings, and if some of them come true to their first year's showing they should prove meritorious. One is a pink, feathery Japanese of very large size, a cross between a yellow seedling (unnamed) and Mrs. Alpheus Hardy. Curious indeed it is, that it should come pink—but not less strange than many other crosses; it is, nevertheless, fully recorded, and clearly intermediate in all but colour. Mrs. Hardy produced some very curious seedlings—far away, apparently, from any relationship, and were I not quite positive in this respect I could not believe such strange varieties could be produced; the majority were white, and while some were fully as spiney as the parent, none were evidently superior, and nearly all showed the weak constitution so characteristic of the parent.

The coloured varieties, about ten per cent. of the total, were all robust in constitution but not spiney. One developed a very handsome incurved flower, but being such a very pale pink it faded almost to white with age, and I had to discard it; two violet-purples, but both semi-double at most—one of these, however, I am using as a seed parent; one dull-brown-red, a fine flower, but of no value; and a dirty little purple, growing not more than 2 ft. high. Good deep colours are what is now wanted. Cullingfordii is the only good crimson we have yet. Next year I think we shall see some good bold flowers of deep crimson. I have one which I think will turn out well, with fine, broad florets of the deepest hue.

You are right when you say "blood does tell." I know some people scout the idea of one being able to produce a pedigree Chrysanthemum. I doubt it is not so easy a matter with a composite flower of its character, and it is suggested that the fertile florets of the centre be emasculated and the unisexual pistillate or ligulate florets alone be used. I have tried that this year with quite indifferent results, out of 1,000 seeds I don't think I have twenty seeds traceable to ligulate florets. But there is another thing to be taken into consideration, the pollen is all shed from the centre or tubular florets, before (and long before) the stigmas unfold (undoubtedly a provision of nature to ensure cross fertilization, referred to by Darwin). Now, when I desire to intercross two varieties, I can sweep off all pollen from the florets as fast as it ripens, and use it on the other one desired, on an older flower where the stigmas are expanded. And by continually sweeping off its own pollen as fast as matured, and applying the "cross" as fast as stigmas are ripe, should I not be fairly certain (other agencies not working against me) of getting something intermediate? I claim results have proved this. Nevertheless, I am not wholly satisfied, but I am pretty certain of one thing, and that is—if I have not got the desired cross, I have rarely got what might be looked upon as a self-fertilized seedling, or rather one, the result of self-fertilization. I have been working carefully, and shall as carefully watch the results. I hope to raise about 500 seedlings this year. I do not flower the original seedling. I plant it outdoors, and take a cutting of it in May, and flower this. All our florists strike their cuttings for large flowers in May.—*T. D. H., Wellesley, Mass.*

HUNTING FOR ORCHIDS
IN UPPER SIAM.

IN a most interesting paper on "The Laos States in Upper Siam," read at a meeting of the foreign and colonial section of the Society of Arts on the 12th inst., Mr. Ernest Satow, C.M.G., says: "Another day I rode out from Chiengmai with the Chief Commissioner to the woods at the base of Doi Suthep, in search of Orchids. Passing through the town, we issued from the Patu Suen-dok on its western side. This gate is named after a pleasure garden of the Chief of Chiengmai, situated about a mile from the walls, which has been allowed to run to waste. As we emerged from the gate, the great mountain, which had hitherto been concealed by trees, appeared close at hand, almost overhanging our heads. The road leads in the direction of a pagoda built half way up the mountain side, and is broad and grassy as far as a small *salá*, where we branched away to the right across the now dry terraced Rice-fields. At the edge of the woods we were met by a hale old man, who is the 'governor' of the mountain, accompanied by four or five men carrying baskets to hold the plants we expected to collect. The path ascended over the sparsely wooded spurs, and wound along to a beautifully cool and romantic spot on the banks of a torrent called Huei Me-chang-khien. Here we found a white Clematis, *doh niu*. Our luck was pretty good, and we succeeded in obtaining a dozen or more varieties of Orchids, which seem to prefer trees that are more or less decrepit and decayed. One of these has a pretty white flower, touched with mauve and pink, and giving forth a pleasant fragrance. It is not much admired by the Laos, who have given it the name *dok-ïang ki má*, which, in English, has such a malodorous sound, that I will leave it untranslated. On our way back we crossed the fields in a different direction, to the north-west angle of the city, and then along the north wall to the river-side wall. Some of the fields were being broken up for a winter crop of Rice.

"One morning we received a summons to the Chief's house, to be present at the presentation of the tribute Orchids already mentioned. The ceremony took place in the audience-hall. We all sat on chairs, ranged in a semicircle, the Chief wearing his every-day dress. The Lawas from Mu'ang Yoom were introduced by an old Lao, who has served under seven successive Chiefs of Chiengmai. They brought with them a tazza full of amaranths, which this old man handed to the Chief, repeating first a long exorcism, during which the Chief held up his hands, as if in prayer. Next, a long joint of bamboo, full of arrow poison, and a few skeins of cotton yarn were offered to him. Then a small stone mortar, full of powdered ginger, was handed to the Chief, who put some in his mouth, chewed it, and spat it out, to symbolise the fertilisation of the ground for the reception of the Rice seed. The Orchids were there, stuck into two sections of a tree, but apparently no reference was made to them. The whole business was got over very quickly, and was of the simplest possible character.

"I should mention that, at the end, the Chief lifted up his voice, and delivered himself of a short oration, of which I cannot give the contents, as no one thought it worth translating; but what impressed me most was the informal and 'fine-old-English-gentleman, all-of-the-olden-style' manner he assumed. The Chief stuck an Orchid through the hole in his left ear lobe, and gave us each a sprig to do likewise, but not being provided with those useful apertures, we had to put them behind our ears, which is, after all, quite as elegant as the native manner of wearing a flower. We then adjourned to a raised shed, to hear some music performed by women on a sort of three-stringed lute, having three frets, which was placed on the floor in front of the player. An ivory pencil is used for striking the strings. The performers were two women, who played in unison, and the music was of simple monotonous character. There were a number of bamboo harmonicons and sets of small gongs lying about the room, which seemed to be of Burmese origin. The native Lao instrument is the bamboo flageolet."

THE GARDENERS'
ORPHAN FUND.

THE timely articles which appeared in your columns a few weeks ago and again on the 16th inst. is only another proof of the interest which the "WORLD" takes in gardeners and gardening. I sincerely trust with you that those who were successful last year in the exhibition tent, or in any other way, will not forget this most important Fund, and that this year we may see a very large increase in the number of subscribers. What a grand thing it would be if the whole of the twenty applicants at the next election could be placed on the Fund, and how easy it could be done if a thousand gardeners would only send 5s. each. I was greatly surprised when looking over the list of names of persons who assisted in the National Card Collection, to notice how few, comparatively speaking, responded to the appeal, yet how many there are who could have helped with a mite this most deserving object.

It has fallen to my lot to visit the homes of children who are or have been nominated for election to the benefits of the Fund, and in one case of a child who has been successful, and the deep and sincere thanks which the widowed mothers have expressed to me for the aid received in this case, and for promised aid at the elections in the others, has greatly increased my sympathy with the objects of the Fund. These visits have given me a practical knowledge of the grand work which the committee are carrying on. Permit me therefore to urge upon those of my brothers in the craft, who have so far turned a deaf ear to the appeals that have been made to them, no longer to delay sending in their subscriptions. The trifle that is asked from them is not much in itself, but in the aggregate will afford the means of alleviating the sorrows of many a brother worker's helpmate in life left behind to feel the pangs of want

In most districts there are local secretaries, who will be only too glad to receive subscriptions or donations, however small in amount, and our good friend, Mr. Barron, whose interest in the welfare of the fund is unbounded, will be only too glad to do the same. Do let us all therefore, in this year of grace 1892, assist the committee in their efforts to increase the usefulness of the fund.

There is another gardeners' society—the United Horticultural Benefit and Provident Society—that I should like to say a few words about. I was very thankful, when it was brought under my notice as a society, that it would be worth my while to join, because, by becoming a benefit member, my subscription not only made provision for helping me in the case of sickness, but, by taking care of the annual surpluses which stand to my credit, enable me to save something for old age. I do not think one half the young gardeners or nursery hands in the country can be aware that such an admirable society exists, or its membership roll would quickly be quadrupled. I am sure our ever-courteous secretary would be much pleased to give any information respecting it.—*A. J. Brown, Chertsey (Local Secretary G.O.F.).*

THE RESURRECTION
PLANT.

WITHIN recent years, considerable importations of Selaginella lepidophylla, popularly known as the Resurrection Plant, have been made. The species is a native of the warmer part of America from Texas and Mexico to Peru, and is to be found in exposed places, a fact which no doubt accounts for its peculiar habit and behaviour. The stems are produced in dense tufts, forming flat table-like cushions when in the fresh and growing condition, but in seasons of drought or when pulled out of the ground so that the roots get dry, the whole of the stems curve inwards, forming a ball and completely covering the crown. This ball presents a brownish appearance, and would be regarded as dead by those unacquainted with it. All that is necessary, however, is to place the roots in water and the stems will spread

out flat, and the leaves will appear of a bright green as if nothing had been amiss. This will take place in the course of two to four hours in a warm room. We noted a quantity of it in the nursery of Messrs. J. Carter & Co., Forest Hill, some of it being dry and other pieces placed in basins of water or in Hyacinth glasses or other ornamental vases, which may be used at the fancy of the operator. If the water is allowed to sink in the Hyacinth or other glasses where the short roots cannot follow, the stems curl inwards again, but the addition of some more water will set the plants right in a short time.

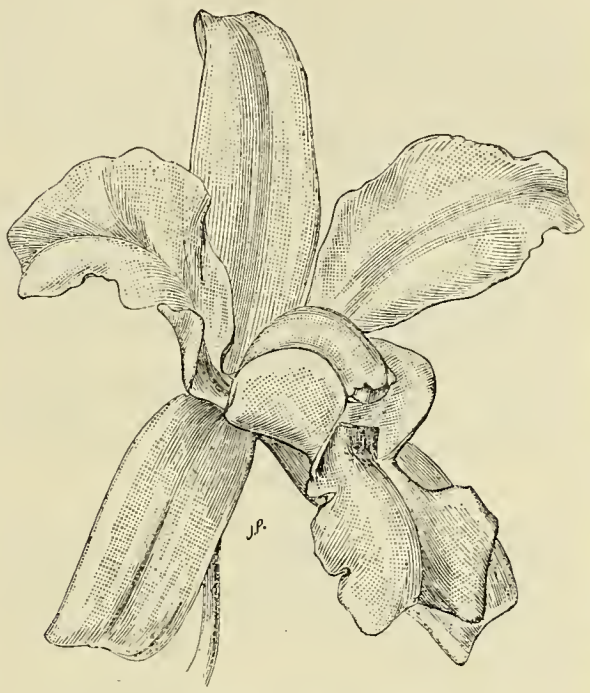
THE WINTER CHERRY.

Although there are something like thirty good species of Physalis, few of them are to be seen in British gardens at the present day. About eighteen or more have been introduced from time to time, but have been allowed to drop out of cultivation. Some of them are sub-shrubby and require stove or greenhouse treatment, while a considerable number of those that were once introduced, were annuals, probably not sufficiently showy to arouse the interest of cultivators generally. The species are characterised by a calyx which increases in size as the fruit grows, until it becomes quite inflated or bladdery. The flowers of different species vary from green to white, yellow and pale blue, but they are usually small and inconspicuous. The ornamental value of the plant depends on whether the huge, inflated calyx is coloured or not. In the case of the Cape Gooseberry (Physalis edulis) its value depends on the fruit, which is eaten raw, cooked, or preserved.

Physalis Alkekengi, the plant under notice, is a native of South Europe, while the greater part of the others which have been introduced are natives of various parts of America, either North or South. It is the species most widely cultivated in British gardens, and being perfectly hardy has only to be established in herbaceous borders and it will take care of itself. The numerous underground stems are somewhat troublesome owing to their rambling nature, and liability to come up amongst neighbouring plants. For this reason it ought where practicable to be planted on a piece of ground by itself. To get the best results, a sunny or well-exposed position should be selected for it so as to encourage the production of fruit. The latter is a globular, orange-coloured berry, but is completely covered by the calyx. It is acid, somewhat bitter, and not usually eaten in this country, but is said to be eaten as a common fruit in Spain, Switzerland, and Germany. Here however the globular, inflated and orange-coloured calyx constitutes the ornamental value of the plant. If the fruits are allowed to hang on the plants after ripening the calyx will be very ornamental for a time, but ultimately in the wet autumn and early winter months, the soft tissue rots away leaving only the skeleton framework. If the fruit-bearing stems are cut after the calyx is properly coloured, and then dried in the same way as one would do with Everlastings, the calyx will keep its bright colour for an indefinite period of time, more especially if covered with a bell glass to keep away dust.

ECONOMIC PLANTS.

"Officinal and Medicinal Plants" was the title of a paper read on Thursday of last week at the meeting of the Manchester Horticultural Improvement Society, by Mr. C. Paul, of the Botanical Gardens, Old Trafford. Mr. Paul said the subject simply meant plants which the science, industry, and skill of man has turned to practical and useful account as food, clothing, or medicine. There could be no doubt that man in all ages has been more or less dependent on the vegetable world for support and comfort. With regard to food plants, a long list of which was given in the paper, Mr. Paul said Coffee is the berry of a shrub called Coffea arabica, a native of Arabia or Persia. In the hot countries of the Eastern hemisphere it has developed a disease which threatens the extinction of the old form. Coffea liberica is however taking its place as it is more robust, and can be grown at a lower level and consequently at a higher temperature than its predecessor, which has to be cultivated on the hills.



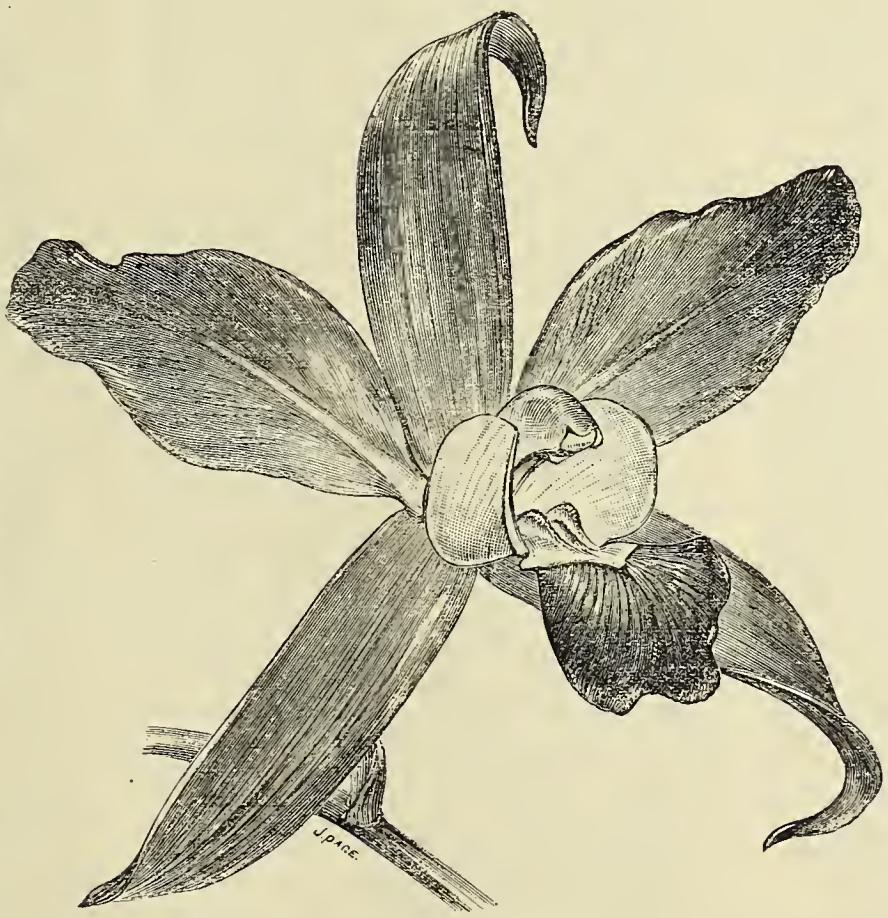
Lælia autumnalis alba.

After speaking of medicinal plants, Mr. Paul concluded his paper with the following words: I may say that it does not redound to the credit of our nation that our people should be so wilfully ignorant of the form and origin of their daily food. When one hears of the digging of Wheat like coal, and of slates growing on trees one thinks that natural history is largely at a discount instead of at a premium.

The gardens at Old Trafford were established years ago by men ahead of their time, so that they and the public might become acquainted with some of the endless forms of the vegetable kingdom. They were established as a school for plant life. Unfortunately the gardens have drifted from business to pleasure solely as a means of maintenance. Still, taking the whole of the present collection of plants, native and exotic, there is not another of greater variety nearer than the Royal gardens at Kew. Many of the plants mentioned in this paper will be found there, or representatives of their natural order, as it impossible in a limited space to keep everything. When we consider the deadly atmosphere which surrounds us the wonder is that so many plants live. With your permission I will quote a few words uttered by the Bishop of Missouri, America, at the opening of a botanic gardens in the city. He said: "Looking out upon the world and its three great kingdoms into which from childhood we have been accustomed to divide things, namely, mineral, vegetable, and animal, only a little thought is necessary to discover the paramount importance of the vegetable kingdom. Wood for fuel, timber for houses and furniture, grain, roots, and fruits for food, and flax and cotton for clothing show at a glance how this kingdom pays superabundant tribute for the comfort and support of man. Considering that the stored-up coal of the earth, which we call a mineral, is of vegetable origin, that Grass and Mulberry leaves nourish the sheep, goat, and silkworm, whose products we take for clothing, that Grass and Corn sustain the herbivorous animals, and that a large portion of the curative substances in the materia medica is gathered from herbs and trees, we shall conclude it is the vegetable kingdom which, by God's appointment, furnishes well nigh everything required for the life and happiness of man." The paper was practically illustrated by specimens of plants laid on the table.

LÆLIA AUTUMNALIS ALBA.

The varieties of Lælia autumnalis are not so numerous as those of L. anceps, but those of them of any distinctness which have appeared have been very much appreciated. The very dark coloured varieties and the pure white one, when obtained true, are the most distinct and valuable for horticultural purposes. Our illustrations accompanying this show the type, and also the white variety under notice, by way of contrast. October and November are the usual months in which L. autumnalis comes into bloom, during which time its appearance is very familiar in every collection of Orchids of any importance. The sepals are oblong, the petals lanceolate, somewhat broader, and of a bright rose purple; the spreading segments with revolute tips are characteristic features of this species. The lip is pale or almost white at the base, while the upper portion of the side lobes are darker, and the middle lobe rose-purple of varying intensity in different individuals. The white variety, L. autumnalis alba, is pure white with exception of a pale yellow blotch in front of the ridges of the disc, and a yellow spot about the base of the column. In Mexico, the native country of the species, the plants are found (often in large masses) growing on exposed rocks and the stumps of trees, with full exposure to sunshine. Cultivators should therefore take a hint from that fact, and give the plants the full advantage of light. The specimens from which our illustrations were taken, were obtained from Messrs. B. S. Williams & Son last autumn.



Lælia autumnalis.

THE BUSSA PALM.

The Palm of this name is also known as the Troolia Palm, and by botanists as Manicaria saccifera. It is a native of the tidal swamps of the Lower Amazon River, in Guiana, and must therefore receive plenty of water all the year round. It is grown with great success in the Victoria house at Kew, where it is stood upon an inverted pot in the tank, with its roots dipping into the water. The leaves are greatly elongated, and irregularly cut or pinnate in the young state, at least with the ends of the pinnæ or segments truncate, that is, cut short, and ending in coarse teeth. The leaves of the old plants are undivided, except the teeth along the edges.

FLORICULTURE.

Pansies, Violas, etc.

I NOTICED under the above heading in your last week's issue some very seasonable hints to growers of these popular flowers, but there is one point which I cannot understand, and that is, how the east wind so injuriously affects the Pansy in the south. In the central districts of Scotland we have no such experience, at least worth speaking of. A frosty wind either from the north-west or north-east will slightly hurt soft, newly-planted-out plants, but if really sound they very soon recover when a favourable change of weather sets in. If the weather is mild and showery Pansy plants will often look quite fresh and healthy, even although the stems are rotten or cut under the surface by slugs or wireworms, but these go quickly down before a cold, drying wind. I think to some such cause must be attributed the dying off of plants in the south during the prevalent east winds of spring. So far as my experience in Pansy growing in this quarter has gone, I have found that a thoroughly sound, strong, vigorous plant will not succumb to any kind of weather if properly planted.

When many of the Pansy plants have damped off in the frames, it is a good plan to disturb the soil as little as possible when lifting the others to plant out, and to water it well with tepid water. It is often surprising how many will spring up with this treatment if the position is favourable and the sun gets well on the glass, and these, too, are generally the best for producing good blooms in autumn. —*Veritas.*

SOME VEGETABLE WONDERS.

WE take the following extracts from a paper read by Mr. C. B. Green at a recent meeting of the Ealing Gardeners' Mutual Improvement Association :—

As trees have ever been a subject replete with interest to the lover of Nature, and as some approximation to the truth, as regards their age, can be ascertained by reference to the rings annually deposited, the consideration of these may not be unworthy of the premier place. Perhaps the most ancient of all arboreal vegetation, then, are the celebrated dragon trees, which have made the island of Teneriffe famous. There is one—or was—at Orotava, considered by Humboldt, a faithful recorder of the phenomena of Nature, to be not less than 1,000 years old. It is stated to have been as large and as hollow in 1402 as it was found by Humboldt in the last century. In 1819 a storm deprived this aged monster of part of its crown, and in 1867 the work of destruction was completed by a gale of wind. Paintings of this "ancient mariner" may be seen at Kew, in the Marianne North Gallery, which will well repay inspection. Of the products of South Africa it would seem as if the Baobab tree was the most remarkable, for Dr. Livingstone describes it as "a great baby-looking bulb," which reaches an enormous size and an astonishing age. I trust the term "baby" will have its due effect upon you ; to me it implies the opposite of large, in fact, my mind immediately reverts to something liliputian. However, it is recorded that nothing will kill it, therefore it cannot be placed in the category of "delicate." The natives bark the tree every year as far as they can reach—a process which would be destructive to most trees—for the sake of its fibres ; from which they make a strong cord. This tree refuses to be injured either by fire or adze ; and Dr. Livingstone says the trunk is sometimes hollow, and that he himself spent a night in one which was big enough to hold twenty men.

A treatise on the wonders of vegetation would hardly be complete without allusion to the giant trees of California, called Sequoias or Wellingtonias. These remarkable specimens of arboreal vegetation have been, and are, the admiration of the civilised world. To the native Indian, perhaps, a sight of these produces mingled feelings of awe and respect ; certain it is that, be he native or foreigner, a visit to the Yosemite Valley for the first time must have its due effect upon him.

"A tree is not a tree alone ; a thousand thoughts invest it."

The contemplation of this vast grove must necessarily induce feeling akin to wonder ; and in the solitude what thoughts will not be suggested to us ?

"Our life, exempt from public haunt,
Finds tongues in trees."

This grove contains nearly one hundred big specimens of Sequoia gigantea, growing out of the thick forest.

The "father" is prostrate, measures 435 feet in length, and 110 feet in circumference. He must have been much longer when upright. His interior in places is tunnelled out to a height of 10 feet. The mother has also seen better days ; she stands 327 feet high, and measures 90 feet round her slender waist. Her arms have disappeared, and her epidermis also suffered severely from the ravages of age and fire.

On the subject of trees one could dilate for hours, but the progression of time forbids it ; so the Oaks and other giants of our own country, to the wonderful Olives of Palestine, the Cedars of Lebanon, or the Tree-ferns of New Zealand, must give place to other forms of vegetable matter.

I cannot resist, however, a quotation from Baron Munchausen, which I promise you shall be the last ; and although I am aware that

"An honest tale speeds best,"

yet I am inclined to believe that a little spice occasionally will not materially interfere with the process of digestion. I therefore make no comment on the following, but implore you to award the praise or blame to the great Baron himself, from whom I cull the story :—

It is written that the Baron "in voyaging from Amsterdam to Ceylon relates, that the only circumstance which happened worth recording, was the wonderful effects of a storm, which had torn up by the roots a great number of trees of enormous bulk and height in an island where we lay at anchor to take in wood and water. Some of these trees weighed many tons, yet they were carried by the wind so exceedingly high that they appeared like the feathers of small birds floating in the air, for they were at least five miles from the earth. However, as soon as the storm subsided they all fell perpendicularly into their respective places and took root again—except the largest, which happened, when it was blown into the air, to have a man and his wife, a very honest old couple, upon its branches gathering Cucumbers (in this part of the globe that useful vegetable grows upon trees) ; the weight of this couple, as the tree descended overbalanced the trunk and brought it down in a horizontal position ; it fell upon the chief man of the island and killed him on the spot ; of course the honest old couple were amply rewarded, for they were chosen by the people for their governors, as a mark of gratitude for destroying, though accidentally, their late tyrant."

I would elicit your attention towards a more wonderful example of the prodigality of nature, viz. Rafflesia Arnoldi. This remarkable plant was discovered in the island of Sumatra in the year 1818, by Dr. Arnold and Sir Stamford Raffles ; hence its name. The news of this extraordinary "find" created at the time a large amount of curiosity in Europe, and no papers ever read before the Linnæan Society can be compared, for the interest they excited, with those in which the illustrious Robert Brown described this wonder of the vegetable world. Its most striking feature, perhaps, is its enormous size ; indeed, it is the largest and most magnificent flower in the world. The five petals of which it is composed are each a foot across, and of a brick-red colour, with numerous irregular yellowish-white swellings. The cup, or fleshy disc from which these radiate, is also nearly a foot across, and this receptacle when cleared of its fleshy contents, is said to be capable of containing twelve pints of water ! A flower of such dimensions is quite out of question for a button-hole ; and, moreover, the "delicate aroma" arising from the fully-expanded blossom is not of roses or violets, but rather resembles the odour of tainted beef ! When I say that its weight is about fifteen pounds, and the whole character of the blossom gross and fleshy, you will doubtless agree with me that it is hardly a suitable subject for the drawing-room table. I refrain from further description, but recommend everyone who takes the slightest interest in this abnormity to visit No. 1 Museum, in Kew Gardens, where an exact model in wax has been prepared.

SELAGINELLAS.

INDEPENDENT of varieties which have been found in a wild state as well as those that have originated in gardens, about 313 species are known to science. Of course only a relatively small number of these are cultivated, and a still smaller number are in general cultivation. It is surprising, however, that so many of the varieties of popular species should find favour with gardeners and cultivators generally ; but it is a penalty we have to pay whenever any garden plant becomes popular. Whenever anything distinct appears in a plant that is already well known, horticulturists rush it to the front and receive a ready response from cultivators.

Like Ferns, the bulk of the Selaginellas are notable for their grace and elegance, or for their utility in clothing rockeries in hothouses in the case of creeping species, as well as for furnishing pots and pans for general decorative purposes. The greater number of species require a stove temperature, but the more popular species, including some of the most ornamental, can be grown to perfection in a greenhouse or conservatory, except that after repotting or making up fresh pans of cuttings, a higher temperature with a closer and moister atmosphere are desirable for a time. They prefer shade to full exposure, retaining their particular hue of colour under the former condition, but assume a yellowish-green hue when subjected to sunshine and a dry atmosphere. The compost for Selaginellas should be light and open, using plenty of charcoal or broken potsherds with that object in view. Plenty of moisture should be given during the growing season, keeping the plants rather drier in winter to prevent damping of the dwarf, close-growing and thin-leaved species such as S. apus and S. Kraussiana.

S. MARTENSII.—With exception of S. Kraussiana, this is the commonest species in gardens, and is therefore to be reckoned one of the most useful for ordinary purposes. The stems of the typical form are trailing in the lower part, and throw out long forking roots which ultimately fix themselves in the soil. The branches are given off in a pinnate or even a fan-shaped manner, and in healthy, well grown plants produce a very effective appearance. The varieties of this in cultivation are numerous and varied. One of the most distinct is S. M. divaricata, which has fewer and more distantly arranged branches, and smaller leaves with longer intervals between them. It is often grown in pots or pans, but would be more suitable for planting out on a rockery, or a similar place where it could be allowed to spread over the ground. The variety S. M. robusta is one of the most serviceable for pot work on account of its compact, erect habit, and sturdy appearance. The variegated form S. M. variegata has the branches and leaves variously splashed with creamy-white, and when the variegation is well mixed the appearance is pleasing. It is evidently a variegated form of S. M. robusta judging from its habit.

S. KRAUSSIANA.—Scarcely a garden is without a greater or less quantity of this species, which is best known under the name of Lycopodium denticulatum, a name that can hardly be obliterated from the gardeners' notebook. It is a native of various parts of the world in widely remote localities, so that we cannot be surprised at its being amenable to culture under a variety of conditions, both in the stove and greenhouse. In some localities, even in the far north, it has been grown for a number of years in succession in sheltered parts of an outdoor fernery under the shade of hardy ferns. The uses indoors to which it may be put are so numerous that they need not be enumerated. The variety S. K. Brownii bears the same relation to the type as S. Martensii robusta does to that species. It is remarkably dwarf in habit, compact, and suitable for culture in pots or pans. There are two variegated varieties, one with silvery branches and leaves, and another with the tips of the shoots of a golden hue, more especially in the young state, when it is highly ornamental.

S. BRAUNII.—For greenhouse culture generally there are few more serviceable species than this. It is known under various names such as S. pubescens and Lycopodium Willdenovii, the latter being altogether erroneous even if we modify the name to Selaginella Willdenovii, because there is already a species of that name and an altogther different plant. The stems rarely exceed a foot or 15 in. in height, and are generally of the former height, although high cul-

tivation may raise them to 18 in. The lateral shoots give off minor branches in a somewhat fan-shaped manner. The leaves are of a rich dark green, almost glaucous hue, when the plant is grown under suitable conditions, that is in a moderately high temperature with sufficient atmospheric moisture. It is one of the few species that may be grown well in a vinery, greenhouse or conservatory in shady positions. It is a native of Western China, and has for many years been pretty extensively cultivated in British gardens. —*Selaginella.*

(To be continued.)

CHICAGO EXHIBITION, 1893.

THE Royal Commission for this exhibition have issued the full text of the classification for the department which includes Viticulture, Horticulture and Floriculture, and we may remind intending exhibitors that February 29 is the last day for receiving entries, which should be sent to Sir Henry Trueman Wood, John Street, Adelphi, W.C. The charge for space varies from 2s. 6d. to 5s. per square foot, but the minimum charge will be £5.

There are fourteen classes in the section devoted to Viticulture, four for Horticulture, twelve for Floriculture, three for Arboriculture, five for Pomology, nine for Preserved Fruits and Vegetables, and six for Appliances and Methods of Horticulture, &c. The classes in the sections in which our readers will probably be the most interested are arranged as follows:—

HORTICULTURE.—Garden vegetables and their cultivation.—Market and truck gardening.—Esculent vegetables.—Garden tools and other accessories of gardening.

FLORICULTURE.—Hardy perennials, flowering shrubs, etc., other than Roses, Rhododendrons, etc. —Roses of all varieties.—Rhododendrons, Azaleas, and wild flowers.—Orchids and Orchid houses.—Ornamental leaf plants.—Bedding plants and annual flowering plants, ornamental bulbs, etc.—Flower and seed trade: Methods of testing vitality of seeds.—Cactaceæ.—Aquatic plants and their culture. Nymphæa, etc.—Cut flowers and florists' work.—Floral designs, etc. Bouquets, preserved flowers, leaves, sea-weeds. Illustrations of plants and flowers. Materials for floral designs. Bouquet materials, bouquet holders, bouquet papers, table decorations.—Receptacles for plants. Flower pots, plant-boxes, tubs, fern-cases, jardinieres, etc. Window gardening. Plant and flower-stands, ornate designs in iron, wood, and wire.

ARBORICULTURE.—Ornamental trees and shrubs: Methods of growing, transplanting, etc.—Fruit trees and methods of rearing, grafting, transplanting, pruning, etc.; means of combating insects and other enemies.—Nurseries and the nursery trade.

POMOLOGY.—Fruits of temperate and sub-tropical regions, as Apples, Pears, Quinces, Peaches, Nectarines, Apricots, Plums, Grapes, Cherries, and Melons; cold storage, and other methods of keeping packing, and shipping.—Citrus fruits: Oranges, Lemons, etc.—Bananas, Pine-apples, and other tropical fruits, except citrus fruits.—Small fruits Berries, etc.—Casts and models of fruits.

APPLIANCES AND METHODS OF HORTICULTURE, FLORICULTURE, ARBORICULTURE, ETC.—Hot-houses, conservatories: Methods of construction, management, and operation.—Heating apparatus for hot-houses and conservatories.—Hot-beds, forcing and propagating houses and appliances.—Seats, chairs, and adjuncts of the garden and conservatory.—Ornamental wirework, trellises, fences, borders, labels for plants and trees, etc.—Garden and nursery administration and management: Horticulture, floriculture, and arboriculture as arts of design and decoration. Laying out gardens: Designs for the laying out of gardens and the improvement of private residences; designs for commercial gardens, nurseries, graperies; designs for the parterre. Treatment of water for ornamental purposes: Cascades, fountains, reservoirs, lakes. Formation and after-treatment of lawns. Garden construction, building, etc.: Rockwork, grottoes; rustic constructions and adornments for private gardens and public grounds. Planting, fertilizing, cultivating, and appliances.

FLORIST'S WIFE, 10 A.M.—"Anton, why do you want to drink beer so early in the morning, would not a glass or two of water do as well?"

"Keep quiet, old woman, water is too valuable for my plants."—*Staats Zeitung.*

ORCHID NOTES AND GLEANINGS.

A new yellow Odontoglossum.

AT Messrs. Protheroe & Morris' Rooms, on the 23rd inst., a very interesting new yellow Odontoglot came up for sale from Messrs. Charlesworth, Shuttleworth and Co. In general characters it came nearest to the type of O. excellens, but was of beautiful form, clear bright yellow, with a ray of white up the sepals, and all the parts spotted with cinnamon brown. The curious thing about it is that it did not come from the excellens district, but came with last year's importations of O. Alexandræ from the hunting grounds for that species in the regions about Bogota.

Cattleya Percivaliana.

THE flowers of this Cattleya, but more particularly the lip, are of a rich dark colour, and expanding as they do at a season of the year when other Cattleyas are conspicuous by their absence, Orchid growers, more especially those outside the smoke radius of large towns, place considerable value upon them. The sepals and petals of the ordinary form are rosy-lilac tinted with purple. The terminal lobe of the lip is crimson-purple, more or less tinted with maroon, while the interior of the tube is beautifully striped with red or purple on an orange ground. A very fine variety flowered recently in the nursery of Mr. P. McArthur, 4, Maida Vale, W., and which had a very dark lip margined with white, as sometimes occurs in other forms of C. labiata. The Cattleya under notice is the earliest to flower, the last blooms of it generally being overtaken with the earliest flowers of C. Trianæ.

Cypripedium venustum pardinum.

THERE is an Indian species named C. pardinum and with which that under notice is liable to be confused, in the names at least, unless the specific name of the plant under notice is kept in view. The variety is a rare one and much superior to the type in several respects. The plant itself is of a dwarf, compact habit with short leaves, in fact the flowers are wider across the petals than the leaves are long, and are also larger than those of the type. The upper sepal is of a purer white, with broader and deeper green veins. The petals are purple in the upper portion, and furnished with larger and more scattered purplish-black warts or spots, hence the name pardinum. The lip has lost much of the green and brown shading characteristic of the type, and appears more yellow. The fine variety recently flowered with Mr. P. McArthur, 4, Maida Vale, London, W.

Odontoglossum Pescatorei.

THE flowers of this popular species are generally smaller than those of the equally useful O. crispum, but they are more abundantly produced on a branching scape. A very fine form has been flowering for some time past in the London Nursery, 4, Maida Vale. The flowers have broad petals and are pure white, with exception of the lip which is beautifully spotted with violet. The scape originally carried thirty flowers, but some of them have since been cut, and it now bears twenty which are very effective.

Dendrobium Wardianum.

CULTIVATORS are now managing this species more successfully, and plants are not lost in the wholesale fashion they used to be. Formerly it was recommended that the plant should be grown on a block or in a basket, and it may certainly be grown in the latter or even in pots in the same way as D. nobile. It is grown the latter way by Messrs. J. Laing & Sons, Forest Hill, who succeed admirably with it. The stems vary from 2 ft. to 5 ft. in length, and are abundantly set with buds which are now swelling fast. Stems of such vigour could never be grown upon a block without a great deal of trouble or labour in the way of watering and feeding; when so grown it generally means a starvation process as we see in various other species usually reckoned difficult to deal with but which prove of free and easy growth under different conditions.

Cypripedium callosum.

THE flowers of this species somewhat resemble those of C. Lawrenceanum, and are chiefly notable for the great size of the upper sepal, which is broadly cordate, white and beautifully marked with alternately longer and shorter veins, which are green towards the base, and purple upwards. The organ varies from 2½ in. to 3 in. broad, and constitutes the most conspicuous part of the flower. The slightly deflexed petals are soft rose-purple in the upper portion, with a few blackish warts near the upper edge. Twin flowers are frequently produced by well-grown plants, and we noted it in this condition in the nursery of Messrs. J. Laing & Sons, Forest Hill. The vigour of the species also enables it to withstand the London fogs much better than many of the less robust kinds. Its native country is Siam, or Cochin China, from whence it was introduced as recently as 1885.

Trichocentrum triquetrum.

THE habit of this Orchid resembles very much that of an Iris about six inches high. The leaves are erect, deep green, and arranged in the same way as those of an Iris, for a dwarf species of which it might be mistaken when not in bloom. The flowers are produced singly from the axils of the leaves, and hang downwards on short peduncles much in the same way as those of some species of Masdevallia. They are of a pale yellow, blotched with orange markings all over the lip. The spur at the base of the lip is somewhat over an inch in length. As a new species it is very interesting, and somewhat more showy than those hitherto known. In the matter of cultural treatment it likes plenty of light and heat, and, in the growing season, plenty of water. Small pots or pans plunged in a basket amongst sphagnum, and hung up near the glass in the warm house, will prove the most suitable for it. Messrs. Charlesworth, Shuttleworth & Co., Heaton, Bradford, and of Clapham, introduced it from Peru, and flowered it in May last. Messrs. Linden, of Brussels, also flowered it soon after. There is a fine coloured illustration of it in *Lindenia, pl.* 311.

Odontoglossum ramosissimum.

AMONGST the taller growing and free branching Odontoglossums, that under notice is worthy of a place to give variety to the dwarfer and few flowered species. Those who can appreciate the beauty of variety cannot fail to see the value of O. ramosissimum. It requires rather more space than O. crispum, seeing that the leaves are linear-strap-shaped, and 2 ft. to 3 ft. long, and the pseudo-bulbs are also large. The panicle is 3 ft. long, and much branched, with a profusion of medium sized but pretty flowers, and attractive in the aggregate. The sepals are lanceolate, wavy, and white, with a few violet blotches on the claw; while the petals are similar, except that they are blotched with violet-purple all over the lower half. The lip is triangular at the base with a long point, and the broad base is violet, with a white crest, consisting of nine lobes. The column is also tinted with violet. The above are the characters as taken from a plant in the nursery of Messrs. Charlesworth, Shuttleworth & Co., 213, Park Road, Clapham, but individuals or varieties show some range of variation in the amount of spotting. The species is a native of Venezuela, and very showy, although by no means common.

Cypripedium barbatum Warneri.

THE beauty of this variety lies in its dwarf habit and the rich colouring of the upper sepal. The flower scape is about 8 in. or 10 in. high, and the compact foliage does not differ from that of the type. The dorsal sepal is white on the upper third of its length, with a broad Λ-shaped band across the middle; the basal portion is pale with numerous bright green lines. The slightly declining petals are rosy-purple on the lower longitudinal half, and at the apex with a few black warts on the upper edge. The lip is moderate in size, and dull purple. There is no regular time for the flowering of this fine variety, and if a few plants of it are kept, its attractive flowers may be had at almost any season. It is in bloom now in the nursery of Messrs. Charlesworth, Shuttleworth & Co., 213, Park Road, Clapham.

WHAT TO DO IN THE GARDEN.

Thrip and Red Spider in the Stove.—Great watchfulness must be kept over the occupants of the stove till the weather gets warmer, the days longer, and more moisture is maintained in the atmosphere of the house. The hard firing that has been necessitated to keep up the temperature during frosty nights and cold winds, often encourages the spread of thrip and red spider to an alarming extent before they are noticed. Fumigation if carefully carried out will destroy thrips; and in case any plants are in flower, and the blooms likely to be injured with strong smoke, a light fumigation may be given on two successive nights. Red spider may be destroyed by

painting the hot water pipes lightly with sulphur, or with less danger by plunging a bag of soot in the tank and occasionally syringing the plants with water taken therefrom.

Maidenhair Ferns.—Those kinds which are kept in stove temperature will naturally start into growth earlier than those kept in a greenhouse. The annual repotting of those which require it will therefore have to be seen to before growth has taken place to any extent. Those kinds which are grown for the sake of cut fronds should also be divided at this time, as the pieces make better growth than if the whole piece was simply repotted and grown on again.

Davallias.—Plants of this class that require potting should be seen to before they start into growth. If it is desired to increase the stock, the rhizomes may be cut into pieces, preserving some roots if possible to each. In some cases it will be necessary to use pegs to fix the rhizomes on the soil, to prevent them rolling about, until young roots are produced.

Dahlias.—Scarce or new varieties of which it is desired to increase the stock should be put into heat at once, to start them into growth in order to furnish cuttings. Some roots may also be damping badly and in danger of becoming lost. They may be saved in some instances by placing them in heat, and taking cuttings as soon as they have made about two joints. Such decaying tubers if left till the usual starting time often get lost beyond recovery, and it is therefore advisable to start them early to save the variety.

Pansies in Pots.—Those who grow Pansies for flowering in pots will do well to repot them when they commence to make growth. The cold weather for some time past has been against them, but with the advent of a milder temperature they will soon commence to grow. The long side shoots should be pegged down so as to cover the soil and pots. A cold frame is the best place for them, where they may receive plenty of air and be kept near the glass.

Vines.—Where the early vines are now in flower the atmosphere of the house should be kept drier for a time until the young fruits are set. The evaporating pans may be allowed to get dry, and in the middle of the day, when the atmosphere of the house and the pollen is quite dry, tap the rods in order to insure the distribution of the pollen and the setting of the fruit. On cold, windy, or frosty nights, the temperature of the house may be allowed to drop below the standard or maximum for the night, and raised early in the day, more especially when the light is good.

Transplanting and Root Pruning of Fruit Trees.—This operation should have been completed in the autumn, but where through stress of other work, or the unsuitability of the weather and state of the ground, it has been neglected, no opportunity should be lost in getting arrears of that kind accomplished. In the case of young trees that are producing too much wood the mere lifting and transplanting of them will be quite sufficient. Any roots that dip perpendicularly into the soil should be cut away with a sharp knife, and those that dip diagonally and deeply into the ground should be lifted up near the surface. Old trees should not be wholly root pruned in one year, but only half, and the rest in the following autumn.

Rockeries.—It is yet too early to do fresh planting to any extent, but where the formation of new rockeries or the extension of old ones is contemplated the rough work can very conveniently be carried on now. The soil should be got into position so that it may have time to settle before spring, and the rough stonework, even to the formation of pockets for the reception of the plants, may be got ready before the planting time comes round. Compost for the various subjects to be planted should be got ready and kept in an open shed to prevent it getting too wet.

SOCIETIES.

Manchester Botanical and Horticultural.—In the sixty-fourth annual report of the council of this society presented to the subscribers at the annual meeting on Wednesday, it is stated that as an illustration of the disastrous effects of the weather of 1891 upon the financial position of the society, the receipts at the Whitsuntide exhibition were less than that received in 1890 by £420—and the receipts at the gates on the musical days were less than the preceding year by £500. Another adverse influence —the epidemic of influenza—which was so painfully prevalent during the spring of the past year prevented a large number of subscribers from paying their subscriptions; consequently the council regret to have to report a decrease from this source of revenue to the extent of over £500. The council need hardly say that these unfavourable results have been and still are a source of anxiety, and they have to say (what has been said before) that it remains with the people of this city and the surrounding districts to determine whether they desire to perpetuate the musical features connected with the gardens. The council are most anxious to give the greatest amount of instruction and pleasure to the greatest number, and they trust that the public of Manchester and the surrounding districts will supply the means to bring about this result.

The horticultural exhibitions held during the past year have been highly satisfactory. The display of hardy and other fruits held in October last showed clearly enough that Apples and Pears can be grown successfully in this country. The proceedings of the conference (over which the president of the society, the Earl of Derby, presided on the first day, and Alderman Sir James Whitehead on the second) have been published and distributed freely amongst farmers, cottagers, and others. The council have much pleasure in acknowledging their indebtedness to the aboved-named gentlemen, and also to the authors of the papers whose names appear in the proceedings. In no way can the objects of the society be more efficiently accomplished than in becoming, as it were, a centre towards which horticultural knowledge shall tend, and from which it may again be disseminated to fructify in a wider circle. The information set forth in the proceedings is contributed by practical men and therefore quite reliable. Another feature in the society's assistance to science is that of materials for botanical study, which is year by year becoming more sought after and enjoyed by an ever-increasing numbers of students and teachers. A considerable number of students from the School of Art have been at work in the gardens daily during the summer months, and the large number of applications for information and specimens from those interested in medical, commercial and economic pursuits, and manufacturers also, proves the value and extensive use of the society's gardens and collections to the people in general. The council have pleasure in stating that a closer connection has been formed between the botanical teaching at Owens College and the gardens.

Referring to the provisional arrangements for the year, it will be seen that a new departure is recommended in connection with the Whitsuntide exhibition. It it suggested that this exhibition shall consist of four specialities, namely, Roses, Rhododendrons, Fruits, and Orchids; these will be brought together in larger numbers than formerly, and in connection with the latter class of plants a conference will be held and the proceedings published, thus giving information about a class of plants in which great public interest is taken. The council earnestly appeal to all who are interested in this attractive subject to assist them in carrying out this undertaking.

The following are the provisional arrangements for 1892 :—Spring flower show at the Town Hall, March 15 and 16; spring flower show, at the Town Hall, April 26; special exhibition of Roses, Rhododendrons, Fruits and Orchids will open at the Gardens, June 3; Orchid conference at Gardens, June 4; Rose show, at Gardens, July 16. In addition a Chrysanthemum show will be held; also the exhibitions of the National Auricula, Tulip, Carnation, and Pink Societies; the time and place will in each case be duly announced. Musical days, Wednesdays and Saturdays during the months of June, July, August, and part of September.

Devon and Exeter Gardeners' Association.—The usual fortnightly meeting of this association took place on Wednesday of last week there being a numerous attendance of gardeners. The essayist for the evening was Mr. Alfred George, who was for many years head gardener at Lady Rolle's beautiful place, Bicton, so famous for its avenue of Araucaria imbricata, and its equally well known arboretum. Mr. George took for his subject "The Cultivation of the Peach and the Nectarine, with hints on Pruning." "It was difficult," Mr. George said, "to deal with the subject in a short paper, and therefore three illustrations had been prepared. The first represented a tree as generally seen and pruned, and also a young tree from the nursery properly trained to start with. Some people, anxious to see the young tree at the top of the wall or trellis, merely shortened the nursery shoots, which consequently broke near the tops of the branches. The second illustration also showed a young tree from the nursery, but with the nursery shoots cut back much shorter, the breaking, as a consequence, taking place near the base. In training some young growth should always be kept at the base of the tree. Disbudding should generally be accomplished with the finger and thumb, though occasionally a knife is required, the operation being commenced from the tops of the branches. The disbudding should not be done all at once, but in three or four operations at intervals of about five or six days. The leaves on the leading shoots should be carefully preserved, as otherwise the fruit would not attain maturity. With respect to summer training, the young shoots should be given as much sun as possible. The third illustration showed how a tree should look after the spring pruning and training. It was a good thing to untie or un-nail all branches before or after Christmas and pull the whole tree away from the wall or trellis, keeping them in that position by means of stakes till the flower buds were nearly ready to burst open, when the branches should be restored to their proper place, shortening all the bearing wood back to a leaf bud. When putting the branches back the flower buds at the back of the shoots should be carefully rubbed off with the finger. When the tree is in flower a few soft feathers tied to a stick drawn gently up (not down) the branches on a sunny day, assisted the bursting of the anthers. If the tree was supported by a trellis, a sharp rap of the fist on the branches was of advantage in distributing the pollen. Regarding root forming, when a young tree was making too strong growth, a circular trench from fifteen to eighteen inches deep should be dug about eighteen inches from the stem, the effect of this being to check the growth and cause the wood to ripen better, as well as inducing small fibrous roots close to the stem. Trees in good condition needed plenty of water. A spade should never be used near the tree. Peaches like a good mellow loam, old mortar rubbish, or burnt rubbish, such as prunings and charred soil mixed with the loam. It was an advantage to give a good watering just before the flowers were about to open."

Sevenoaks Gardeners' and Amateurs' Society.—At the last fortnightly meeting of this society, Mr. R. Edwards, gardener to Barclay Field, Esq., Beechy Lees, Otford, read an excellent paper on "The Culture of Celery." A discussion followed, which was full of interest, the greatest amount of interest being centred in the question how best to cope with the Celery maggot. The general opinion was that frequently dusting the plants with soot would help to keep the fly from depositing its eggs, and thereby mitigate the evil; but that once the plants are affected nothing short of picking off the parts so affected would be of any use. There was a competition amongst amateurs for a collection of seed Potatos. In offering prizes for such a competition, the committee were actuated by a desire to induce amateurs to take more care in preparing seed for future crops, a point which is generally lost sight of. The result of their efforts were not very satisfactory however, as it only brought out one competitor, Mr. Wolfe, who showed nine sorts in excellent condition. Votes of thanks to the chairman, Mr. W. Read, and to Mr. Edwards for his practical paper, closed a very instructive meeting. Mr. A. Hoadley, Kipping Park, will open a discussion on February 2nd, on "Pelargoniums."

Obituary.

With sincere regret we have to record the death at 1, Crescent Villas, Park Road, Clapham, on the 21st inst., of Mr. Robert John Parker, formerly of the Exotic Nursery, Tooting, aged 64. For many years Mr. Parker was perhaps the best known and most successful grower and exhibitor of hardy plants in the metropolitan district, but for some ten years past had been living quietly in retirement; and never by any chance during that period having attended any of the regular metropolitan gatherings of horticulturists, had become forgotten by all but his immediate personal acquaintances. He was, we believe,

born at Hackney, and it is assumed that his father was a gardener as all his brothers followed the gardening profession. He received his early training in one or other of the small nurseries for which Hackney was then noted, and in due time entered the classic establishment of the Loddiges, where he worked himself up into a position of trust. His next move was to the Pine Apple Nursery of Messrs. Arthur Henderson & Son, when that establishment was in the hey-day of its prosperity. Here he stayed until 1856, when in conjunction with the late Mr. B. S. Williams, of Holloway, he commenced business as a Nurseryman in the Seven Sisters Road, but the partnership lasted only some five or six years, and on its termination he established himself at Tooting, and with the assistance of his old foreman Brown, a contemporary of the late John Dominy at Exeter, and a subsequent employe in the Rollison's Nursery at Tooting, he developed a large business in hardy plants. Both Parker and Brown were not only expert cultivators of hardy plants but possessed a wide knowledge of them, and for a number of years their groups of specimens as exhibited at the South Kensington and Regent's Park Shows were very hard to beat. For some years Mr. Parker was also a member of the Floral Committee, and a regular attendant at the Royal Horticultural Society's meetings at South Kensington, when by reason of his tall, massive proportions, the peculiar clerical cut of his garments, and the little black bag from which he seemed to be inseparable, Robert Parker was a very conspicuous habitué. A few months after the death of his first wife some ten years ago he went into retirement, and thenceforth was very seldom seen by any of his former friends.

We learn with much regret of the death at Kew on the 14th inst. of the well known botanical artist Mr. W. H. Fitch, aged seventy-five. Mr. Fitch came from Glasgow to Kew with the late Sir William Hooker about fifty years ago, and for some forty years he prepared all the plates published in the *Botanical Magazine*, besides making drawings for nearly all the important botanical works which have emanated from Kew. In consideration of his valuable work as a botanical artist he was a few years ago granted a Civil List pension of £100 per annum.

QUESTIONS AND ANSWERS.

**** Correspondents are requested, in order to avoid delay, to address all communications to "The Editor" or "The Publisher," and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa London."*

Cœlogyne asperata.—*J. F. A.*: We find on microscopical examination that the interior of the leaf you sent us was infested with myriads of minute Bacteria of an oval form in groups and branching clusters. On the under side of the leaf outside were clusters apparently of the same organism in globular masses in the resting stage. We are inclined to think that the decay of the leaf accounts for the presence of the organisms in question, rather than that the latter have attacked the leaf and caused it to decay in places forming the brown and blackish-brown spots that disfigure the leaf. You say that the pseudo-bulbs are going the same way. It seems that decay had first commenced at the roots owing to the bad state of the material they were in, and that decay once commenced in that has proceeded from the base of the plant upwards. Healthy sap cannot ascend to the leaves from decaying roots and pseudo-bulbs; and it appears to us that the leaves are being starved and poisoned owing to the state of the roots and pseudo-bulbs. The plant cannot do any further good, and as a precaution we should burn it, lest the ailment might be communicated to others, though we hardly think it probable. Examine the state of the roots and the material surrounding them, to see whether our surmise about them is correct.

Names of Plants.—*G.W.G.*: 1, Lælia anceps; 2, Pteris tremula; 3, Sonchus pinnatus; 4, Selaginella caulescens, or some garden variety of it; 5, Begonia insignis; 6, Dracæna concinna.—*E.W.M.*: 1, Adiantum hispidulum; 2, Adiantum cuneatum var.; 3, Adiantum cuneatum gracillimum; 4, Pteris cretica nobilis apparently, but too small a piece to be characteristic, and it may only be a form of P. serrulata cristata; 5, Pteris serrulata; 6, Lomaria Gibba.—*W. Richards*: 1, Acacia pubescens: 2, Acorus gramineus variegatus; 3, Lomaria chilensis; 4, Aspidium sp. which we do not recognise; 5, Carex Morovii, sometimes called C. americana variegata; 6, Pteris quadriaurita argyreia.

Mustard and Cress.—*Querist*: To grow Mustard and Cress, fit to cut, from seeds in 20 minutes is absolutely impossible. The story of what your lady friend said she saw at Brighton would not do even for Munchausen.

Moss on Lawn.—*W. L.*: Rake off as much of the moss as you can, and then top dress the lawn with a good rich compost mixed with lime. Anything that will make the grass grow will help to keep the moss out, but sulphate of iron is of no use.

Melons and Tomatos.—*Omega*. For frame culture try Sutton's A 1 scarlet flesh, and High Cross Hybrid, green flesh. We could not attempt to say which is the best under all circumstances. Either the Conference, Ham Green Favourite, or Horsford's Prelude Tomatos would suit you for open air culture. The old Large Red is perhaps the freest setter, but does not give a good market sample.

Cucumber and Tomato Culture.—*Tomato*. There is no separate work on the Cucumber, but there are several on the Tomato. Mr. Iggulden's, published at 171, Fleet Street, price 1s., would perhaps suit you well.

Vegetable Culture.—*D.C.T.*: No such book has ever been published as the one you require. If you get Mr. Earley's work on "Kitchen Gardening," published by Bradbury, Agnew & Co., and apply your own common sense to the little points of detail on which definite instruction is not given, you will not go far wrong.

Communications Received.—A. D.—D. T.—H. E. M.—F. C. H.—J. F.—J. K. (next week).—G. B.—W. K.—T. D. H.—H. B.

TRADE CATALOGUES RECEIVED.

James Carter & Co., 237, 238, High Holborn, W.C.—Select List of Chrysanthemums.

J. & R. Thyne, 83, St. Vincent Street, Glasgow.—Garden Seeds, Horticultural Implements, &c.

Fotheringham & Co., Dumfries.—Vegetable and Flower Seeds.

W. P. Laird & Sinclair, Dundee.—Spring Catalogue of Garden Seeds.

William Rumsey, Joyning's Nurseries, Waltham Cross.—Select Seeds, Roses, Trees, Shrubs, &c.

H. Cannell & Sons, Swanley.—Vegetable and Flower Seeds.

T. S. Ware, Hale Farm Nurseries, Tottenham.—Flower and Vegetable Seeds, Chrysanthemums, Begonias, &c.

LONDON SEED TRADE.

January 25th, 1892.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a steady demand for White Clover. New English Red Clover, being of poor quality, does not find buyers at present high figures. Foreign Red Clovers realise rates current last week. Trefoil unchanged. Ryegrasses dearer.

COVENT GARDEN MARKET.

January 27th.

Fruit.—Average Wholesale Prices

	s. d.	s. d.		s. d.	s. d.
Apples... per ½-sieve	1 0	5 0	Grapes .....per lb.	1 9	3 6
Canadian and Nova Scotian Apples per barrel	12 0	18 0	Pine apples. —St. Michael's, each	2 6	6 0
			Cobbs... per 100 lbs.		40 0

Vegetables.—Average Retail Prices.

	s. d.	s. d.		s. d.	s. d.
ArtichokesGlobe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Beans, French, perlb.	1 0	1 6	Lettuces ...per dozen	1 6	2 0
Beet..... per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages ... per doz.	1 6	2 6	Onions.....per bunch	0 4	0 6
Carrots ... per bunch	0 6		Parsley ... per bunch	0 6	
Cauliflowers, English, per doz.	3 0	6 0	Radisbes... per dozen	1 6	
			Smallsalading, punnet	0 4	
Celery.....per bundle	2 6		Seakale ...per basket	2 0	3 0
Cucumbers .....each	0 6	0 9	Spinacb, per strike ...	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	1 0
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d
Chrysanthemums, doz	6 0	12 0	Lily of the Valley, doz. pots	12 0	24 0
— large .....per doz.	12 0	24 0	Marguerites, per doz.	6 0	12 0
Cyperus .....per doz.	4 0	12 0	Palms in variety, each	2 6	21 0
Dracæna term., doz.	24 0	36 0	—scarlet .....per doz.	4 0	6 0
Dracænaviridis, doz.	9 0	18 0	Poinsettia, ...per doz.	9 0	18 0
Epiphyllum per doz.	9 0	12 0	Primula Sinensis per doz.	4 0	6 0
Erica Hymalis, per	12 0	18 0	Roman Hyacinths, per doz.	9 0	12 0
— gracilis, per doz.	9 0	12 0	Solanums...per doz.	9 0	12 0
Evergreens, in var. doz	6 0	24 0	Tulips.....per doz.	8 0	9 0
Ferns, invar., per doz.	4 0	18 0			
Foliage Plants, doz.	12 0	60 0			
Hyacinths,...per doz.	6 0	9 0			

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Acacia or Mimosa French per bunch	1 7	1 6	Marguerites, 12 bun.	2 0	4 0
Arum Lilies, 12 blms.	7 0	8 0	Mignonette... 12 bun.	1 6	3 0
Bouvardias, per bun.	0 6	1 0	Narciss, Paper White doz. sprays	0 9	1 0
Carnations, 12 blooms	2 0	3 0	Narciss, French, doz. bunches	3 6	6 0
Chrysanthemums, doz. blooms	0 9	2 0	Pelargoniums, 12 sps.	1 0	1 6
Chrysanthemums, doz. bunches	6 0	24 0	—scarlet.....12 bchs.	9 0	12 0
Eucharis ...per doz.	6 0	8 0	Poinsettia. doz. blms.	4 0	9 0
Gardenias 12 blooms	6 0	12 0	Primula, double, bun.	0 9	1 6
Hellebore or Christmas Roses, doz. blooms	0 6	1 6	Primula single, doz. sprays	0 4	0 6
Heliotropes, 12 sprays	0 6	1 0	Roses, yellow, dozen	3 0	6 0
Hyacinths, Roman, doz. sprays	0 6	0 9	— Red..... doz. blms.	1 6	2 0
Lilac, French, per bunch	6 0	7 0	— Saffrano...per doz.	2 0	3 0
Lilium Harrisii, doz. blooms	6 0	10 0	— Tea ..... per dozen	1 0	3 0
Liliumsvar., doz blms.	1 6	3 0	Tuberoses, per doz.	1 0	1 6
Lily of the Valley, doz. bunches	9 0	18 0	Violets, Parme, French per bunch	4 6	5 0
MaidenhairFern, 12bs.	4 0	9 0	— Czar, Frencb, bch.	2 6	3 0
			— Dark, French, doz. bunches	2 6	4 0
			— English, doz. bcbs.	1 6	2 0

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4 Honeysuckles, 4 vars.	1	6	6 Foliage plants	2	6
12 Violets, named	2	0	6 Palms, named	2	6
20 Antirrhinums.....	1	6	6 Cyclamen, persicum	1	9
20 Wallflowers, mixed...	1	6	6 Ivy Geraniums	1	6
20 Aquilegias mixed vars.	1	6	3 Dracænas, 1 ft. high...	1	6
12 Mrs. Sinkin's Pink ...	1	10	3 Pelargoniums	1	6
2 Carnations	2	3	12 Chrysanthemums.....	2	0
3 choice Clematis ...	2	6	12 Fuchsias, 6 vars.	2	0

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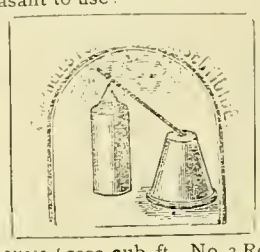

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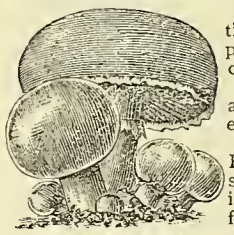

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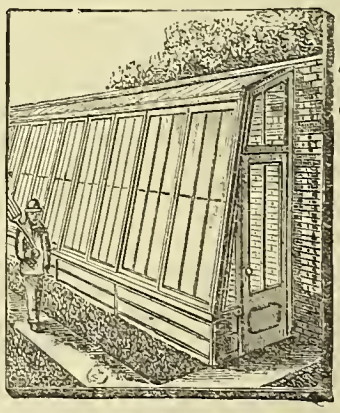

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Splendid new Pea for main crop or late use. Per pkt., 2s. 6d.

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From Mr. H. Clifford, Linton, Ross.—"I think it my duty to send you a testimonial as to the quality of your seeds. I have been a market grower of peas for 20 years, but I have never had one equal to your 'MARKET CROP' for productiveness and quality."

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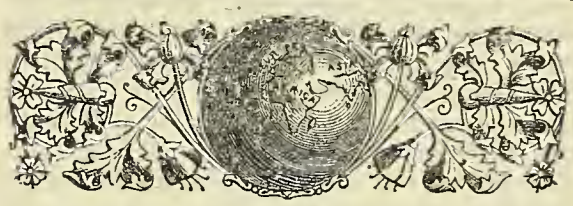

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, February 8.—Sale of Hardy Plants, &c., at Protheroe & Morris' Rooms.

TUESDAY, February 9.—Royal Horticultural Society: Meeting of Committees at 12 o'clock. Annual General Meeting at 3 p.m.

WEDNESDAY, February 10.—Sale of Greenhouse Plants, &c., at Protheroe & Morris' Rooms.

THURSDAY, February 11.—Sale of Lily Bulbs, &c., at Protheroe & Morris' Rooms.

FRIDAY, February 12.—Sale of Orchids at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, FEBRUARY 6th, 1892.

ANOTHER INTERNATIONAL HORTICULTURAL EXHIBITION.—By a circular to hand we note that what is promised to be a big Horticultural Exhibition, and no mistake, will be held in London during the present year. The extensive site formerly employed for various large exhibitions at Earl's Court it is proposed to utilise in a way which, if carried out as mentioned in the circular, will indeed be the biggest thing of its kind Great Britain has yet seen. Happily the Chicago Exhibition, upon which we last week commented, falls next year, so that there will be no clashing of objects. Who are the actual promoters of

the London Exhibition we have yet to learn; we have also to learn whether they have secured the sanction and support of the Royal Horticultural Society, for that body through its council made fuss enough over the proposed City International Fruit Show of next autumn, and after all accepted the inevitable with as good grace as possible.

So far as is known Mr. H. A. Milner, son of the well-known landscape gardener, is the Chairman of the Executive Committee, and signs the prospectus, which oddly enough asks for no pecuniary help, a fact so strangely unlike British conduct that we are indeed surprised. The Exhibition is to be on a large as well as an ambitious scale. To realise all that is promised should, in the ordinary course of things, take several years to prepare with the aid of nature, but artificially almost everything now can be created as if by magic. We shall watch this proposed Exhibition with considerable and friendly interest, yet shall be pleased to learn more about it at the earliest possible moment.

In a purely Horticultural aspect it bids fair to be a gigantic undertaking. If attempted we should be sorry to see it falling short of anticipations or promises. Our readers will be interested to learn that so far as the City International Fruit Show is concerned, if proceedings are moving slowly they are at least progressing favourably.

THE ROYAL HORTICULTURAL SOCIETY.—On Tuesday next the Council and Fellows of this Society will assemble in general meeting for the purpose of transacting the usual formal business. The Council have issued the customary report, which is neither heroic or unsatisfactory, whilst it offers few subjects for contentious discussion. Possibly the chief item of interest will be found in the proposed Horticultural School to be created in conjunction with Chiswick Gardens. Of course the matter is at present in the proposition stage only, but the Fellows have a right to learn from the Council some particulars of the proposed arrangements, such as how far the interests of the Society will be safeguarded on the one hand, and on the other how it is expected that the gardens as at present existing can be made a fit practice ground for a Horticultural School.

We have nothing to say against the proposed School of Horticulture, if the scheme can be made workable and successful; but with a lively recollection of the complete failure of the last scheme of the kind tried at Chiswick, we venture to warn the promoters that they are undertaking a very serious responsibility, and that, in the true interests of the Society, their full proposals when published will be rigorously examined by the light of past experience. In all sincerity we wish the Society well, and shall rejoice exceedingly if the proposed scheme can be made to further the interests of Horticulture, and add to the reputation of the Society.

We are glad to see that the subject of the proposed Horticultural Hall has been finally dropped, and the guarantors released from their liabilities. As we ventured to point out at the outset, it was one of those things that could not be realised under the conditions upon which the scheme was put forth, and aspirations in its favour were vain. As to the proposed new members of the Council, we shall welcome the election of Mr. Owen Thomas as a representative Gardener. There is plenty of "grit" in him, but he will want it all if he is determined to stand up for his order, and not submit to be treated as a cypher.

TECHNICAL EDUCATION IN HORTICULTURE.—We are constrained to draw attention to this subject thus early again, because of the obvious dead set made against it in a certain quarter, with the evident object of discrediting whatsoever is being done in assisting to promote instruction in Horticulture by County Councils and their agents. To say that there is to be found much of evident jealousy with reference to Horticultural instruction as being now conducted, is to put the matter very mildly, as it is also to say that there seems to be not less an abundance of perverse stupidity exhibited.

When it is found that County Councils have been able to find excellent lecturers and expositors of gardening science and practice without going to a particular place or authority for them, then is there gnashing of teeth, and a determined yet anonymous effort put forth to discredit what is being done, and to check praiseworthy exertions. It is so easy for those who understand these moves to read between the lines. Then we see on the part of those who profess to be indifferent observers, yet again anonymous, such utter incapacity to understand what it is the County Councils are aiming at. These bodies never did propose, as it never was their duty, to undertake the education of gardeners. What they really desire is to infuse a love for gardening generally amongst the rural populations, and to give with it some grounding in technical Horticulture. To assume that the working classes cannot be taught anything useful about gardening through lectures is manifestly absurd, because to admit the suggestion would be a condemnation of every lecture, essay, book, and gardening publication of every description as instructors in Horticulture.

The lecturers do not profess to instruct young gardeners, although there are few of them so clever that they may not learn something by attending the lectures. The audiences of ordinary working men do appreciate the lectures greatly, and such being the case, it does seem churlish to do anything which will deprive them of any advantages they can gain from them.

THE WINTER.—Here have we got into February, and yet on the whole have had exceedingly little to complain of in the matter of weather. Since the foggy frosts prior to Christmas last disappeared, the weather has been very pleasant generally and not at all unseasonable; what frost we have had in January has been rather wholesome and acceptable than otherwise, but it was not of long duration, and the latter part of the month was so comparatively open and mild that we fear some anxious gardeners may have been induced to sow or plant unduly early in the belief that winter was past and spring was at hand.

Whatsoever may be the nature of the weather of the coming few weeks, be it indeed ever so open and mild, yet the soil is needing greater warmth and light. These very important essentials will be found only after the sun has begun to exercise greater power, so that after all there is more wisdom in patient waiting than there is in undue haste. The soil just now is not at all in bad condition for the reception of seeds, if properly prepared. After all how much hinges upon that condition. Rather than being in too much haste to crop it would be far wiser to have all the ground to be cropped well prepared for that purpose, because not only is a good seed-bed in all cases one of the surest aids to the production of a good plant, but the work of cropping is at a busy moment much more rapidly facilitated.

We especially advise caution in sowing seeds this spring, for last season was a very bad one for the production of sound seeds; and it will be well to allow the soil to become as warm as possible before general cropping takes place. Although all transplanting of deciduous trees and shrubs is best done before Christmas, still it is not an unfavourable time now to perform what has been left undone.

Fruit-growing in the West.—We learn from the Western Mercury that a company has been formed at Torquay, to be known as the South Devon Fruit Farm Company, who have taken sixteen acres of ground at Cockington, where about 9,000 fruit trees and bushes are being planted for supplying the town with fruit. In addition to this, about 30,000 feet of glass are to be erected for the production of delicate Fruits, Tomatos, Cucumbers, Mushrooms, etc.

Damaging an Osier Bed.—Mr. C. A. Ellmore, a Leicester basket manufacturer, last week sued a butcher of the same town in the local county court for damages to a valuable osier bed alleged to have been caused by defendant's cattle. After a cosiderable amount of evidence had been given on both sides judgment was given in favour of the plaintiff for £19 10s.

Death of Mr. William Groves.—We regret very much to record the death at Stanhope Lodge, Hyde Park, on Saturday last, of Mr. William Groves, aged 54. Though for many years associated with the management of Hyde Park in the position of clerk to the superintendent, he was not widely known in the horticultural world, but had many friends in private life by whom he was very greatly respected. The cause of death was bronchitis following upon an attack of influenza.

The Garden Oracle and Floricultural Year Book, so long edited by the late Mr. Shirley Hibberd, has been considerably enlarged and improved at the hands of his successor, Mr. George Gordon, and will be found a very useful horticultural annual by all who require a ready work of reference. It is published at the "Gardeners' Magazine" office, 4, Ave Maria Lane, E.C.

Hertford Horticultural Mutual Improvement Society.—The first general meeting of this recently formed society was help on the 27th ult., when Mr. J. Fitt, gardener to Earl Cowper, read a paper on "Apple Culture," after which a discussion took place which lasted an hour. The next meeting will take place on the 10th inst., when Mr. C. Cox, gardener to J. Trotter, Esq., Brickenden Grange, will read a paper on the Chrysanthemum, in the culture of which he is a past master, so that a very profitable evening is looked forward to by the members.

Preston and Fulwood Floral and Horticultural Society.—The 44th monthly meeting of the members of this society will be held at the Legs of Man Hotel, Fishergate, Preston, this (Saturday) evening, when Mr. Robert Frisby, gardener to Miss ffarington, Worden Hall, will read a paper on "Hardy Herbaceous and Alpine Plants." Chair to be taken at 7.30.

The Kent County Chrysanthemum Society's next exhibition will be held on November 1 and 2.

Buttons made from Potatos.—The journal *Sempervirens* indicates that large quantities of buttons are made from Potatos in America. They are hardened with acids and take then the aspect of horn, ivory, or bone. It is with difficulty that specialists learn to distinguish the real from the artificial. These buttons can also be easily coloured, and their price is extremely small. Soon we shall see small statues of Potatos, made in imitation of ivory.

Fruit Trees by the Way Sides.—The province of Hanover in Germany has given in 1890, upon the trees along the way sides, a crop of fruits of the value of 187,000 francs (£7,480). The region of Hildesheim has given fruits to the value of 64,000 francs (£2,560), and that of Göttingen 41,000 francs (£1,640). The *Bulletin d'Arboriculture, &c.*, asks, "when shall we in Belgium have planted the way sides with fruit trees?". The same question might well be asked in England.

Lily of the Valley at Paris.—A correspondent of the *New York Tribune* estimates the annual sale of Lily of the Valley at Paris at £3,200. The larger part of the flowers are obtained by forcing.

Pansies at the Great York Gala.—The schedule for 1892 is just issued, and is, as usual, remarkable for the large number of money prizes offered. We notice that Pansies are having much more attention devoted to them this year, and as the exhibition is fixed for June 15, 16, and 17, and is a week later than the Midland Counties Pansy Society, but before any of the Scottish shows, a very large gathering of the northern growers may be looked for at York. There are *open* classes with good prizes for forty-eight and twenty-four fancies and twenty-four shows, also for twenty-four sprays of Violas. Good prizes are offered to amateurs by the Lord Mayor, also by the Society, and a handsome Gold Medal as first prize, with Silver Medals as second and third prizes, are offered for twenty-four new fancy Pansies, open to all.

Royal Horticultural Society.—The Society's second meeting this year will be held in the Drill Hall, James Street, Westminster, on Tuesday, February 9th. Besides the plants, flowers, and fruit to be submitted to the various committees, a Silver Medal, presented by Messrs. Barr & Son, will be offered for the best collection of forced Daffodils, Polyanthus varieties excluded. At 3 p.m. instead of the usual lecture, the Annual General Meeting of Fellows will take place in the Lindley Library, 117, Victoria Street, when the report for 1891 will be submitted, and officers for the current year elected.

Hyacinth and Tulip Show at Haarlem.—We learn from Messrs. E. H. Krelage & Son that they hope, in April next, to be able to show their visitors some parade beds of Hyacinths and Tulips of a specially interesting character. Their two show beds of Hyacinths each contain over 600 bulbs of the choicest descriphion. They have also two similar beds of single and double Tulips, and all are expected to be in bloom about the same time as in 1889.

Fruit of the Mango Tree.—M. Em. Rodigas states in the *Bulletin d'Arboriculture, &c.*, that Mangos have arrived for some time past in abundance in England, thanks, above all, that the English steamers actually effect the journey from Bombay to Plymouth in twenty-two days, and bring those fruits in a perfect state of preservation, with the aid of refrigerators. The Mango-tree (Mangifera indica), very widely spread in India, counts, as it appears, almost as many varieties as the Apple tree of Europe. The Mango is a sugary fruit, with a pulpy and rosy flesh, subacid flavour, and impregnated with a penetrating perfume. The Hindoos consume a great quantity of Mangos; they are almost their exclusive nourishment during quite a month of the year, without counting that they furnish to them divers sorts of jellies and conserves. These fruits differ highly in weight according to the varieties; that weight varies from 100 to 700 grammes (a gramme weighs nearly fifteen and a-half grains troy). The mean weight of the blue Mange, of a glaucous tint externally, called in the country Nursing-bogh (food of the god Nursing), is about 500 grammes.

The Gardeners' Orphan Fund.—At the usual monthly meeting of the Executive Committee, held on the 29th ult., Mr. John Laing presiding in the absence through illness of Mr. W. Marshall, the Honorary Secretary, Mr. Barron, announced the following special receipts since the previous meeting: —Messrs. F. Sander & Co., St. Albans, £52 10s.; Wakefield Paxton Society, £5; Scottish Horticultural Association, £5; Mr. Geo. Monro, Covent Garden, £5; Mr. H. Herbst, £1 1s.; and Mr. Dixon, Holland House, £1 1s. Collected in money boxes: —Mr. E. Cooper, Highbury, Birmingham, 30s.; Mr. J. Hughes, Birmingham, 36s.; Mr. W. Iggulden, Marston, 20s.: Mr. Turton, Maiden Erleigh, 20s.; Chislehurst Gardeners' Mutual Improvement Society, 21s.; and smaller sums amounting to £5 2s. 6d. from Mr. W. Fernie, Amanford, R. S. O.; Mr. T. Gainer, Warwick; Mr. Chapman, Romford; Mr. J. Gregory, Northampton; Mr. A. Outram, Fulham; Mr. W. Brown, Richmond; Mr. A. Read, Chippenham; and the Tonbridge Gardeners' Improvement Society. A special vote of thanks was accorded to Mr. Sander for his generous gift. Arrangements were completed for the annual meeting and election to take place on the 5th inst.

INTERNATIONAL HORTICULTURAL EXHIBITION, LONDON, 1892.

The following preliminary programme has been issued with reference to a great International Horticultural Exhibition to be held this summer at Earl's Court:—

Flower Shows.—May 7th, Groups of Plants (flowering and foliage) from Nurserymen; May 27 and 28th, Great Summer Flower Show; June 6th, 7th, and 8th, Market Growers' Show; July 5th and 6th, Roses, Table Decorations, &c.; August 1st, 2nd, and 3rd, Market Growers' and Cottagers' Show (Carnations, &c.); September 7th, 8th, and 9th, Autumn Flowers; October, two shows (1) Hardy Fruits, (2) Hardy Ornamental Trees and Shrubs. In addition there will be permanent displays of groups of Flowering Plants throughout the season, arranged for effect.

Arrangements are also being made for the permanent exhibition during the season of the following subjects:—

Group A.—Plant Houses (*e.g.* Conservatories, Show Houses, Winter Gardens), Hot Houses, Vineries, Peach Houses, Forcing Houses, Stoves, Fruit Rooms, Frames, Pits, Systems of Patent Glazing and Ventilation, Systems of Heating, including Hot Water Boilers.

Group B.—Lawn Mowers (Hand and Horse Machines), Garden Rollers, Water Barrows, Syringes, Pumps, Spray Distributors, Garden Tools and Cutlery, Thermometers, Barometers, Rain and Snow Gauges.

Group C.—Garden Tents, Garden Seats, Band Stands, Flower Stands and Baskets for Conservatory Decoration, Rustic Summer Houses and Seats.

Group D. Ornamental Iron Work for Conservatories and Hot Houses, Ornamental Wire Work, Trellises, Arches, Apiaries, Aviaries, Borders, Fences, Gates, Tree Guards.

Group E.—Shadings (various kinds); Paints and Wood-preserving Materials; Labels, Sticks, Bamboo Canes; Cocoa Fibres, Refuse Manures and Silver Sand; Ropes, Lines and Twines; Russia Mats, Archangel, Taganrog and Petersburg; Raffia Fibre; Fumigating Materials and Processes; Insecticides and Weed Killers; Horticultural Glass.

Group F.—Orchid and other Peats; Fuel for general Horticultural Purposes. (Comparative value and enduring powers of various materials—Coal, Coke, Gas, Oil, &c.)

Group G.—Ferneries, portable and permanent; Rock Work. Built in natural stone and artificial material.

Group H.—Garden Pottery; Statuary, Fountains, Vases, Edgings, &c.

Group I.—Tree Transplanting Machines; Tree Tubs.

Group K.—New or Patent Inventions amongst Garden Requisites.

Group L.—Miscellaneous Decorative Requisites, such as Bouquet Holders, Papers, Tubes, &c., &c.

Group M.—Machinery for Seed Cleaning and Saving; and for Extracting Essential Oils; Perfumes; Fruit Evaporators; Pumps, Methods of Irrigation; Practical Trials will be made in the various classes, where necessary, in order to arrive at satisfactory decisions.

Group N.—Stands exhibiting Models of Produce from Seeds provided by Exhibitor; Collections of Flower and Vegetable Seeds; Agricultural Seeds; Grass Seeds (mixtures) for Permanent Pastures and Lawns, according to soil; Flower Seeds, 12 most popular sorts; Vegetable Seeds, 12 most popular sorts; Grass Seeds, 6 sorts, distinct; Agricultural Seeds, 6 sorts, distinct.

Group O.—Designs for the laying-out of a Typical Estate of 100 acres, enclosed by grounds, five miles from town in Midlands, with ground sloping gradually towards south; Designs for Improvements of Grounds to Private Residences; Photographs of Trees and Shrubs; Garden Scenes.

Group P.—Essays on the Progress of Gardening since 1866; Practical Education of Gardeners, embracing Scheme for a School of Horticulture; Practical Education of Foresters, embracing Scheme for a School of Forestry.

Group Q.—Methods of determining the nature and fertility of Soils, with Tabulated Statements of ingredients required to improve under different conditions; Methods of determining germinating powers of Seeds; Methods of using the Electric Light in the growth of Plants.

The Chairman of the Executive Committee is Mr. H. E. Milner, and the Honorary Secretary, Mr. G. A. Loveday, 11, Grocers' Hall Court, Poultry, E.C.

SMALL FRUITS.

Strawberries.

In the following paper it is not my intention to treat on all the fruits which are included under this heading, but only to touch lightly on the more popular and useful kinds, such as Strawberries, Raspberries, Gooseberries, and Currants. In these small fruits we have some of the most useful and profitable of all fruits to grow. They are suitable for cultivation by all classes, from the humble cottager with his small allotment to the unlimited area of a ducal establishment. My remarks will be confined as nearly as possible to the cultivation of the fruits as suited to private gardens.

These fruits will all grow in almost any good garden soil, but will succeed best in a rather strong loam of moderate depth. Before planting the ground should be thoroughly prepared by trenching; and nowhere does the old adage apply with more force than here: "When thou goest to plant, be sure to trench deeply and mulch with good manure." Stiff soil can be much improved by intermixing light material, such as leaves or ashes, and light soils should be dressed with heavier material. If the ground is not naturally drained, artificial means must be resorted to.

It needs no apology from me for placing the Strawberry first in the list, as all are agreed that it is the most important. Being the first fruit to ripen, it receives, and deservedly so, a large amount of attention, for what is more beautiful to the eye or gratifying to the taste than a dish of freshly gathered Strawberries? The Strawberry belongs to the genus Fragaria, of which there are several species. F. vesca is a native of Britain, and the wild form can be found growing in the woods and hedgerows of several parts of the country. It requires only a moment's reflection and comparison to recognise the wide difference and great improvement between the wild form and those cultivated in our gardens at the present day. In large establishments, Strawberries are a very important item; where a number of kinds is forced a great deal of time and attention are required, for no sooner is the forcing of one season completed than attention must be given to layering for the next.

To be successful in Strawberry culture it is important to have strong-rooted plants to start with, and have them planted in good, deeply-worked ground as early in August as possible. By early planting a full crop can be obtained the first year. A good plan is to make Strawberries follow an early crop of vegetables, the ground having previously been prepared. If the first runners are selected and pegged into small pots of good soil, or on pieces of turf three or four inches square, they will soon root. They must be constantly tended with water, but if the pots or turves are plunged, it will save a good deal of watering in bright weather. All the runners not required should be pinched off as they appear, which will greatly assist those left. If good runners cannot be obtained early in the season it is better to put the later ones into beds about six inches apart, to be planted out in the permanent quarters early in the following spring. When the runners are rooted and detached from the parent, they should be planted as quickly as possible. Planting is easily done with a trowel; great care should be taken not to plant too deeply, burying the heart; high planting should also be avoided, the neck of the plant should be just below the surface of the soil. The latter should be very firm round the plant, and a small basin left for water, which during dry weather must be supplied freely. The ground at all times must be kept free from weeds by frequent hoeing.

It will be found that two and a-half feet between the rows is a good average distance to plant; of course strong-growing varieties in good soil will require more space, and weak ones might do with less between the rows. The young plants should be looked over after frosty weather to see if any have been raised out of the ground, and if so they must be firmly pressed in again. Strawberries are seldom very profitable after the third crop; the finest crop

is produced on young plants. As they get old the fruit gets smaller and more numerous, therefore a young plantation should be made every year, destroying the oldest one. When the fruit has been gathered, and all runners selected that are required, the beds should be thoroughly cleaned and lightly forked over to lie for the winter. If the soil is poor a good mulching of short manure will be found beneficial, but if it is in good heart it will not be necessary. In the spring the beds should be hoed on every favourable opportunity to keep the weeds well in hand. As soon as the flower stalks show, a mulching of clean straw should be applied all over the beds; it it cannot be spared to go over the whole surface it should be spread at least a foot round each plant. This will serve a double purpose, by keeping the fruit clean and protecting the roots from drought.

In gathering the fruit great care should be exercised; it is the most easily damaged fruit of which I know. The fruit should only be handled by the stalk, and put direct into the baskets in which it is to remain. Early morning should be chosen for gathering the fruit, as then the flavour and freshness so peculiar to the Strawberry is fully retained.

Birds are very troublesome when the fruit is ripening; the only remedy is to net the beds. The nets can easily be removed to gather the fruit, and then replaced again. In wet seasons slugs do great damage to the fruit; they can partly be prevented by having plenty of mulching, and if some of it has been put through a chaff cutter and cut into 2 in. lengths, it will greatly check their progress.

VARIETIES.

Of these there is a great number of excellent ones now in cultivation, but as they vary so much in different places, it would be almost impossible to name a limited number for cultivation. Is it advisable to grow several until a selection can be made of the most suitable. The following are twelve varieties of the best now in cultivation; they are named in their order of ripening:—Noble, King of the Earlies, Vicomtesse Hericarte de Thury, President, Sir Joseph Paxton, Sir Charles Napier, Countess, James Veitch, British Queen, Eleanor, Waterloo, and Elton Pine.

RASPBERRIES.

The cultivation of the Raspberry is simplicity itself, and there is no doubt but that it receives the worst treatment in the majority of gardens; this should not be so, as it well repays for any extra attention bestowed upon it. It belongs to the genus Rubus, and is a native of Great Britain, though it is not to be found very plentifully in a wild state now. The fruit is largely used for cooking and preserving; it is also valued for dessert, especially the yellow varieties. A rather damp situation suits the Raspberry best, and if it is a little shaded it will not be a very serious drawback.

Propagation is best effected by suckers, which are produced plentifully by most varieties. Suckers are sometimes produced a good distance away from the stools; these can be dug up with a good root, and make by far the best plants. Short-jointed, well-ripened canes of about 3 ft. high should be selected for planting. Autumn is the best time for making new plantations, the stools should be 4 ft. apart each way. Three suckers are sufficient to form a stool, planting them in a triangle about 6 in. apart. When there are sufficient canes at command this is the best plan, but two will do if they are scarce.

Before the spring the canes should be cut down within 6 in. of the ground, to encourage the production of young canes the following summer. The plantation should receive a good mulching with farmyard manure before the warm weather sets in, as the most important roots are those near the surface, and must therefore be protected from the drought. If more than five or six suckers are thrown up they should be reduced to that number, as it is very unwise to grow a lot of canes to be cut up in the autumn. Seldom are too many canes produced the first year, but if they are they should be instantly removed, so as to concentrate the strength into those retained. The summer treatment consists in keeping the ground free from weeds, and if the weather is very dry a good soaking with water will be very beneficial.

In the second winter the canes should be shortened according to their strength, strong ones may be cut down to 4 ft., and weak ones shorter. The fruit will be borne on the branchlets which are produced on the canes. Raspberries can be trained in a variety of ways; the prevailing system is to drive a stout stake into the centre of each stool, and loop all the canes to it at the top. But when tied in this manner, the young canes become crowded with the fruiting ones. Where the canes have not grown too strong, arching is more serviceable, simply bending half the canes from one stool over to meet those of the adjoining one in a similar manner and tying the two together. In this way the young canes get more light and the fruit is not so crowded, nor are any stakes required. A good plan which I have seen adopted with marked success is to shorten two of the canes to 18 in., two more to 3 ft., and the remainder to 4 ft. 6 in., thereby securing a crop of fruit from the ground to the top of the cane. Raspberries can also be trained to horizontal wires, or wooden "cradles" made of laths; when grown in this manner they must be planted about 1 ft. apart, and the canes cut down alternately to 2 ft. and 4 ft.

The fruit should always be gathered when it is dry, and into punnets of two pounds. For dessert they must be gathered with the stalk, but for preserving they are better "slipped," as it saves handling again. After the fruit has been gathered, the old canes should be cut out, and gently drawn down so as not to injure the young ones. By removing them now the young canes get better ripened with the increase of light and air. Raspberry quarters should not be dug with a spade, as it is a surface-rooting plant, and the more the fibrous roots are preserved the finer will be the fruit.

VARIETIES.

In Raspberries, like most other fruits, there is a considerable field to select from; but the six named below are amongst the best now in cultivation, namely, Carter's Prolific, Baumforth's Seedling, McLaren's Prolific, Red Antwerp, October Red and Yellow Antwerp.—*T. W.*

(*To be continued.*)

A RUSSIAN APPLE.

MR. CHARLES GIBBS, of Abbotsford, Quebec, Canada, in a report presented to the Horticultural Society of Montreal upon the Russian Apples introduced by the Department of Agriculture of the United States in 1870, describes 168 varieties of Russian Apples either introduced or cultivated in Russia. The Apple Antonovka, says Mr. Gibbs, is the queen of Apples of the steppes of Russia. The learned Dr. Regel, director of the Imperial Botanic Garden of St. Petersburg, adds: "It is the most highly esteemed, and the most cultivated in Russia." One finds it at Valam, north of the province of St. Petersburg, along the Russian coasts of the Baltic. The trees are cultivated by hundreds of thousands. It is truly the queen of Russian Apples, for the table, for culinary purposes, or the brewing vat. In cultivation it extends from the Baltic to Odessa, and from Ototchin to Jekaterinbourg. The fruit is of a beautiful pale yellow, ripens in August and September, and keeps good until June of the following year. Others say it ripens in October, and keeps till July; this would depend on the part of the country where it is grown. The form varies as often from round or flattened to conical, which is the predominating one. The flesh is semifirm, yellowish, and subacid. It is above all a fruit of the household for stewing or for drying; and is a veritable Apple for the people, says Dr. Regel. The tree flowers late, is of great hardiness, and of moderate vigour. There is a fine coloured illustration of it in the *Bulletin d'Arboriculture*, &c., for January. The figure reminds us very much of Golden Noble, and from the description of it we should imagine it would be suitable for the more northern parts of Britain, if not for the south.

SELAGINELLAS.

(*Concluded from p. 343.*)

THE undermentioned species are all cultivated more or less in British gardens, and some of them very widely, thus proving their utility for general decorative purposes and for exhibition. Selaginellas are more frequently seen on the exhibition table in the north than in the south, a fact that is to be regretted; for where prizes are offered of adequate value to recompense the grower in a measure, the Selaginellas often constitute a pleasing and attractive feature of the show. Well-grown plants also provide handsome masses of greenery for the decoration of the houses at home, including the shady parts of the conservatory where flowering plants would be unsuitable and out of place.

S. APUS.—Various names are given to this popular and dwarf, dense growing species of a pleasing green; amongst others S. densa and Lycopodium apodum may be mentioned. Large pans of it are the most effective; and the soil in which it is grown may either be flat or elevated to form a rounded or even slightly conical mound. Owing to its dense habit and the soft nature of the stems and leaves, this species requires to be broken up and planted afresh more than once a year if pans of it are wanted at different times of the year. The pans can easily be renewed by pulling the plant into small pieces, and dibbling then in thickly all over the soil. When newly done up in this way in soil containing a considerable quantity of peat or well-decayed leaf soil, the pans with the Selaginellas should be placed in a close and moist atmosphere, with a genial temperature to encourage fresh growth.

S. UNCINATA.—In gardens this is often grown under the name of Lycopodium cæsium, doubtless in reference to the bright blue-green, or almost steel-blue colour of the foliage, and which is one of the most attractive features of the species. To bring out this beautiful hue in the greatest perfection, the plant should be grown in a moist, genial atmosphere and in a shady position. The stems are trailing, and attain a length varying from 1 ft. to 2 ft. On this account the species is well adapted for culture on conical mounds of soil kept in form by being surrounded with a conical framework of stout wire, or other suitable material of a durable nature. When the soil is once permeated with roots, there is no fear of the soil being washed out in the process of watering. The soil may be kept on the dry side during winter, but when so treated the whole must be done up afresh every spring.

S. CUSPIDATA.—Equally popular as the last, this has found its way into many private gardens all over the country. Its erect habit and tufted growth renders it more suitable for potwork than in the case of S. uncinata. The stems of the type are generally about 6 in. or 8 in. long, narrow, and branched along the greater part of their length. The leaves are of a pale green, with white edges, and give to the plants their characteristic hue. The variety S. c. elongata is also well-known in gardens, and differs from the type, chiefly in the stems being about 1 ft. in length. Annual re-potting in spring is all that is necessary, and it may be kept in a greenhouse temperature all the year round, provided the atmosphere is tolerably moist during the growing season.

S. CAULESCENS.—The stems of this greenhouse species vary from 6 in. to 12 in. in length, according to treatment. The type is generally the tallest growing form, and is perhaps the least common in gardens outside botanical establishments, for the dwarfer and more compact forms are the most popular and most frequently cultivated in private gardens. S. c. minor seldom exceeds 6 in. high, and is generally dwarfer when grown in a greenhouse, for which it is certainly well adapted. The foliage and stems in a dry atmosphere, exposed to some extent to sunshine, assume a slightly reddish tint, but the other good points of the plant compensate for the lack of colour. The variety S. c. amœna, when grown in a stove at least, preserves a pleasing light green hue all the year round, and is in some respects similar to S. c. argentea. All the forms are well adapted for pot culture.

S. WILLDENOVII.—Gardeners and cultivators generally will persist in calling this S. cæsium-arboreum, in reference to the steel blue colour of the leaves resembling those of S. uncinata, but in gardens known as S. cæsium, and also to the tall nature of the plant. The stems vary from 12 ft. to 20 ft. according to the treatment given it, and the space at their command. The lateral branches or pinnæ are triangular and much divided, thus furnishing plenty of foliage to the long climbing stems, which should be trained to the rafters of a warm fernery or stove.

S. SERPENS.—Although not very extensively cultivated at the present day, this is one of the oldest introductions as far as Selaginellas are concerned. The plant was cultivated in the days of Miller, and is notable for the change of colour that takes place in the leaves as the night comes on. With increasing darkness, they become pale or almost white. The

stems are slender and creeping, somewhat zigzag, and furnished with short branches that lie pretty close upon the ground. It may be grown in pans, but appears to best advantage when planted so as to cover the stones of rockwork in a stove or intermediate house.

S. Vogelii.—Another name by which this is know in gardens, is S. africana, and is notable for the breadth of its triangular fronds, which are very much divided in the upper portion, while the lower part is unbranched, forming a sort of stalk. The species is well adapted for culture in pans, forming close masses, generally about 12 in. or 15 in. high, and in some respects resembling a Fern. It is a native of the Guinea Coast, Zanzibar and other warm countries, so that it should be accorded stove treatment in this country, with plenty of moisture during the growing season. Like most of the above mentioned kinds it is evergreen, and retains a healthy green colour all the year round.—*Selaginella.*

ASPARAGUS PLUMOSUS NANUS.

Those who require large quantities of this, either for decorative purposes in pots or for cutting from to mix with flowers, will find that the best plan of raising it is from seeds. To obtain the latter a plant or two should be allowed to grow strongly and to form tall climbing stems, which may be trained up the rafters of a stove or pit, or upon the pillars supporting the roof of the house. Flowers and fruit are only produced upon stems that are allowed to run up in this way. The latter should be allowed to ripen upon the plant and then separated from the pulp, after which they should be sown in pots or pans and placed in a pit or stove with a command of bottom heat to cause a more speedy germination. The seedlings require some little time to appear above soil, on account of the small size of the embryo and the growth, which must take place before the latter is able to leave the seed.

Light sandy loam with a quantity of partly decayed leaf soil, will constitute a suitable compost. Very small pots will be quite sufficient in the early stages of the plant, and moreover, big shifts should never be given at any time, if it is the intention to keep the stems dwarf and spreading for decorative purposes. Where large quantities are required for cutting from then it becomes a question of space as to what size the plants may be allowed to grow. The best and most compact shoots are obtained from healthy dwarf grown plants, about 12 in. to 15 in. high, and which in time will form compact spreading bushes, 2 ft. to 3 ft. in diameter. From pieces like these one can cut and come again. The rootstock increases slowly and dislikes being disturbed, hence the reason why it is better to sow seeds than to divide the plant. If division is attempted at all it should be done while the plants are yet comparatively small. The foliage is more suitable for mixing with cut flowers than Maidenhair Fern, because more finely cut, and it lasts longer in a fresh and green condition, in fact for several weeks together if properly treated.—*J.*

THE VEGETABLE GARDEN.

Sowing Early Vegetables.

From observation I have come to the conclusion that many green vegetables will suffer from the late severe frosts, and have accordingly commenced to make provision for such a contingency by making up a hotbed in a brick pit, on which in the course of a few days we shall sow seeds of Carrots, Radishes, Lettuces, and Cauliflowers. Last year we followed this plan, sowing a true stock of the French forcing Carrot obtained from Messrs. Veitch, which is so far superior to other varieties for drawing young that I am obliged to get it for the dining room. It comes perfectly round when treated in this way. Veitch's Forcing Turnip Radish proved to be a very quick growing kind, coming into use in six weeks from the time of sowing. Hicks' Hardy Green Cos Lettuce and Early Forcing Cauliflower were sown, a pinch of each round the sides of the frame, and subsequently removed elsewhere when the plants were large enough. By drawing the Radishes as soon as ready the Carrots had plenty of room to develop as growth proceeded.

It is astonishing what a large amount of useful material may be obtained from a small frame when treated in this way. The Cauliflowers when large enough were pricked off into 60 pots, to be planted out in due time in the open border. The Lettuces treated in this way gave us a splendid lot of plants. It is wise also to raise a pinch of an early and quick growing Cabbage in a box under glass, as should the autumn sown plants be destroyed—as was the case last year in many places—the early sown ones come in most valuable, and they are greatly hastened in their growth if they can be pricked out into a cold frame for some time before being planted in the open border.

A good plan to obtain a few early dishes of Broad Beans is to sow a box in a cold frame, and well harden them off before planting out on a warm border. These will come in quite a fortnight in advance of those sown in the open air in February. Where space cannot be found for sowing early dwarf Peas in a cold frame, I have found the following method of treatment to answer well:—Sow on thin turves in any cold house, hardening them off well in due time, and planting them out at the foot of a south wall. The great thing to guard against under this treatment is dryness at the roots, especially when the plants are podding. Little Gem, American Wonder, and Chelsea Gem are all useful for this work, but last year the last-named gave the best results.

Early Spinach should also not be forgotten, and if an old frame can be devoted to it, so much the better. Failing this a warm place in the open will bring an early supply should the autumn sowing come to grief from any cause.—*Con.*

Winter Vegetables.

Your comments on Winter Vegetables in the number for January 16th were well timed, and ought to stimulate young hands to give this most important matter greater attention. I believe the reason why northern gardeners often obtain a better reputation than southern ones is to be found in the circumstance that they pay more attention to the kitchen garden, as a natural result of their early training, which generally commences in that department, and this is as it should be. Every man who would deserve the name of gardener should have a thorough drilling under a good vegetable grower. The importance of this cannot be too frequently urged by those who have the welfare of the rising generation of gardeners at heart.

As the result of some years' experience, I venture to state my belief that more gardeners get into disfavour from their inability to provide a good supply of vegetables and hardy fruits than from inferior management in any other department of gardening. There are those to be found who consider that vegetable growing requires no special training, but I have yet to be convinced that it does not require more skill and judgment to keep up a constant supply of vegetables than to grow a house full of stove plants.

It is in trying seasons, like last winter and the present, when to keep up a constant supply of choice vegetables from January till Peas come in in the open air that tries the metal of a man, and young men should never overlook the fact that these requirements are often insisted upon in places where the facilities for such work are very limited, as in my own case now. I had the advantage of serving under some first-rate kitchen gardeners in early life, and feel the greatest benefit now from the training then received. I would add, too, that I often feel grateful to one of the best gardeners I ever served under for impressing upon me the advantages of keeping a diary, and daily making notes of everything done in the garden and particularly with regard to cropping. I have found my old diaries of enormous advantage, and I derive the greatest pleasure from referring back to them. Lately I have succeeded in inducing my young men in the bothy to adopt the plan of keeping a diary, and I am sure they will never regret it.—*Con.*

Spinach.

Probably this vegetable may be regarded with indifference by some who, if they recognised its valuable properties, would appreciate an occasional dish of it more highly. In some instances, according to the opinion of the medical profession, much benefit may be obtained from its frequent use, and it has been not inappropriately described as the scavenger of the human stomach. In many establishments it is in almost constant demand the year through, consequently extra large autumn sowings must be made in order to meet special requirements. Otherwise a too severe defoliation of the plants may occasionally be necessary, not to speak of the unenviable task to which the unfortunate individual entrusted with their manipulation may be subjected on a biting winter morning. Good judges of cooked vegetables soon get impatient of the produce from autumn sowings, the young and succulent leaves which the spring sowings afford being much more acceptable at the dining table.

In order to encourage a rapid growth of these, land that has been deeply wrought and well enriched should be selected on which sowings are to be made. Poor and shallow soils will, in dry periods especially, be fruitful only of disappointment. The timely thinning of the seedlings to about 3 in. apart will greatly assist in developing the young plants, and we have always found that the time occupied in this work was profitably spent. With very early sowings we have occasionally had some trouble with birds picking up the seeds when these were just chipping, but since commencing to sprinkle the latter thinly with red lead this difficulty has been got over. Referring to varieties for spring and early summer use I have a decided preference for the Victoria, the leaves being much larger than the best I ever gathered from plants of the ordinary round seeded sort. For summer or autumn use the sort known as Spinach Beet is also very useful, the difficulty with bolting being entirely removed.—*D. M., Ayrshire.*

Gleanings from the World of Science.

Manures for Window Plants.—Two compositions of manure with which to water pot plants grown in the windows of dwelling houses are indicated by the journal *Lyon Horticole*. The first emanates from M. Grandeau, and is as follows:—Nitrate of lime 600 grammes, nitrate of potash 150 grammes, phosphate of potassium 150 grammes, and sulphate of magnesia 150 grammes, making a total of 1,050 grammes. The second composition is attributed to M. Chanterelle, and includes the following: Nitrate of soda 750 grammes, phosphate of soda 150 grammes, sulphate of potassium and of magnesia, at the rate of 25 per cent. of the potassium, 200 grammes, and sulphate of iron 10 grammes, making a total of 1,110 grammes. (A gramme weighs nearly 95½ grains troy.) The first mixture is rather expensive, but the second costs only about 3½d. for 2¼ pounds. Either mixture should be used at the rate of 10 grammes to 1¾ pints of water, giving one application only per month and taking care not to sprinkle the foliage, which it would burn.

Can Wireworms be Starved?—This can be ascertained by two methods of procedure: in the one case the ground can be kept clear of all vegetation for a given period of time, that is, allowed to lie fallow; and on the other hand the ground infested with wireworms may be sown or planted with something upon which the grubs cannot, or dislike to feed. Experiments from this point of view have been carried out for some time past by the professors at the *Agricultural Experiment Station, Cornell University.* To imitate fallow, cages or cases were filled in some instances with sand and loam, in others with loam and leaf soil, and large numbers of wireworms placed in each. After periods of nine and ten months many of the insects were found alive, some in the larva and others in the pupa state, testifying that it is useless even to keep lying waste for a year in expectation of starving the enemy to death. In America the belief prevails amongst farmers that if the land is sown with Buckwheat the worms will perish of hunger or leave the field. Experiments showed that Buckwheat was to some extent effective, but some of the wireworms lived in cages containing Buckwheat only, for eight months. In Europe, inclusive of Britain, crops of Mustard are believed to be distasteful to wireworms and to starve them out. In order to test this, experiments, extending over a period of two years, were made with the White, the Chinese, and Brown varieties of Mustard. The experiments went to show that wireworms could live for a year in soils containing no living vegetation except Mustard, and that they appear to live longer upon that kind of food than in cages sown with Timothy Grass and Clover. Rape is another crop which in England is believed to be distasteful to wireworms, but in the American experiments it has proved to be no safer from the attacks of those insects than any other crop. It seems strange, however, that Buckwheat should have proved partl effectual in that country.

CHINESE PRIMULAS
PLANTED OUT.

THOSE who would wish to have some large plants of these pretty flowers for winter decoration will do well to try the following plan, which I have seen carried out during three summers:—Obtain a good strain of seeds from some reliable seedsman, sow them in the usual way, and grow them on in any old pit or frame for the first summer, and they will come in for autumn use in various ways. Instead of throwing the plants away when they have finished flowering, take care of them until the spring, when they should be planted out in a frame, in a compost made up of two parts of sandy loam to one of leaf soil. Plant them about 2 ft. from plant to plant, give good waterings as required, and syringe every evening. The lights should be kept off the plants both night and day except in severe weather, to keep them dwarf; if very sunny weather a little shading during the middle of the day for a few hours should be given, but great care must be taken that the shading does not exclude the air. All dead leaves should be regularly removed, and also the flower spikes if the plants are not over-vigorous.

The plants should be allowed to stop in the frame until the early frosts begin to appear, when they should be carefully lifted with a fork, and have the balls reduced to as small a size as it will be safe to reduce them to. Then pot them in a compost similar to that in which they were planted out, and place them in a frame facing north for a week or ten days after receiving a good watering, and after that time they may be removed to the greenhouse. Great care must be taken in watering at first, as the fresh soil through the absence of roots is likely to get sour. They should be thoroughly watered when they want it, and not otherwise, but of course they must not be allowed to get dust dry. Plants treated in this way may be had fit for any exhibition stand. Some may think that such plants will be all leaves and no flowers, but I can assure them that if properly treated the case will be quite different, and if the flowers are not quite so large this deficiency is more than made up in point of number. I have seen plants only lately grown this way quite 2 ft. across in 5-in. and 6-in. pots. I should like to know if any one has tried the lovely Primula obconica in this way, and with what results.—*Journeyman.*

EARLY CAULIFLOWERS
AND THEIR CULTURE.

THE new and improved strains of these now offered for sale, of which Veitch's Extra Early Forcing is a notable type, are, no doubt, invaluable for first crops, but we have never allowed autumn sowings of such sorts to be superseded by spring sowings, as in some seasons we have found plants wintered in frames answer our purpose better, and more conveniently hardened off in changeable weather. From autumn sowings a number of extra strong plants are also more readily secured for potting up, which is a capital system of preparing them for holding their own during periods of bleak east winds and occasional sharp frosts after being planted out with the balls ntact.

When these are placed in 2½-in. or 3-in. pots about the first of November they are usually in good order for planting in their permanent quarters by the middle of March. If hand-glasses are available they should certainly be taken advantage of in order to protect them for several weeks, removing the covers during the day, unless when very severe frost prevails or heavy snow or hail showers. The covers should be kept on during the night till the middle of April, and a light mulching of rough stable litter may be placed among the stems of the plants. Those who have not the convenience of hand-glasses would do well to shift their plants which occupy small pots into 4½-in. or 5-in. sizes and grow them on in a frame for a month or so, admitting abundance of air on all favourable occasions.

With the exception of a slight check after repotting this management will ensure free and uninterrupted growth till heads are ready for cutting. Where frame or hand-glass accommodation may not be available protection to plants in their permanent quarters can be afforded by covering them with suitable sized flower pots at night, or by surrounding them with short twiggy spruce bushes till they have got a good start. Good soakings of water with the chill taken off and mulching afterwards are always beneficial in dry periods, particularly on soils of light textures. When from weather and other causes plants which have been pricked out in frames have not been planted out in good time and the soil has become too dry, they should be thoroughly soaked with water, otherwise it will be difficult, if not impossible, to lift them with good balls in transferring them to the open borders, which is, of course, one of the principal advantages of pricking off the seedlings in frames. I have observed strong plants thus raised, when thoroughly hardened off before transplanting, maintain a neck-to-neck race with those turned out of pots at the same time, and they were only a few days later in yielding produce.

We rely on spring sowings of the extra early dwarf sorts chiefly for a supplementary supply, and the quick returns realised from these render them invaluable for this purpose. Sown a fortnight later than if they were required for first crops the difficulty with hardening off is considerably lessened, which is so much relief when pots and frames are wholly required for forcing Potatos and numerous other purposes. We do not plant these early dwarf Cauliflowers closer than 18 in. from row to row nor from 10 in. to 12 in. plant to plant, and have found this system especially beneficial during periods of excessive heat and drought, as the ground is thus entirely shaded and the plants do not usually require more space for their growth. When planting in handlights from six to eight plants are not considered too many for a light about 20 in. square, but in the case of such sorts as Early London a few plants less may be sufficient.—*D. M., Ayrshire.*

WIREWORMS.

I HAVE read with interest the report on the Cornell University experiments on Wireworms. I have given some attention to this matter for a few years past, and I sent a few notes once to the "WORLD" of my experiments. At that time my knowledge of their vital powers was not so conclusive as now. However, I then gathered sufficient insight into their mode of life to lead me to state the great difficulty, not only of destroying them when separated from their natural element, but also that of the almost hopelessness of doing so by an application of an antidote to the soil. I am still of the same opinion. And, also, I then stated that strong liquid ammonia was the most effectual chemical that I found to cause death in the shortest time. The fact of their being so tenacious of life lead me on another track, and the results of which I here state, but do not corroborate the research of the Americans.

I collected about a dozen worms and put them into a wide-mouthed glass-stoppered bottle into which I put fine dried soil entirely devoid of vegetable tissue—the supposed food of these worms. The bottle was then placed in a dry corner of the stoke-hole with the merest opening at the cork or stopper to admit some air. I put it away in the hope of seeing them all dead when I should look at it again. In this I was disappointed. A week, a month, and three months passed, and the prisoners were as plump and lively as the day on which they were put in. At the end of that time I tried the effects of several chemicals upon them again, but apparently their powers of vitality were as strong as when taken fresh from their native element.

I then got another lot, and put them into a bottle with some soil and a fair quantity of fresh soft vine rootlets, set it in what I considered favourable circumstances—a warm, moist and shady corner of a vinery. I found at the end of a corresponding period to the former experiment that the rootlets were never touched—just what I anticipated. My inference from this then very naturally was that the wireworm cannot be quite the voracious and terribly destructive thing I was taught to believe it to be, and in this view I am supported by an instance which I think I pointed out before in the "WORLD," of a vinery containing a fine lot of trees, of most exquisite foliage and health, but whose borders have been swarming with wireworm for years.

Yet I can fully believe the possibility of these worms attacking the young, fleshy roots of plants, though I cannot so well understand of them to be so terribly destructive on seeds or grain as the American experiments have discovered them to be. Of course the American kind may slightly differ from the British species, but one thing is clear, that both are equally difficult to destroy.—*D. Chisholm.*

RESERVE PEAS.

IT is a misfortune in all cases when, from some cause or other, the which has been unforeseen, Peas sown with the customary liberality come up so thinly in the rows that they hardly merit staking. Seed may, in spite of appearance, be unfertile, or too old, or in some way be incapable of growth; or mice or slugs may play havoc with the seedling growths. Misfortunes of this kind do happen sometimes, and then there is regret that no reserve of plants is at hand to fill up the vacant places. There is special reason this season why some sort of reserve should be provided for, because Peas ripened and harvested badly last year, wrinkled sorts especially so, and it will be almost impossible for seedsmen to guarantee a really good class growth.

Then growth may be good or indifferent according to soil, weather, etc., when sowing takes place. Still it is not easy to wait long when the usual sowing time arrives, for seed must then be committed to earth, or not at all. But to guard against contingencies it is so easy to have a reserve of plants in pots sown thinly at the time the out-door sowing is made. The pot-sown seeds, having the protection of a frame, are almost certain to germinate freely, and would a month later be somewhat in advance of the plants raised out in the open. But that would be of no consequence, especially if really needed to fill up vacant spaces in the rows, because the transplanting from pots, if the root clumps be somewhat opened, would, of course, create a slight check, and that check would suffice to enable the stoutly-rooted plants already in the rows to become equally advanced.

A little later such reserve stock is best sown in 48-sized pots, about ten Peas in each, even if not required to make faulty rows good, the pots can be turned out as clumps, a foot apart, in well-prepared soil, and later will give a splendid crop of pods. —*A. D.*

WHEN OUGHT FRUIT
TREES TO BE PLANTED?

SOME gardeners never think of planting till spring, just because that is the time when all nature is about to revive, and much planting is accomplished about that time. Others there are who must plant when they can find time, and when the weather in winter is open and the ground in fairly workable condition. A still smaller number take time by the forelock and plant in autumn just after the fall of the leaf, or even before it, say during the last fortnight of October, or the first fortnight of November. Where circumstances are favourable, those four weeks are certainly the best of all the year for planting hardy fruit trees, such as Apples, Pears, Plums, and Cherries.

The soil still preserves a considerable amount of its warmth, and encouraged by the accession of moisture from autumn rains, a considerable amount of root extension takes place before winter. The food material which has been elaborated in the leaves is all drafted into the stems before the foliage drops, and goes to the thickening of the stems as well as to thicken and extend the root system. Trees are therefore actively at work for a long time after the fall of the leaf, in fact until frost or very cold weather puts a stop to it. Moreover growth may take place in the soil long after the air is too cold for that to happen above.

It is not difficult then to perceive that trees moved in the autumn will be partly established, not only before the succeeding summer, but even before the return of spring. This would be a decided advantage in the case of those trees well laden with fruit buds, for they would be able to carry a crop of fruit to perfection. Even large trees would not suffer much by transplanting at this time, if they were fairly well furnished with plenty of fibrous roots as they ought to be. Of course very large trees that have not been moved for many years should be previously prepared by root pruning during one or two autumns preceding that in which the process of transplanting is to be effected. Young trees would not necessitate this previous preparation; and in fact they are those which would suffer least from late transplanting.

There are several conditions to be borne in mind by those who would derive the fullest advantages from autumn planting or transplanting as the case may be. The ground must be well prepared and ready, nor must it be saturated with wet, and if it

is light and friable, or even of a sandy nature, and occupies a sufficiently elevated position, then the planter should not hesitate to have the work accomplished without delay. The soil under those conditions neither gets puddled or muddy in the operation of digging and treading, nor will it get baked and cracked in the summer time to the injury of the roots. A good mulching of manure over the ground as far as the roots extend would render the roots great assistance, by preventing the soil to some extent from getting frozen should a severe winter follow.

The advantages of early planting would be most evident should a dry, warm summer succeed the autumn planting, for then the trees will have partly established themselves, and be better able to draw the necessary supplies of moisture from the soil than those which have recently been disturbed, and have made few or no young roots until the summer heat and drought is upon them. Small or relatively small trees in good soil would not show any evil effects, more especially if the summer succeeding late planting was a wet or showery one.

There are cases, however, in which late spring planting is a necessity. The digging and preparation of the ground may not be completed till March or April. Low lying and wet or clayey land is seldom in a condition for planting operations till late in spring, and such should be avoided as much as possible as far as fruit trees are concerned.

Chrysanthemum Robert Owen.—(Natural size.)

CHRYSANTHEMUM ROBERT OWEN.

We are now in a position to give an illustration of this magnificent new incurved Japanese variety. The engraving was made from the only bloom the plant has yet produced, and which was given us by the raiser, Mr. R. Owen, Castlehill, Maidenhead. It was a seedling from Sarah Owen, and differs remarkably from that in being very broad and slightly flattened on the top. The florets are closely and regularly incurved, but twisted against the sun, of a bright golden-bronze, deepening to a reddish-bronze at the base, with a long, yellow, pointed tip. The bloom appeared at a meeting of the Royal Horticultural Society on the 8th December, and was highly appreciated by everybody who saw it, but no certificate was awarded, because three blooms at least are necessary for this purpose, according to the rules of the Society. At the Royal Aquarium on the 9th and 10th the highest award in the way of prizes was accorded it as the finest seedling in the show. The stem of the seedling was robust, and well furnished with good foliage when we saw it at Castle Hill in the last week of November; and to all appearance it can hardly fail to become, perhaps, the most popular of varieties as an exhibition bloom when once it gets disseminated amongst the Chrysanthemum growers of the country.

FLORICULTURE.

The Auricula.

One can trace a perceptible movement in the plants. We may now anticipate some mild, sunny weather; to such the Auricula quickly responds. The conditions of the plants should be made as agreeable as possible—clean shelves and pots, and sweet surface soil. Those who top dress will soon commence to do so. The surface soil needs to be carefully removed, taking care not to disturb the fine roots near the surface, and adding something fresh and sweet. But the early days of February will be soon enough for this operation. Water when necessary, and give plenty of air to house or frame in favourable weather.

Carnations and Picotees.

The preparations for potting should engage attention—getting pots and soil ready. I have known some begin by the second week in February, and it is pretty much a matter of convenience. Give the young plants a free circulation of air, and see that they are clean and healthy.

Cinerarias

Should be near the glass—they cannot have too much light—be well attended to in the matter of water, and be kept clean from green fly. Should there be a promise of sharp frost, cover up at night. Safe bind, safe find.

Dahlias.

I hear complaints that the roots of some kinds of Dahlias have wintered badly, owing to the excessive wet of the summer. Rot will sometimes cause severe losses, and if any roots show signs of taking it, I would recommend that they be put to work in gentle heat as soon as possible, so as to secure stock. The earliest cuttings are of little value; they may be stout in the stem but hollow and sappy. The smaller, later, and harder growths make the best plants.

Hollyhocks

In pots for planting out to bloom should also be kept near the glass, and be watered as necessary; in giving it taking care not to wet the foliage. Old stools in the ground are liable to suffer from moisture at the surface; and they can be preserved from material injury by some of the soil being drawn away and a circle of rough sand or fine cinder ashes being placed round it.

Hyacinths

In pots will now be pushing up their leaves and need to be near the glass with plenty of light falling upon them. A drawn Hyacinth is a melancholy sight. Some varieties have a tendency to produce long leaves, and need to be kept as stocky as possible in consequence. Those in glasses need the same attention. Plenty of light and adequate water will tend to restrict the growth of leaves.

Pansies

In the open ground are on the move, slowly it is true. They can be helped by a surface stirring of the soil when sufficiently dry, and the addition of suitable surface dressing of a good rich compost. Pansies in pots are, I fear, a feature of the past, and yet it is a pleasant and interesting occupation to grow a few in a cold frame. Perhaps some day the practice will be revived. I can remember the time when grand plants were grown in pots and they produced blooms of the highest quality.

Pinks,

Like Pansies, will be benefited by a surface dressing, and if any plants have been lifted or loosened by the action of the frost they should be firmly pressed into the soil before top dressing is added. I need scarcely say the leading shoots should be secured from injury by winds.

Polyanthuses.

So few grow these in pots that it is almost a work of supererogation to treat of them. The choice gold-laced varieties are much more susceptible to injury from frost than the choicest Auriculas. The fact is, when grown in pots they should never be allowed to become frozen, or losses will ensue. Rot sets in at the collars, and it seems impossible to stay its progress. But if the named sorts are grown at all it must be in pots. They require rather more water at this time of the year than Auriculas.

Pelargoniums.

These are so soon affected by green fly, a warm atmosphere being necessary at night, that constant fumigations are necessary. In the case of plants for blooming a little judicious pinching may be necessary to secure a good shape, as a symmetrical outline makes the specimen so much more attractive when in bloom. The fancy varieties need a closer and rather warmer atmosphere. Any specimens requiring a last shift, should have it as soon as convenient.—*R. D.*

Pansies, Violas, &c.

In the Gardening World of last week I note a few words from "Veritas" who refers to my remarks upon the effect of east winds upon Pansies and Violas in the Midlands. Here in the near vicinity to Birmingham, we find that brown aphis always makes rapid headway when we have the cold biting easterly winds of spring, which seem to blister young growth so much. Away in the north, not far from the sea coast, where "Veritas" enjoys many advantages we cannot in climate, Pansy-growing is so much easier than in these smoky districts. With many the brown aphis is a deadly enemy, and frequent syringings of "Swift and Sure" or some other strong insecticide should be closely followed up. So far the winter is a most favourable one for Pansies, and many an amateur will rejoice greatly if we can pull through with only a small spell of very nipping easterly winds.—*W. D.*

Midland Counties Pansy Society.

Will you kindly spare space to say that there is an unavoidable delay in getting out the schedule of this Society. I have been prostrated with a very severe illness, and although everything was ready for a Committee Meeting, which I should have called quite three weeks since, the severity of the illness compelled the setting aside of all business matters. Everything now points to my being able to have a meeting in a few days, pass the schedule, and have it printed at once. I have no hesitation in saying that it beats all record as a Pansy schedule, and we shall have a wonderful exhibition. A copy will be sent to all subscribers. Will any persons not subscribing and wishing to have a copy, please send a postage stamp for it, to the hon. secretary, *W. Dean, Dolphin Road, Sparkhill, Birmingham.*

THE CLEMATIS.

This is a very beautiful genus of climbing deciduous shrubs and herbaceous perennials.

I do not propose to treat upon their propagation, because many nurserymen make a special feature of this, and, as they have houses and pits especially adapted for the purpose, they are able to produce them of better quality and much cheaper than the majority of amateurs would succeed in doing. I intend devoting the chief part of my remarks to growing these showy subjects in pots, for the decoration of the greenhouse and conservatory. For decorative purposes during spring, very few flowers equal these compared to the trouble they give. I desire, therefore, to call attention to their pot culture, and will endeavour to give a few brief directions upon the best method of treating the four classes of these flowers, most suitable for that purpose.

These are the Jackmanni, Florida, Patens, and Lanuginosa types; and with very little attention, one may have these in flower during the greater part of the year.

Any ordinary greenhouse temperature will suit them very well; and a few plants purchased now, may be grown on to give a nice show early this spring.

Pot into well-drained pots, and use a good rich soil. They may be repotted annually until they have reached 10 to 12 in. sizes. After this, I prefer knocking them out of their pots and reducing their balls as much as possible without injuring the roots too severely. Place in smaller pots again, and feed well. When in large pots, provided the drainage is still clear, you can remove a little of the surface soil and give the plants a good mulching with strong loam and manure.

Clematis will take, and benefit very much from frequent applications of liquid manure while in full growth.

Varieties of the Jackmanni type make very long shoots every season, and flower upon the same wood during the summer months. Of course when these are grown on under glass they come into flower much earlier, and being kept free from rough and inclement weather they are more showy and gorgeous than when grown out of doors. As soon as the shoots of this class have attained their full length they begin to bloom from under every leaf. Trim the growth back as soon as they have done flowering and are partially ripened down; stand the plants on one side, and wait until they start into growth again, when they should be grown on in an ordinary greenhouse temperature and flowered as before.

A few of the best of this class are Clematis Jackmanni, C. J. superba, C. Alexander, C. rubro-violacea, C. Gipsy Queen, and C. Star of India. These long growing varieties can be trained around sticks or wires in the pots; or they may be grown on wires and cross bars in the conservatory.

Plants of the Florida and Patens classes are of an entirely different habit, as these flower from the long growths, but not during the same season as the growths were made.

It is a good plan to grow these with their shoots well exposed to the light, such as up the pillars or rafters of a house. If you do so, there is a much better opportuuity of their growths getting thoroughly matured; and as the flower buds are practically stored in these shoots during their maturation, it is very important that this should be carried out effectually.

After the growths are matured, they may be tied to any shape similar to the growing shoots of the Jackmanni class. Keep them cool and at rest for a short time, then start in a very gentle and moist heat, when they will flower from almost every eye. There are certain to be some young shoots breaking from the base of the plants by the time they have finished flowering. You should cut away the growth that has flowered, and encourage these young shoots as much as possible, as upon these depends your next crop of bloom from this section of the Clematis.

The best of the Florida and Patens type are Countess of Lovelace, Duchess of Edinburgh, Belle of Woking, and Beauty of Worcester; all of these belong to the first-named class, and possess double flowers of exquisite beauty and delicacy of colour. The Queen, Albert Victor, Fair Rosamond, and Miss Bateman are grand examples of the Patens type.

We now come to those of the Lanuginosa class, and these may be grown very similar to the classes last named. They flower in succession upon short laterals from the longer growths, and should therefore not be cut down hard at any time, but merely have the dead and weakest growths trimmed away. There are some really splendid varieties among this class; perhaps the best of them are Henryii, Otto Frœbel, Gem, Blue Gem, and Beauty of Surrey.

To all who have ever seen the splendid banks of pot Clematises exhibited by Jackman & Son, there can be no need of praising these flowers. I know from experience how very easily they can be grown to perfection, and how grand they are in any conservatory whether growing over trellis work, wires, or in pots. The tips of the young growths are occasionally troubled with a little green fly, but a slight syringing or dipping the points of growth into a solution of soft soap will effectually clear them of these little pests.—*Experience.*

The Carnation: its History, Properties, and Management; with a descriptive list of the best varieties in cultivation. By E. S. Dodwell. Third edition, with supplementary chapter on the yellow ground. London: B. Wynne, "Gardening World" office, 1, Clement's Inn, Strand, W.C. Price 1s. 6d.; post free, 1s. 7d.—[Advt.]

APPLE TREE CULTURE.

I think that the paper read by Mr. William Crump, of Madresfield Court Gardeus, at the Fruit Conference held in Manchester last October, was so full of valuable suggestions that it is well they should receive a little notice in the columns of The Gardening World. The subject of his paper was "The Raising, Budding, Grafting, and Pruning of Apple Trees for Orchard or Estate Planting," and these points were set forth by Mr. Crump in a clear and interesting way. I may state that Mr. Crump brought from Madresfield a collection of Apples remarkable for their brilliancy of colour; and on my asking him how he accounted for the depth of colour and for the delicate bloom on some—most—of the Apples, he said he thought it traceable to a considerable extent to the nature of the stocks employed for budding and grafting at Madresfield Court.

At this fine Worcestershire estate of the Earl Beauchamp, there is under Mr. Crump's charge a home nursery where fruit trees are specially grown for

estate purposes only, and which are annually distributed gratuitously to the farm and cottage tenantry. What, therefore, Mr. Crump had to say was based upon personal experience extending over a period of ten years. No attempt has been made to raise new varieties, Mr. Crump deeming that this is a business best left in the hands of skilful experts, and while admitting that such fine varieties as the Blenheim Orange and Ribston Pippin originated as chance seedlings, yet it is a fact that ninety-nine per cent. of such seedlings produce fruit altogether inferior to well-known kinds. Mr. Crump states one important fact as bearing upon the raising of seedling Apples which has come under his notice, that the higher bred the cross may be so much the more delicate constitution of the progeny becomes, being generally miffy growers and highly susceptible of mildew attacks.

"The stock," remarks Mr. Crump, "is the fundamental part of a good tree, as upon this depends its longevity and future prosperity," and he lays down this proposition: that a stock without fibrous roots cannot produce a fruitful tree, therefore the preparation of the stocks with fibrous roots is of great importance. At Madresfield Court free Crab seedlings are used as stocks, raised from well-ripened Pippins of some high-coloured fruit, such as the best cider is manufactured from. The natural inclination of these seedlings is to strike roots straight downwards, having a leading tap root at the end of the first or second season. At the fall of the leaf the plant is carefully lifted, the tap root preserved entire, replanted at full length but in a horizontal position near the surface, the root being young and pliable will easily bend. Replanted early in the season, an abundance of young, healthy, fibrous roots will be put forth the entire length of the tap root, and so there is secured the most desirable foundation for a future tree. Great importance is attached to the multiplication of fibrous roots to the stocks before budding operations are performed; the result is seen in the fact that a dormant bud of one season will produce a firm, straight shoot, 4 ft. to 5 ft. of Apple in one season. But this is slightly anticipating matters.

Previous to budding, the stocks, after one or two years' interval from the first transplantation—such of them of course as are healthy and clean—are again transplanted to rows, 2 ft. 6 in. apart; and the stocks 18 in. from plant to plant. They all budded the following August. These frequent transplantings add of course to the cost of production, but there is a very great gain to the tree.

Stocks are also raised by means of root cuttings, that is "pieces of Crab stock roots, half an inch or so in diameter, and cut into pieces 3 in. or 4 in. in length," are planted shallow in firm soil, and when they have put forth growths and roots, transplanted in the same way; and Mr. Crump makes this important statement—that bush, pyramid, or half standard trees, grown on stocks, thus prepared, seldom require any root pruning in after years. Therefore the labour of preparation of stock is not thrown away, but becomes practically of increased value when planted in the gardens of those not experienced in Apple tree culture; and such trees, when planted on suitable and well cultivated soil, give the greatest quantity of fruit in the shortest space of time as well as of fine quality; they can be maintained in health for the longest period, they require but little pruning of any sort, so that the least experienced can manage them. Moreover Mr. Crump asserts that nearly every variety of Apple tree upon them succeeds.

But I will return to this subject again, as there is something both novel and instructive in the practice laid down by Mr. Crump.—*R. D.*

Helleborus Atrorubens.—The flowers of this species are distinct and showy when contrasted with the true Christmas Rose (H. niger), and expanding as they do thus early in the year they remain in perfection for a much longer time than those which bloom in March, or towards the end of that month; because the longer days, higher temperature and bright sunshine occurring then, or soon after is unfavourable to the longevity of the flowers, which lose their colour and become green. At present the two outer sepals of H. atrorubens are pale purple, and the three inner ones are of a deep purple contrasting with the creamy yellow stemens. A plant has been flowering for some time past on the rockery in the gardens of the Royal Horticultural Society at Chiswick.

GARDENING MISCELLANY.

PRIMULA SINENSIS RUBRA.

SUCH is the name of a bright, rosy-red variety of the Chinese Primula which is now flowering freely and in great quantity in the nursery of Messrs. J. Laing & Sons, Forest Hill. The colour is not particularly popular at present for various reasons, chief amongst which is that it is common, and fails to attract the multitude. Groups of it here and there in a conservatory would be much more effective than the usual method of arranging, or rather of scattering, the plants about here and there in an incongruous mixture amongst other subjects of a totally diverse character. The flowers of the extensive batch under notice are of large size, giving the whole a bold and conspicuous appearance. On the opposite side of the house are smaller batches of P. s. alba with pure flowers and broad imbricated segments, and also the blue variety with good-sized flowers borne in large trusses.

WORMS IN PLANT POTS.

I OFTEN wonder how many of your readers have tried "Porter's Patent Invincible Crocks" for plant pots. Last year I called attention to them, and now, after another year's experience, will you permit me to do so again. I find them all that can be desired for the purpose. They are simplicity itself, but thoroughly effective, and so cheap that they are within the reach of all plant growers; they are made of brass, consequently are rust proof and last for many years. To my knowledge they are being used by some of the leading gardeners in the country, and giving the greatest satisfaction. With one of these Crocks in the pots, a plant may be stood anywhere, and be perfectly safe, so that the trouble of placing slates, tiles, laths or ashes under the pots is entirely done away with. To the Chrysanthemum grower they will prove a real treasure. I consider them one of the most useful articles ever offered to plant growers.—*X.*

HÆMANTHUS MAGNIFICUS.

IN general appearance this species has much the same appearance as H. natalensis, and is indeed one of four species belonging so the same group as the latter. The flower scape is produced in advance of the leaves, and springs from the axils of the bulb scales, not from amongst the tuft of leaves. All the lower portion is closely spotted with purple, and the apex carries a globose, dense head of flowers which are small individually, but collectively very showy The segments of the perianth are pale almost white in the early stages, but ultimately become of a bright scarlet although not dark; the filaments and styles are however bright scarlet and conspicuous in the early stages. The golden anthers contrast very boldly with the other parts of the flower, at least in the newly expanded state. It is one of the more popular species, and there are several distinct varieties of it in cultivation. The species is a native of South Africa, and may be seen in the stove at Kew.

CROCUS IMPERATI.

THE mild weather which has prevailed for some time past has enabled the winter-flowering species of Crocus in the open ground to put in an appearance even during the past month, and should it continue favourable several of the early spring-flowering kinds will come on early. C. Imperati is not a brilliant species, especially when the flowers remain closed in dull weather. It is, however, notable for the peculiar arrangement of the colours. The outer surface of the three external segments are of a peculiar greyish yellow, with three slightly feathered nerves, while their inner face is purple. The inner segments, on the contrary, are lilac, and beautifully veined with a darker hue. The yellow anthers and orange-scarlet stigmas contrast beautifully with the rest of the flowers when fully expanded under the influence of sunshine. Some clumps of it are flowering on the rockery in the gardens of the Royal Horticultural Society at Chiswick.

ECHINOCACTUS CONCINNUS.

THE species of Echinocactus are generally notable for the long, rigid and formidable-looking spines which cover the short and generally globular stems, in tufts. E. concinnus differs considerably in this respect. The stems develop numerous fleshy protuberances, closely arranged in rows, following the longer way of the stems. These elevations are of peculiar form, inasmuch as they are so deeply indented or bifid as to appear double. The spines, or rather bristles, in this particular case arise in the notch between the two halves of the protuberances, and are not developed till that part of the plant bearing them attains some age. For this reason the upper and younger portion of the plant is without bristles, while the lower part of the stem is furnished with them. This peculiar species may be seen in the nursery of Messrs. J. Carter & Co., Forest Hill.

COTYLEDON RETUSA.

COMPARATIVELY few of the succulents are useful for winter flowering. That under notice is a very meritorious one for the purpose, and Epiphyllums and Kalanchoe carnea, with other species, may be added to the list. Cotyledon retusa is better known amongst gardeners under the name of Echeveria retusa. It lasts a long time in season, but by means of small batches of plants of different ages, that is, struck from cuttings at different times and kept tolerably cool until such times as they are required, it may be had in bloom from November or December till spring. The habit of the plant is compact and all that can be desired in the way of neatness. Old plants get somewhat leggy, but there is no necessity for growing the plant more than one or two years; in fact it may to great advantage be raised afresh from cuttings annually, and give more satisfaction in the way of flowers than old plants could. The glaucous leaves then form a rosette lying close to the pot while the flower stems attain a height of about 12 in., and are closely furnished with large, fleshy, leaf-like bracts. The flowers are yellowish, and ultimately of a bright orange red in the lower half of the petals.

SAXIFRAGA SARMENTOSA TRICOLOR SUPERBA.

COULD this beautiful and interesting variety be induced to grow as freely as the ordinary form, it would undoubtedly soon get popular. The reniform or orbicular leaves are of a rich dark green in the centre, with a broad creamy-white margin constituting as a rule more than half the entire surface. The extreme edges are more or less tinted with a bright red, and in the summer time this is more extensive than at present. Of course the plant is always more highly coloured and ornamental when making its growth than when resting. The young leaves are often wholly of a bright red, except a small portion in the centre which retains the original and natural hue. Now cultivators of the variety find that it succeeds best in stove temperature, a peculiar fact when we bear in mind that the typical green plant is hardy, or almost so, when planted in suitable positions on a rockery in the milder parts of this country. As a window plant it can boast both of antiquity and popularity, and intending cultivators would be highly indebted to any one who, by a series of experiments, could find out a satisfactory method of cultivating it, and which could be practised by any one with the accommodation of a greenhouse, frame, or window.

FLOWERS OF TAN.

THE above is the popular name of a fungus which is occasionally troublesome in propagating pits where tan is used for making the beds. Mycologists name it Caetalium septicum. It lives on the decaying Oak bark, but at certain stages of its existence it leaves the tan and travels all over the bed in the form of a slimy mass, which gets entangled amongst the cuttings which may be placed there to root, or covers the pots containing the seeds or seedlings, much to the disadvantage of the latter. Sometimes when moving in this slimy mass it will curiously enough crawl up the labels in the pots and there come to rest before changing into the sporiferous state. Its appearance is sometimes very sudden, and where plentiful will cover up and thereby injure many things in a single night. Those who are familiar with it know when it is about to make its appearance by some filaments appearing above the tan aud by the slight elevation of the latter, like soil that is swollen and elevated by frost. A French horticulturist describes his experience of it in *Annales de la Societé d'Agriculture de France*, and says that when the tan begins to rise by the action of the fungus, he dusts the surface

with the flowers of sulphur, when the fungus is killed immediately and changes from a dark yellow to a maroon tint, and thereafter dries up to a state of powder.

CAREX TRISTACHYS.

THE green form of this Sedge is much more extensively cultivated than the variegated one, but there can be no doubt that C. t. variegata is very ornamental when well grown. Like most variegated subjects however it seems to show its peculiar colour best when grown in a stove or some other moist warm house. This applies to Pteris cretica Mayi, Aspidistra lurida variegata, Chlorophytum elatum mediopictum, Ophiopogon Jaburan variegatus and others of that type. Unless rapid increase is wanted, the green form should not be grown in a high temperature, otherwise the foliage will be thin and unable to withstand the effects of a dry atmosphere when used for decorative purposes. It will stand full exposure to sunlight, but retains a brighter green when accorded a slight amount of shade from bright sunshine. The leaves are narrower, longer and much more graceful than those of C. Morovii, which was used to some extent for decorative purposes a few years ago, but now seems to be generally discarded by those who have much furnishing work to do.

ACACIA LINEATA.

AMONGST the dwarfer species of Acacia that may be conveniently grown in a greenhouse of moderate size, that under notice is worthy of attention from its close and twiggy habit, small leaves, and numerous globular clusters of yellow flowers. The clusters are generally developed in pairs from the axils of each leaf, so that well grown plants are very profuse in flowering. If desired to flower in a greenhouse at this period of the year, a temperature of 45° or 50° must be maintained at night, with a rise by day, and judicious ventilation, which must accompany all good cultivation.

ORCHID NOTES AND GLEANINGS.

The Orchid Grower's Calendar.

CATTLEYA HOUSE, ETC.—Where Orchids are grown in quantity no time should be lost in getting on with the potting and re-basketing of the same. Lælia elegans, L. e. Turnerii, L. anceps, and Cattleya Gaskelliana will be repotted, using good fibrous peat and sphagnum moss, with bits of broken potsherds and silver sand to keep it open. The peat should be neither too wet nor too dry, but should have that elasticity of touch which growers like in all composts. Not often does it come to hand in a fit state for immediate use, and generally it is too dry. We then soak the turves and put them where they will soon become dry enough for use. This is a much better plan than damping after it is in lumps ready for use. The moss must be in about the same condition when used, and much of the future well-being of the plants depends on this seemingly unimportant advice. The pots and crocks should be thoroughly clean and dry; where there is a scarcity of crocks clinkers might be used as a substitute. Overpotting should always be avoided. We grow a great many of our L. anceps in baskets, which, unless where the plants have overgrown them, will only have the old material picked out and as many of the crocks as possible, and replaced with clean crocks and fresh compost.

VANDAS growing in this house are beginning to push their spikes, so that no time should be lost in affording fresh material where required. When grown in pots, nothing but fresh sphagnum with silver sand is used, but when grown in baskets we use peat as well. We have a plant growing in a basket that stands 7 ft. high with leaves down to the basket. Although much water will not be required, yet they must not know the want of it, or they will resent the treatment by droping their leaves later on. These do well with us when grown with the Cattleyas, where the shade given during summer is very slight.

ODONTOGLOSSUM HARRYANUM.—We grow this in the cool house during summer and winter it in the Cattleya house suspended close to the glass. Grown under these conditions large growths and strong spikes are plentiful. The forward plants are just now making up their growths fast, and receive at intervals of a week weak guano water. It is well to remember in growing Orchids, as other plants under glass, that no ammonia arises from the hot-water pipes, as from the decaying leaves in their native habitats.

COOL HOUSE.—Any plants of Odontoglossum crispum, &c., that may have been left over when the bulk was repotted in September, should be repotted at once so as to allow them to get established before the sun gets powerful. This house will require to be damped down twice daily, first thing in the morning and early in the afternoon; of course that will depend upon the kind of house, as some dry up much quicker than others. When such is the case more damping may be required.

EAST INDIA HOUSE.—Continue to keep a nice even temperature, but there must not be too much moisture in the air yet, or it will cause the foliage of Saccolabiums to spot. They dislike anything like a moist stuffy atmosphere. Phalænopsis also spot through being kept too wet with a fluctuating temperature. I saw a lot last year which were grown in cylinders, the base of which were placed in shallow pans filled with water—a great mistake. They had evidently done well for a time, but the sphagnum had become sour, the water in the pans green, and as a natural consequence the dreaded spot had made its appearance.

TEMPERATURES.—There is no necessity to raise these yet. East India house, 65° at night, 70° by day; Cattleya house, 55° at night, 60° by day; cool house, 45° at night, 50° by day. Should the weather keep mild, a few degrees higher with the bottom ventilators open will do no harm.—*C.*

Mormodes buccinator aurantiacum.

THE original or typical form of Mormodes buccinator was described by Lindley in 1840, and had sepals and petals of a pale green colour with the lip of an ivory whiteness, and having the side lobes rolled round behind in the form of a trumpet; hence the specific name, which means "the trumpeter." The species is variable both as to form and colour, as testified by the late Professor Reichenbach some years ago. One variety introduced later on had orange flowers tinted with brown, another was pale reddish-brown covered with dark points, a third was pale yellow, a fourth whitish rose, several washed with a darker shading, one sombre yellow, and at last the form under notice, having the sepals and petals of a rich orange colour and a clear yellow lip. This latter was imported from Peru by Messrs. Linden, Parc Leopold, Brussels, and is represented by a coloured illustration in *L'Illustration Horticole*, *pl.* 144.

Oncidium cheirophorum.

THE neat habit and floriferous character of this little Orchid will always find admirers amongst those who can see beauty outside of the larger and more gaudy flowers that are popular at the present day. The pseudo-bulbs are small and compactly arranged with short leaves, from amongst which the arching panicles of small but fragrant yellow flowers arise. Different pieces come into bloom at various times during the autumn and winter months, when Orchids are by no means too plentiful. Owing to its small size it may be hung up near the glass in small baskets, where it can easily be accommodated and prove ornamental. It has been flowering for some time past at 213, Park Road, Clapham.

Variability of Odontoglossum Humeanum.

As fresh importations of this Odontoglot continue to be made, the flowers of different individuals are seen to vary to a considerable extent from the originally described type, some being dark and others lighter in hue. We noted three pieces in bloom the other week in the nursery of Messrs. Charlesworth, Shuttleworth & Co., at Park Road, Clapham, and all three were perfectly distinct from one another, yet belonged evidently to O. Humeanum, which by Reichenbach was considered to be a natural hybrid between O. Rossii and O. maculatum, judging from the form of the segments and the colours which are somewhat different from those of O. Rossii. The finest variety of the three plants at Clapham had yellow sepals heavily blotched with a tawny brown, while the petals were of a beautiful primrose colour blotched with deep brown on the lower half. The triangular or heart-shaped lip was sulphur yellow with a deep yellow crest. Another had the lower third only of the petals of a sulphur hue with one or two brown blotches at the base of the claw, while the lip was white. Between those two extremes was a third plant with sulphur yellow petals spotted with tawny brown on the lower half and having a creamy-white lip. All were beautiful, but the Orchid lover and connoisseur would give preference to the first on account of the more decided and darker yellow hues especially of the petals and lip.

Cypripedium Lathamianum.

THE seedlings of this hybrid which have been raised and flowered are now very numerous, and vary considerably in the different shades of colour. All the plants in cultivation have not been raised by one hybridist consequently there may have been some amount of variation in the parents themselves, A plant in the Orchid Nurseries at Park Road, Clapham, was raised by Mr. Hill, of Nottingham. It is a strong grower with leaves about 12 in. long. The upper sepal is white with a dark purple midrib. The petals are of a deep brown on the upper longitudinal half and pale greenish yellow on the corresponding half. The lip is shaded with pale brown on a greenish yellow ground. C. Lathamianum has gained considerably in interest since it first made its appearance before the public.

Lælia anceps Stella.

WE have received a fine bloom of this variety from Mr. Robert Twiss, Birdhill House, Birdhill, Limerick, Ireland. He tells us it is the first flower of that variety which has opened with him this season, and all we can say is that he has lost nothing by waiting, more especially if he has had visitations of fog, like such as prevailed on this side of St. George's Channel about Christmas. Judging however from the size, great substance, and appearance of the flower, it has been grown and bloomed in a pure atmosphere, far removed from the killing influences of smoke. The sepals and petals are white and very broad, the latter being ovate or sub-rhomboid and overlapping the sepals, The lip is also white while with exception of the raised yellow disc, clear bright purple lines on the interior of the side lobes, and the faintest tint of purple on the terminal lobe. Altogether the variety is a fine one, and has evidently received the best of treatment.

WHAT TO DO IN THE GARDEN.

Palms.—The time for repotting Palms has again come round, and it will be well to remember to guard against overpotting. They can be kept in a healthier state, both with regard to the health of the roots and the appearance of the foliage, in relatively small pots, provided plenty of water is given during the summer months, with supplies of weak liquid manure about two or three times a week. This will bring about the desired results in a more satisfactory way than if large pots were used.

Repotting Stove Plants.—If preparations have been made, as previously advised, for the repotting of those stove subjects which require it, the soil or compost should now be ready to hand, and the operation may be commenced immediately. Plants that have attained as large a size as is desirable, and those that are hard cut back every autumn and winter, will not require larger pots. The old ball should be somewhat reduced and the plant put in the same sized pot—the reduction of the ball will allow of a sufficient amount of fresh compost to be placed at the disposal of the roots. Young stuff intended to be grown on to larger size will require larger pots, relatively to the rapidity of growth of the subject in hand and the kind.

Watering of newly-potted Plants.—This is an operation that requires some skill and judgment to carry it out properly. Such things as Allamandas, Dipladenias, and Clerodendrons should receive a watering to settle the soil about the roots when newly repotted. As a rule the buds will have started at the time of repotting, but little water will be required after the first has been given, until they commence to grow away strongly, when they will enjoy an increased amount.

Crotons.—If the potting loam is of a sound and fibrous nature it may be used for Crotons at the rate of more than half the bulk of the peat incorporated with it, together with plenty of clean silver sand to keep the whole porous and open. Pot the plants very firmly in order to secure short-jointed wood and closely-arranged leaves. If the soil is put loosely about the roots, coarse growth will be the

result, and besides getting too large in a short time, the plants will not keep so well in winter.

Temperature in the Stove.—After the annual repotting is given it will be necessary to give less air for a week or two to enable the roots to get established in the fresh soil, and to encourage top growth also. More atmospheric moisture may be given, and the night temperature increased to 65°, except on very cold, windy or frosty nights, and a considerable rise may be allowed during the day, especially from sun heat.

Cucumbers.—The early-sown plants should now be fit to plant out on the mounds or heaps of soil prepared for them, or about to be prepared, in the Cucumber house. Previous to this all parts of the woodwork and glass in the interior of the house should be thoroughly washed down, and the walls whitewashed. Allow the mounds of soil to become warmed to the same temperature as that of the house before planting the Cucumbers. Keep up a night temperature of 65° to 70°, with a rise of 10° by day, or even more from sun heat, and give a little air on favourable occasions.

Stock of Bedding Plants.—The stock of different kinds to be planted out in the coming summer should be gone through to see whether there is sufficient in each case. Where the stock falls short of the requirements, the autumn struck cuttings or the plants housed for the purpose should be placed in a vinery or peach house at work to start them into growth in order to take cuttings. The latter should be placed in a moderately strong bottom heat to encourage the development of roots.

Pelargoniums, Verbenas, &c.—The autumn-struck cuttings in boxes or where there are several together in a pot, may now be singled out and potted up separately. Lobelias might with advantage be transplanted into other boxes, giving them more room. This will sometimes prove serviceable where space is a matter of some consideration as well as the quantity of pots required. Pelargoniums may be kept a little longer if it is intended to tie up the roots in balls of soil surrounded with moss, and to place the plants in a cold frame at once after danger from severe frost is over. Keep them in a cool house until they can be planted in the frames.

Obituary.

We learn from *The American Florist* of the death at Maywood, New Jersey, on the 9th of January, of Mr. James Taplin, formerly well known in this country as gardener to the late Duke of Devonshire at Chatsworth. Mr. Taplin was a native of Ludlow, Shropshire, his father being gardener at Ludlow Castle. He served as a young man in a number of the best English gardens, and eventually became gardener at Chatsworth, which place he left about a quarter of a century ago to go to America, and was succeeded by the late Mr. Thomas Speed. In America he was for several years with Mr. George Such, of South Amboy, N.J., and about fourteen years ago bought the property on which he was residing at the time of his death. Mr. Taplin proved himself both here and in the States to be a cultivator of the very highest class, and made many warm friends in his adopted home. He has left a widow, two sons and two daughters.

QUESTIONS AND ANSWERS.

**** Correspondents are requested, in order to avoid delay, to address all communications to "The Editor" or "The Publisher," and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa London."*

Poisonous Plants.—*Flos.*: The Manchineel-tree (Hippomane Mancinella) and the Upas-tree (Antiaris toxicaria) are very sparingly cultivated in the gardens of this country, and then only in the economic houses of botanic gardens. Various species of Colchicum (of which C. autumnale is the most common) are cultivated in gardens for the sake of their flowers which are very ornamental in the autumn months. They are of course hardy and are grown in the open ground. There are two annual species of Datura having pale violet flowers, namely D. quercifolia and D. Latula. On the other hand there is a greenhouse species named D. meteloides, which has either bluish-violet or white flowers, but the two colours would be on different individual plants. The Water Hemlock (Cicuta virosa) occurs on the banks of streams and in wet places, but is not very common. The Tithymale (Euphorbia Cyparissias) is a plant about 12-in. to 15in. high, densely covered with small, linear, light green leaves, with yellow flowers, and is often grown in herbaceous borders amongst other plants of that character. By Ulma you probably mean Ulmaire, and if so it is the Meadow Sweet (Spiræa Ulmaria) which requires no description.

Gas-lime for Cabbages, &c.—*C. M. R.*: It is now rather late in the season to apply gas-lime in the fresh state to the ground if Cabbages are to be planted soon. But taking it for granted that two months will elapse before Cabbages are planted or Carrots sown, the gas-lime would by that time have lost so much of its dangerous properties as to be harmless to vegetation. There is another way of dealing with it however, namely, by spreading it out on some hard surface to expose it to the action of the air for about two months before use; it could then be swept up and applied to the ground. Its action upon the grubs would however be less effective than when pointed or forked into the ground in the fresh state. As to the quantity to be used it is a question of using one's judgment. Break it up fine and give the ground a good sprinkling, just as one would scatter sand or ashes upon ice to prevent foot passengers or horses on a road from slipping.

Cutting down Box Edgings.—*C. M. R.*: In your part of the country we should defer cutting down the edgings till April, and then we would select a favourable time. For instance if the weather during the first week is very dry and cold it might be advantageous to wait for a change to a milder and more moist time. This would encourage fresh growth, and the edging would soon recover and present a fresh appearance. There would not be much danger of the sun burning the old leaves if done at that time. Should the weather be very mild during March it might be advisable to perform the operation towards the end of that month. Of course we presume that even when your edgings are hard cut down there will still be leaves upon them; otherwise we would lift them and relay them, breaking up the plants into suitably small pieces.

Names of Fruits.—*G. B.*: 1, Alfriston; 2, Dutch Mignonne.—*Knebba*: 1, Golden Reinette; 2, Reinette du Canada; 3, not recognised; 4, Josephine de Malines; 5, not known—*R. J. C.*: next week.

St. Peter's Worts.—*Omega*: There are several species of St. Peter's Wort in cultivation, including Symphoricarpus racemosus and S vulgaris, both of which are pretty common in gardens. The first named is the most common, and is the common Snowberry, a shrub which generally gets laden with snow-white berries during September and October. It grows about 4 ft. or 5 ft. high, and when laden with fruit you can hardly mistake it for anything else.

Mistleto Seed.—*James Harvey*: The seeds may be placed in position upon Apple trees at once. It may be done in two ways, namely by rubbing the viscid fruits upon young branches until they adhere, or by making a cut in the bark and lifting the latter until the fruits or seeds can be pushed in beneath it. The usual plan is to place the seeds on the under side of branches so as to escape the eye of birds till germination takes place. To make them more secure however you could tie a thin piece of canvas or tiffany over the places where the seeds are inserted until they germinate and pierce the bark, after which they will be pretty safe.

Tomatos, Cucumbers, Vegetable Marrows.—*Omega*: All of these are usually classed as vegetables by gardeners and by the framers of exhibition schedules. Tomatos are sometimes admitted in classes set apart for fruits, but they do not as a rule carry very much weight with the judges, even if they do not disqualify the exhibit. They are generally admitted in classes for vegetables, where they carry more weight with judges; and in some instances separate classes are made for them, where they can be judged upon their own merits. Speaking from a botanical point of view, all the three kinds you mention are undoubtedly fruits, and are classed as such.

Communications Received.—E. H. K.—J. P.—F. & B.—W. J. B.—R. J. C.—W. D.—Con.

LONDON SEED TRADE.

February 1st, 1892.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, E.C. report White Clover firm. New English Red Clover is now coming out in larger quantities, and prices if anything are easier. There is no alteration in Foreign Red Clover or Alsike, Trefoil is unchanged. The market for Ryegrasses looks like being much dearer.

COVENT GARDEN MARKET.

February 3rd.

Fruit.—Average Wholesale Prices

	s. d	s. d.
Apples... per ½-sieve	1 0	5 0
Canadian and Nova Scotian Apples per barrel	12 0	18 0
Grapes .....per lb.	1 9	3 0
Pine apples. —St. Michael's, each	2 6	6 0
Cobbs... per 100 lbs.		40 0

Vegetables.—Average Retail Prices.

	s. d.	s. d.
ArtichokesGlobe doz.	3 0	6 0
Beans, French, perlb.	1 0	1 6
Beet..... per dozen	2 0	3 0
Cabbages ... per doz.	1 6	2 6
Carrots ... per bunch	0 6	
Cauliflowers,English, per doz.	3 0	6 0
Celery.....per bundle	2 6	
Cucumbers .....each	0 6	0 9
Endive, French, doz.	2 6	3 0
Herbs .....per bunch	0 2	0 6
Horse Radish, bundle	2 0	4 0
Lettuces ...per dozen	1 6	2 0
Mushrooms, p. basket	1 3	2 0
Onions.....per bunch	0 4	0 6
Parsley ... per bunch	0 6	
Radishes... per dozen	1 6	
Smallsalading,punnet	0 4	
Seakale ...per basket	2 0	3 0
Spinach, per strike ...	1 6	
Tomatos..... per lb.	0 6	1 0
Turnips .....per bun.	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.
Chrysanthemums,doz	6 0	12 0
— large .....per doz.	12 0	24 0
Cyperus .....per doz.	4 0	12 0
Dracæna term., doz.	24 0	36 0
Dracænaviridis,doz.	9 0	18 0
Epiphyllum per doz.	9 0	12 0
Erica Hymalis, per	12 0	18 0
— gracilis, per doz.	9 0	12 0
Evergreens,invar.doz	6 0	24 0
Ferns, invar..per doz.	4 0	18 0
Foliage Plants, doz.	12 0	60 0
Hyacinths,...per doz.	6 0	9 0
Lily of the Valley, doz. pots	12 0	24 0
Marguerites, per doz.	6 0	12 0
Palms in variety,each	2 6	21 0
—scarlet .....per doz.	4 0	6 0
Poinsettia, ...per doz.	9 0	18 0
Primula Sinensis per doz.	4 0	6 0
Roman Hyacinths, per doz.	9 0	12 0
Solanums...per doz.	9 0	12 0
Tulips.....per doz.	8 0	9 0

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.
Acacia or Mimosa French per bunch	1 6	2 0
Arum Lilies, 12 blms.	6 0	9 0
Bouvardias, per bun.	0 6	1 0
Carnations, 12 blooms	2 0	3 0
Chrysanthemums, doz. blooms	0 9	2 0
Chrysanthemums, doz. bunches	6 0	24 0
Eucharis ...per doz.	6 0	9 0
Gardenias 12 blooms	6 0	12 0
Hellebore or Christmas Roses, doz. blooms	0 6	1 6
Heliotropes,12 sprays	0 6	1 0
Hyacinths, Roman, doz. sprays	0 6	0 9
Lilac, French, per bunch	6 0	7 0
Lilium Harrisii, doz. blooms	6 0	10 0
Liliumsvar.,doz.blms.	1 6	3 0
Lily of the Valley, doz. bunches	12 0	18 0
MaidenhairFern,12bs.	4 0	9 0
Marguerites, 12 bun.	2 0	4 0
Mignonette... 12 bun.	1 6	3 0
Narciss, Paper White doz. sprays	0 9	1 0
Narciss, French, doz. bunches	3 6	6 0
Pelargoniums, 12 sps.	1 0	1 6
—scarlet.....12 bchs.	9 0	12 0
Poinsettia. doz. blms.	4 0	9 0
Primula, double,bun.	0 9	1 6
Primula single, doz. sprays	0 4	0 6
Roses, yellow, dozen	3 0	6 0
— Red..... doz. blms.	1 6	2 0
— Saffrano...per doz.	2 0	3 0
— Tea ..... per dozen	1 0	3 0
Tuberoses, per doz.	1 0	1 6
Violets, Parme, Frnch per bunch	4 6	5 0
— Czar, French, bch.	2 6	3 0
— Dark, French, doz. bunches	2 9	3 6
— English,doz. bchs.	1 6	2 0

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12 Algerian Ivy, peculiar oval leaves	1 6
6 red or yellow Primroses, double as Roses	2 0
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20 Periwinkle, blue, white, forms dense carpet under trees	1 6
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12 Violets, named	2 0	6 Palms, named	2 6
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20 Wallflowers, mixed...	1 6	6 Ivy Geraniums.....	1 6
20 Aquilegias mixed vars.	1 6	3 Dracænas, 1 ft. high...	1 6
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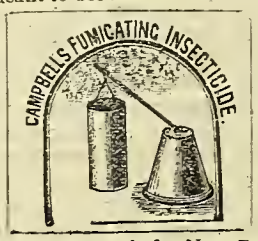

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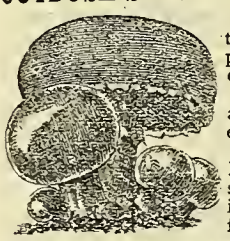

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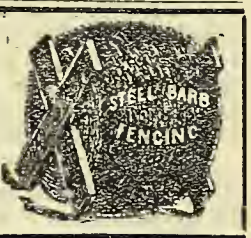

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For Index to Contents see page 377.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, February 15.—Sale of Hardy Perennials, &c., at Protheroe & Morris' Rooms.

WEDNESDAY, February 17.—Sale of Orchids at Messrs. Seeger & Tropp's, East Dulwich, by Protheroe & Morris; Sale of Palms, Ferns, &c., at Protheroe & Morris' Rooms.

THURSDAY, February 18.—Sale of Lily Bulbs, &c., at Protheroe & Morris' Rooms.

FRIDAY, February 19.—Sale of Imported Orchids at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, FEBRUARY 13th, 1892.

PARCELS POST AND GARDEN PRODUCTS.—From time to time special efforts are being put forth to render the Parcels Post more useful both to growers of garden products and to consumers. We note that very recently in a farmers' gathering the employment of the post was strongly urged for the benefit of the Agricultural interest. There are few of farm products, as such purely, which could be well sent per post unless butter be so forwarded, for eggs, though so desirable in a fresh form and of daily delivery, are perhaps rather too brittle to be safely entrusted to such a mode of transit.

If farmers contemplate the growth of fruit and look to the Parcels Post as a means of distributing their produce, then do they and their products come into the same category as gardeners and their products? To make the Parcels Post a complete success it is first needful that the present restrictions upon size and weight of parcels should be largely modified. Obviously some regard must be had for the final methods of distribution, for postmen are but mortal, and cannot carry cartloads of parcels on their backs. But the public convenience should have in all such matters the first consideration; and if it be found as a result of materially modifying the present regulations weights were heavier and parcels far more numerous, then would the method of delivery have to be increased materially; also, then the present charges are full thirty per cent. too high, and in the case of certain kinds of produce renders the sending of much of it per post out of the question.

These reforms, if found practicable, would be productive of immense service to the gardening vocation as well as to consumers. It would materially help in the distribution of garden produce, were it possible to obtain at a cheap rate small boxes or baskets of uniform dimensions, according to holding capacity, which it would pay to return through the post at a much reduced empty rate. Having boxes and baskets to size and pattern would greatly facilitate both packing and transit. It is very obvious that our Parcels Post is yet a long way from being perfect.

What constitutes a Gardener?—A somewhat odd question was raised recently as to what constitutes a gardener. The matter is one to be determined rather by the common meaning of terms than by extravagant interpretations. It may be that every one who cultivates a plot of land or grows plants in a greenhouse or frame is a gardener in a very limited sense, just as he who grows a rod of Oats or Turnips may claim to be a farmer. Indeed, inasmuch as the poet laureate has dubbed Father Adam "The grand old gardener," and we are all personally children of Adam, so might we all with very elastic logic claim to be gardeners.

However, our readers have their own interpretation of the term, and just as we call dealers in seeds seedsmen, or traders in trees nurserymen, or growers of particular flowers florists, so also do we classify all who cultivate gardens, and not for trade purposes, as gardeners. If we write of one person he is described as gardener to some one, but if we write of anyone in trade we never apply that term in such case, because it is not according to usage or tradition. Practically everyone associated with horticulture may be more or less a gardener, just as all who hold to the recognised religious faith may be more or less Christians. But just as in the latter case we have many different sections or divisions of creeds, all having diverse appellations, so in horticulture we have different names or appellations, just as the nature of the work in which each is engaged is diverse.

Doubtless all our readers understand what they mean by a gardener, just as they understand what they mean by a nurseryman, a seedsman, or a market florist. The interesting point was raised at the recent annual general meeting of the supporters of the Gardeners' Orphan Fund, when it was suggested by a subscriber that gardeners were insufficiently represented on the executive committee. As to that we have nothing to say now, but the question still remains, what is a gardener? and whilst all horticulturists may claim to be such we think, all the same, that readers will still adhere closely to the common classification.

The Gardeners' Orphan Fund.—We publish in another column a report of the proceedings of the annual general meeting of this fund. It was of a most satisfactory nature, and as pleasant in its ultimate electoral results as in its business arrangements. As a full year and a half had elapsed since the previous ordinary general meeting was held, consequent upon the new arrangement which makes the financial year to correspond with the calendar year, there was more than usual interest displayed in the proceedings. It would of course be pleasant could the general meeting be held on the same day as one of the chief horticultural gatherings of the winter, so that more country subscribers might be induced to attend, but the obstacles in the way are many and not easy to overcome.

The dropping of the usual public dinner on the evening of the meeting day might have militated against the attendance, but fortunately did not. It has been thought best to hold the public dinner later in the spring and to make it more of a charity banquet, in the hope that a considerable sum will result, especially that so distinguished a City leader as Sir James Whitehead, Bart., will preside, and has shown an earnest of his good intentions by promising a donation of £100 to the fund. It is hoped to have a social gathering of subscribers on the old lines during the summer or autumn months.

The supporters of the fund will learn with extreme pleasure that eleven out of the twenty orphan candidates for the benefit of the fund have been elected, and as the votes given to the unsuccessful candidates will count on to their totals next year if re-nominated, perhaps most of them will be elected. The fund is now sustaining fifty orphans, and is thus unostentatiously doing a noble work, which merits all the sympathy and support of the gardening community.

Cape Fruit.—We trust none of our readers will be alarmed because of the report in the newspapers of the arrival here from the Cape of Good Hope of a consignment of Peaches, and that also other fruits, including Grapes, are to follow. At present there can be no home-grown Peaches in the market, and we are absolutely indifferent as to how far Greek may contend with Greek so long as the benefit is ours. Long ere our home-grown Peaches come in the Cape supply will be over. Then our readers can very well understand that fruit, and especially such soft fruit as Peaches—which must of necessity be gathered ere ripe, and then be some three weeks exposed to a freezing temperature in a refrigerating chamber—whilst yet Peaches, are only such in appearance, as, apart from any other considerations, such exposure to a low temperature can only tend to rob the fruits of flavour. Hence it is certain that whilst the public may purchase the new importations the result will be only to make them all the more anxious to purchase home-grown fruits so soon as obtainable.

It is true that more favoured countries can obtain fruit crops with comparative ease as compared with our chances. Still with our glasshouses, and if not constant yet occasional summer warmth, we do have fruit such as all the world cannot excel, whether it be soft or firm, from the open air or grown under glass. So far as fruit importations have gone they have proved at least of enormous benefit to consumers, and, although Great Britain seems once to have been taunted with being but a nation of shopkeepers, we admit fully the soft impeachment that we are a nation of consumers. Then happily our markets are open to the world, and we above all the nations of the earth have plenty and cheapness. When our own producers can put forth their energies in the matter of fruit culture we need fear no competition.

Mr. McKenna, gardener at the Chief Secretary's Lodge, Phœnix Park, Dublin, is engaged to succeed the late Mr. John Roberts (whose death is announced in another column) as gardener at Charleville Forest, Tullamore.

Garden Nettings, Shadings, &c.—Some samples of tiffany and small meshed nettings received from Messrs. Rigby, Wainwright & Co., Neptune Works, Manchester, remind us that the season is near at hand when these very useful articles will again be in demand. The samples before us appear to be of the best materials and manufacture, and are evidently excellent value for the prices quoted.

The Woodbridge Horticultural Society will hold its annual exhibition in the Abbey grounds, Woodbridge, on Thursday, July 7th.

Eccles, Patricroft, Pendleton & District Chrysanthemum Society.—The annual general meeting of this society was held on January 29th, Capt. James Andrew in the chair. The report, which was read by the hon. secretary, Mr. H. Huber, was in every respect a very satisfactory and encouraging one. The society's exhibition of Chrysanthemums is well known and patronised by the principal growers within a large district. Year after year they have made greater progress, so that the Town Hall, Eccles, is already too small for their show, and they have therefore decided to hold their next exhibition, which is fixed for Friday and Saturday, the 11th and 12th November, at the Drill Hall, Patricroft. Mr. T. Hooper, the hon. treasurer, read a statement of the accounts, showing a balance of £75 13s. 2d. The following officers were elected for the present year:—Chairman, Mr. L. H. Larmuth; vice chairmen, Mr. Wm. Elkin and Mr. James Derbyshire; hon. treasurer, Mr. John Hooper; hon. secretary, Mr. H. Huber.

A Rose Society for Windsor.—A Rose society has just lately been formed at Windsor and will be called the "Windsor and District Rose Society." Mr. Colin Romaine of Old Windsor has been mainly instrumental in its formation. It is proposed to hold an annual show in Windsor, the first of which is fixed for June 29th next. The radius of this society will be ten miles round; this will be the means of getting together a good show; such places as Ascot, Sunningdale, Clewer, Maidenhead, Datchet, Slough, etc., being within the district. The first president is to be the Rev. the Marquis of Normanby (who is a Canon of St. George's Chapel, Windsor Castle). A first-class show will no doubt be the result of the hard-working National Rose Society's secretary's efforts in getting this branch formed.

Brixton, Streatham, and Clapham Horticultural Society.—At the annual general meeting of this society it was decided to hold the autumn show on the 1st and 2nd November at the New Town Hall, Streatham. A pleasing incident at the meeting was the presentation by exhibitors of the society of a handsome salad bowl, fork and spoon to the Hon. Sec., Mr. W. Roupell, with a hearty vote of thanks from the members for his services during the past year.

Sevenoaks Gardeners' and Amateurs' Society.—At the usual fortnightly meeting held on the 2nd inst., Mr. W. Searing presiding, Mr. R. Edwards, Beechy Lees, showed a seedling Cucumber of great promise. It is said to be a free setter and a good grower, and was considered much better than Telegraph for winter work. A First-class Certificate was awarded. Another exhibitor, Mr. Read, was awarded a first prize for a good box of cut flowers. Subsequently, Mr. A. Hoadley opened a discussion on the "Pelargonium." It was a lucid, concise, and practical address, dealing with the subject from the cutting to the flowering plant, and was well received. The

practice of opening a discussion in this manner is much to be preferred to the reading of lengthy papers. At the close of the proceedings a hearty vote of thanks was accorded Mr. Hoadley, and a similar compliment was paid to the chairman. Early in March the society proposes to pay the Tonbridge gardeners a visit.

Bouille Bordelaise and the Potato Disease.—At the meeting of the council of the Royal Agricultural Society held last week, the seeds and plant diseases committee recommended renewed and extended experiments on Potatos with Bouille Bordelaise during the forthcoming season. It was also stated that Mr. W. Carruthers, F.R.S., had undertaken to carry out a separate enquiry into the exact nature of the effect of the Bouille Bordelaise upon the Potato disease fungus, especially as to wherein lies the efficacy of the mixture in the destruction of living organisms.

The National Amateur Gardeners' Association held its first annual general meeting at the Memorial Hall, Farringdon Street, E. C., on the 2nd inst, under the presidency of Mr. T. W. Sanders, F.R.H.S. Notwithstanding the somewhat inclement weather, and the severity of the prevailing epidemic, there was a capital attendance of members. The report of the committee showed that the roll of membership was 240, and that although the annual suscription, only half-a-crown, rendered the source of income somewhat limited, the association was, financially, in a very encouraging position, which augured well for its future success. The visits paid to various nurseries had been most interesting and instructive, and hearty votes of thanks were accorded the nursery and seed firms for the courteous manner in which the visitors ere received. Steps were being taken, it was stated, to inaugurate branch societies at Reading, Liverpool, xeter, and Bow, and already the Ladywell Cottagers' Floral Society had been affiliated to the association. Mr. T. W. Sanders was unanimously re-elected president, as also were Mr. Crane as secretary and Mr. H. Needs as treasurer.

Fixation of free nitrogen by plants.—It results from conclusive scientific experiments that certain plants of the family of the Leguminosæ, amongst others Peas, make large borrowings of the nitrogen contained in the atmosphere. The most recent investigations made by Messrs. Th. Schloesing and Em. Laurent, and communicated to the Academy of Sciences of France, have once for all verified this fact. An analogous phenomenon has been established by them for several green plants of lower organisation. In the divers experiments, the roots of Peas have been found provided with strong nodosities or tubercles. —*L'Illustration Horticole.*

Botanic Garden at Paris.—Le Jardin des Plants at Paris, as stated by *L'Illustration Horticole*, in spite of the beneficial modifications introduced by its skilled and learned director, M. Maxime Cornu, does not respond to the needs of instruction which in our day demands more vast and perfectly aerated grounds. It is a vague question of transferring the scientific part of the establishment to the gardens of Versailles, which without losing anything of their particular and actual stamp, nor their historic character, could acquire as a result an importance and a utility comparable to those of the gardens of Kew.

Laced Chinese Primulas.—We received the other day from Robert Owen, Castle Hill, Maidenhead, some blooms of his imperial strain of Chinese Primulas. Amongst them were some beautifully laced varieties, preserving the same pleasing colours and their arrangement as when we spoke of them some three years ago, but they are now inclined to become semi-double. One variety had a very broad, deep pink margin surrounding a central white zone; another was white with a narrow pink lacing; and a third had a broad, somewhat mottled lacing of pink with a large yellow eye. A deep rose and a vermillion coloured flower were also fine.

Primula Floribunda.—The bright yellow flowers of this Western Himalayan Primula are very serviceable and attractive during the winter and early spring months, for the decoration of the conservatory or greenhouse. They are produced in whorls, tier above tier, on shortly elongating flower stalks that vary from 4 in. to 8 in. high when fully developed. The lanceolate elliptic leaves are deeply and irregularly jagged or toothed, and form a background that shows off the bright colour of the flowers to advantage. Whether this species is capable of improvement remains to be seen; but if the individual flowers could be developed to a larger size, it would certainly tend to popularise the species, and cause it to be more largely grown for decorative purposes.

ASPARAGUS CULTURE FOR AMATEURS.

What kind of Asparagus was that which is said to have been cultivated in the time of Cato the Elder, 200 years B.C.? That appears to be about the first historical record of its culture we possess; and as it is a vegetable much esteemed by the Greeks and Romans we must assume it was extensively grown. I wonder if there were horticultural exhibitions in those days, or 300 years or so later, when the old Roman historian, Pliny, made note of a sort growing in his time near Ravenna, three heads of which would weigh a pound. Cannot some enterprising seedsman re-introduce this fine variety, but not merely on paper.

That Asparagus has long held a place among the oldest and most delicate of the culinary vegetables grown in this country is well known. More than 200 years ago forced Asparagus was supplied to the London markets, but one searches the files of The Gardening World of those days in vain to discover the methods of culture adopted by our fathers, who probably grew it pretty much as we do in these days. An old Chinese name for the Asparagus is *Lung suts' ai*, which means Dragon's Beard.

There is a tendency to regard Asparagus as a luxury to be enjoyed mainly by the wealthy. This is probably owing to the expense of culture and the limited area of its general cultivation. It is held to be a plant requiring large supplies of manure, though the late Mr. Shirley Hibberd, in the paper he read at the Vegetable Conference at Chiswick in 1890, on the culture of Asparagus for autumn, said that he was fully satisfied that the extravagant manuring practised in the cultivation of Asparagus is in very many instances extravagant waste, for the plant is thereby fed with but a little of what it requires, and very much of what it does not require.

I think that some amateurs who have an Asparagus bed in their gardens might have early Asparagus at a comparatively small expense, and with a limited out lay of labour, and in this way. He should have an ordinary garden frame with one or two lights; and he should be able to procure, if he has not got them, some good plants of Asparagus, two years certainly, and better still if three years from seed. Having the frame and plants, the next requirement is some heating material; the best for his purpose is some fresh stable dung, and leaves that are only partly rotten. The stable manure should be placed in a heap and turned over twice, shaking it well together, there being an interval of from four to six days between the two turnings. The necessity for the turnings lies here, if the fresh dung be made into a bed at once, it will heat fiercely, and dry up quickly, and thus render a very slight service. But when well shaken and turned, it heats much more slowly, the warmth is well distributed, and it is retained for a much longer period. The manure should then be built up in the form of a bed, 3 ft. deep if possible, but 6 in. wider all-round than the frame, beating the manure down in order to make it as firm as possible. The frame placed over the bed, there should be next laid upon it a layer of good soil, 3 in. or so in depth, and upon this, the roots of Asparagus can be placed thickly together. If the roots are taken from an Asparagus bed, they should be carefully lifted, so as not to injure the rootlets; and if they are obtained from a nursery, plants free from injury as far as possible should be selected. It does not matter if the rootlets overlap each other, provided the crowns are free. The roots thus arranged, they should be covered with 3 in. of good soil, and the bed is then complete.

How much of air should be admitted depends in great measure upon the degree of heat given forth by the bed. A moderate warmth is sufficient, and the grower will, no doubt, be able to regulate it so as to bring on his crop of Asparagus without drawing the stems, and causing them to become lanky. The cooler the temperature in reason, the stronger will be the heads of Asparagus. If the weather becomes mild and sunny it will be best to tilt the lights an inch or two at the back during the middle of the day, keeping them close at other times. But light and air are as necessary to produce good Asparagus in a frame as in the open ground.

Such a bed can be made useful in many ways. While the asparagus is growing, a crop of an early Radish such as the Ne plus ultra; if the seeds be scattered thinly over the surface, they will soon germinate and grow into size; then half-hardy annuals, and seeds of even tenderer plants can be brought on, and cuttings struck; when the Asparagus is done with, the frame can take a Cucumber or Vegetable Marrow; and lastly, if not least, the beds will supply some excellent manure for potting and top dressing purposes.—*R. D.*

INTERNATIONAL HORTICULTURAL EXHIBITION, 1892.

On Tuesday last a meeting of horticulturists was held at the Hotel Windsor, Victoria Street, S.W., to promote the interests of the great International Horticultural Exhibition, which it has been decided shall be held at Earl's Court during the coming summer. Mr. H. E. Milner, the chairman of the executive committee and manager of the exhibition, presided; and there were present Mr. William Paul, Waltham Cross, Mr. John Lee, Kensington, Messrs. H. & A. Turner, Slough, Mr. F. Q. Lane, Berkhamstead, Mr. H. Williams, Holloway, Mr. E. Owen Greening, Mr. Pearson, Chilwell, Mr. William Bull, Chelsea, Mr. W. Marshall, Bexley, Mr. B. R. Cant, Colchester, Mr. H. Herbst, Richmond, Mr. Peter Barr, Covent Garden, Mr. H. Cannell, Swanley, Mr. H. W. Williams, Salisbury, Mr. McKellar, Sandringham, Mr. J. Hudson, Gunnersbury House, Mr. J. Smith, Mentmore, Mr. G. Wythes, Syon House, Mr. Jennings, Ascot, Mr. Hill, Tring Park, Mr. Myles, Wycombe Abbey, Mr. R. Dean, Ealing, Mr. J Assbee, Covent Garden, &c., &c.

Mr. Milner explained the objects for which the meeting had been called, which were to promote the success of the great display of horticultural products, accessories and requirements which it had been decided by the owners of the exhibition site at Earl's Court should be held this year, commencing on the 7th of May. The management of the exhibition had been placed in his hands by the promoters, who had provided for the whole of the expenses, and had already placed at his disposal the sum of £10,000 to go on with. It was his desire to have the assistance of a strong executive committee of experienced horticulturists, so that in the conduct of the exhibition throughout the season, the advancement of horticulture should be kept well to the front. In addition to the permanent exhibition it was proposed (as announced in our last) that a series of monthly shows should be held, at which liberal prizes would be given. A large extent of the flooring of the main building would be removed, so that a beautiful, undulating sub-tropical garden could be made thereon. The gardens as at present existing would so far as possible be re-modelled, and with the aid of music, the electric light, etc., everything would be done to draw as large a number of people as possible to the exhibition during the season. He had every reason to believe that the result would be a great financial success, in which case the entire net profits would be devoted to the gardening charities. The arena had been let to Col. Cody ("Buffalo Bill"), but would be a feature apart from the horticultural exhibition, though with means of access thereto. The schedules of prizes were in hand, and would be issued at as early a date as possible.

Mr. William Paul said that the statement made by Mr. Milner had completely satisfied him that there was nothing in this movement which could be considered antagonistic to any other horticultural movement or society. Horticulture had become so extensive in its ramifications that no one society or special movement of any kind could hope to cover all the ground, and therefore as he felt that this particular effort would be to the interest of horticulture generally, he would be glad to join the Executive Committee, and do his best to assist Mr. Milner in carrying out the exhibition to a successful issue. Mr. Paul concluded by moving the following resolution:—"That this meeting of representative nurserymen and gardeners of the United Kingdom desires to express their appreciation of the objects of the International Horticultural Exhibition, and will do what they can to secure its success, and also to extend a cordial greeting to their continental friends." The resolution was seconded by Mr. McKellar, and carried unanimously.

Several questions having been asked with regard to various points of detail and satisfactorily answered, Mr. Dean moved and Mr. Hudson seconded a cordial vote of thanks to the chairman, who suitably acknowledged the compliment.

HOME-GROWN FRUIT.

NOTWITHSTANDING our heavy crop of fruit last year we fail to see any of it in the market now. Every one asks what has become of it, making at the same time suggestions that it must be stored up somewhere in large quantities. Some are of the belief that this is unfortunately the case. Considering that home-grown fruit is admitted on all hands to be of better quality than that obtained from Canada or otber parts of America, there must be something altogether anomalous in our methods of placing it upon the market if it cannot be disposed of to advantage even in tbe face of great competition from an inferior article. Your correspondent "A. D.," p. 278, said that botb our dessert and culinary Apples are better tban any that America can put in the field. Elsewhere a writer has stated that Britisb Apples contain about three times as much sugar and malic acid as those showy but spongy Apples which come from America. Sir James Whitehead, quoting from the *Fruit Farm Review*, has said that the slower growth of fruit in this country is productive of tbe rich juices and flavour for which our fruit is justly famed, and that English grown fruit will realise from ten to fifteen per cent. more than foreign fruit, even when the two are placed side by side.

It may well be asked when and for how long a time the two compete with one another side by side. The bulk of the fruit of English production comes into the London markets during August, September, and October; after tbat its appearance on the shelves of the greengrocer is like the thin red streak at Balaclava, that is, few and far between. Taking Irish Peach and Devonshire Quarrenden as a sample, we see that they readily sell at from 4d. to 6d. a pound. The last-named seems the most popular; for a few days while plentiful it sells at 4d. a pound for fairly good samples. As the supply is getting exhausted the price runs up to 6d. for samples tbat are small, improperly ripened, and, in fact, perfect rubbish compared with Cox's Orange, Blenheim Pippin, Duchess Favourite, Ribston Pippin, and many others. The bulk of home-grown fruit, as far as the early kinds are concerned, are consumed in the half ripe state. No doubt the higb colour of Devonshire Quarrenden and the fact that tbe dealers label it English grown, English Quarantine, or something to tbat effect, have something to do with the ready sale which it obtains.

Tbere is great reason to suppose that the bulk of British fruit wbich finds its way into the London markets consist of early varieties which can last in season for a short time only even in the absence of competition. The obvious reasons for cultivating them being that the fruit can be gathered from the tree and sent to market witbout having to undertake the trouble of storing it; also that tbe grower then gets an immediate return of his money for it, and that there is little or no competition from American kinds at that time. There is, however, in some cases an attempt at storage, for a number of British varieties of Apple, such as Blenheim Orange, King of Pippins, Ribston and Dumelow's Seedling (Wellington), migbt be seen in the market at Christmas selling at 3d. and 4d. a pound for specimens of moderate size.

On tbe other hand, it is more than probable that the bulk of growers for market make no attempt at storage, or, if tbey do, that tbey fail for want of properly-constructed fruit or store rooms, and a knowledge of the best means to adopt in the storage of late keeping kinds. Last winter, for instance, was a very severe one, and many of the Apples in store rooms got frozen and rendered worthless by their rotting soon afterwards. In some cases precautions were taken to guard against frost by covering them up during the latter part of last year and the beginning of this, and the result was that the fruits rotted, no doubt by sweating and too much moisture that could not escape. Instructions as to methods of storage would be of great advantage to the British fruit grower, and such should be widely disseminated by instructors.—*Taxus.*

SMALL FRUITS.

(Continued from page 354.)

GOOSEBERRIES.

THE Gooseberry, botanically known as Ribes Grossularia, is one of our most useful hardy fruits. It is said to be indigenous to Britain, but a great deal of uncertainty seems to exist as to whether it was not imported. Gooseberry culture is carried to greater perfection in the north of England and in Scotland than it is in the south, the cooler climate being more favourable to their growth. The fruit is invaluable both when green and in a ripe state.

PROPAGATION.

This is very easily effected from cuttings; with ordinary treatment fully ninety per cent. may be depended upon. Seed is only sown with a view to raising new varieties, and is largely practised about Lancashire. The cuttings should be made of firm, short-jointed, one year old wood. The strongest growths are not the best, and those of a medium size only sbould be selected. They should be from 1 ft. to 18 in. in length, and all the buds must be removed except four or five at the top; the point of the cutting should always be removed, and the end which is inserted in the soil cut clean across just below an eye. The spines should not be removed, as they will help to hold the cuttings in the soil during frosty weather. Great care sbould be taken to remove all the lower buds as it will save trouble afterwards. Early autumn is the best time to put in the cuttings, which should be in straight rows 1 ft. apart and about 3 in. between the cuttings. They should be put in as the ground is being dug. When you have sufficient space for a row, stretch the line across and cut down a shallow trench, standing the cuttings in their position. They should be made firm with the foot, and the same process repeated until all the cuttings are planted. The young plants should be kept in nursery rows for two or three years, being moved every autumn and replanted at a wider distance.

PLANTING.

Planting can be done any time from October to the end of February, but the sooner it is done after the leaves are oft the better, as then the bushes get a chance to make a few roots before winter. Just as much attention should be paid to planting a Gooseberry bush as any other fruit, but there is a prevailing idea that a Gooseberry bush will grow no matter how it is put in. The roots should be carefully spread out, and fine soil worked in between them, making it moderately firm. If a piece of ground can be entirely devoted to them they should be planted about 6 ft. between the rows, and 5 ft. between the plants, allowance being made either way for strong or weak growers. A good plan is to fill the intervening spaces between standard Apples with bushes.

PRUNING AND TRAINING.

In pruning a young Gooseberry intended for a bush, three shoots should be selected at about equal distances apart, bearing in mind always to have a clean stem of from 6 in. to 9 in., to admit of the ground being stirred and kept clean. Three branches are best witb which to lay the foundation of a useful bush; they should be shortened to four or five eyes, cutting to a bud which points up and outwards. In the following season two or tbree shoots will come from those cut back: two will be sufficient to retain on each, the others should be cut out. The shortening sbould not be so severe this time as the bush has to be formed, therefore from 6 in. to 9 in. will be found suitable. The same process will have to be repeated until the required size is atained.

In Scotland the prevailing system is to spur all the young wood, treating each branch as a separate cordon. This system answers admirably for growing large sized or show berries; but for a profitable crop I would recommend the free or extension system, thinning out the young wood, and replacing the old by young vigorous shoots. The annual pruning of established bushes consists of keeping the bushes off the ground, thinning the branches out to admit air and light and gathering the fruit. By allowing the bushes to form a thicket in the centre they soon become barren, as without air and light no fruit can grow. Gooseberries can be very well grown on walls or fastened to horizontal wires; in this manner a great quantity of fruit can be obtained. The cordon system is the quickest to cover the space, but double cordons suit very well, The sidebranches should be pinched in summer to four or five eyes, allowing the leader to extend. At the winter pruning those pinched in summer must be shortened to two eyes to form spurs; the point should always be taken out of the leader if it has exceeded one foot in length.

VARIETIES OF GOOSEBERRIES.

Like all other fruits there is a great variety to be had in Gooseberries, no less than 240 sorts being described as distinct by Dr. Hogg in his *Fruit Manual.* Tbe following is my selection of twenty-five varieties, which will be found sufficient to meet the demands of a large establisbment:—Antagonist, Bright Venus, Broom Girl, Careless, Conquering Hero, Crown Bob, Drill, Early Sulphur, Glenton Green, Glory of Ratcliffe, Heart of Oak, Hedgehog, Keen's Seedling, Lancashire Lad, Leader, Mount Pleasant, Pilot, Red Champagne, Red Warrington, Shiner, Snowdrop, Thumper, Whitesmith, Whinbam's Industry, and Yellow Ball. Six varieties most useful for small gardens are—Early Sulphur, Red Champagne, Glenton Green, Red Warrington, Crown Bob, and Keen's Seedling.

ENEMIES OF THE GOOSEBERRY.

Tbese are chiefly birds and caterpillars, the former destroying the buds and the latter the leaves. A good plan to prevent both is to dust the bushes with slaked lime and soot in damp weather. Birds are also troublesome wben the fruit is ripening, and if it is possible the bushes should be netted. A plan which the writer bas seen adopted with marked success, where a piece of ground was entirely devoted to bushes, is to have a strong wire stretched on the top of uprights, placed at 12 ft. apart and 6 ft. high. Several nets are joined together, drawn over the wires and pegged to the ground at the sides.—*T.W.*

(To be continued.)

CHRYSANTHEMUM CULTURE UNDER DIFFICULTIES.*

By MR. NORMAN DAVIS.

ALL horticulturalists residing in large towns, especially in such a smoky and foggy place as London, labour more or less under great disadvantages as compared with those in more favoured localities. Again there can be no comparison in tbe advantages the professional gardener has, whether he be a nurseryman or a gardener in a private capacity, to the small and often much confined garden of the general town amateur. There is very little honour when the professional gardener competes witb the small amateur and takes the prizes from him. But on the other hand, when, as sometimes happens, the small, handicapped grower successfully competes against those who grow their plants under more favourable circumstances, especially when the town grower has to meet those from the pure country air, then tbere is very great honour.

Again, I never think much of those men who, having every convenience and appliances at their fingers' end, look down with a sort of supreme contempt at the productions of their less favoured fellows. Very often if we could change tbe circumstances we sbould perhaps change the results.

Now I make these opening remarks in the hope of giving encouragement to my amateur friends with limited resources, and not let them think after visiting some large show, like the National Chrysanthemum Society's for instance, that because they cannot produce such fine flowers as they see there, that their endeavours are any the less honourable to them. I would advise you not to take the quality of those flowers as the standard to reacb, but ratber endeavour to beat those among yourselves who have hitherto stood out as your champion growers. Never be satisfied while a man (or woman, as far as that goes) who, being placed under similar conditions as yourselves, grows better flowers than you do, but try all you can to honourably replace him. This is the only spirit that in a small society it is advisable to encourage, otherwise disappointment is sure to ensue.

Before passing on to other remarks in connection witb my subject, let me say, that you will always find in the Cbrysanthemum a great friend. If you treat it well, no flower so well repays us for the trouble bestowed upon it. We have sufficient proof of this in the great interest taken in the flower by the opening up of Chrysanthemum Societies in all parts of the country. But the Chrysanthemum, like all other friends, needs to be treated kindly—it will not stand neglect. Whatever we take up for a hobby, we should do it thoroughly, wbether it is plant growing or anything else. It not only then becomes our companion, but leads us into tbe society of kindred sympathies, as in the case of this gatbering to-night; and you will find as you go on that the very difficulties which you have to contend with in a neighbourhood like this, will tend to give you greater

* A paper read at the meeting of the Battersea Amateur Chrysanthemum Society, held on Feb. 3rd.

enthusiasm when you partly or wholly overcome them.

Now I will say a few words to you upon the cultivation of these flowers, more especially connected with the difficulties I have spoken of. Amateurs generally make one or two mistakes at starting. First, in respect to the varieties they grow; instead of trying to find out what will suit the conditions under which they are able to grow them, they generally visit some large show and take down the names of the leading prize-winner's blooms. There is no harm in trying many of these varieties where you have taken a special liking or fancy to them, but when you come to find out the extraordinary means often taken to get some of these blooms, and that under the most favourable circumstances, you will fight shy of risking your time for nothing on many of them. I have known a fine flower shown on some particular stand of a variety that has perhaps been in cultivation for years, but only now and then is a good bloom seen; that one good bloom has set every one growing this variety again. Next season perhaps hundreds of plants are grown, and yet not a solitary flower of it will be seen at the shows. Now amateurs cannot afford to waste time and space on a sort of speculation. If, therefore, you can learn something of the varieties before you procure them, you may often avoid being disappointed. There are plenty of experienced growers whom you may meet at shows who will willingly give any information if asked. I am not speaking to you without having over and over again witnessed disappoinment from the cause I have mentioned. In my business I am asked, I may say every day, by amateurs for varieties I know they cannot be successful with.

I cannot give you very full directions in making choice of the plants you would grow, but I will give you a few hints. If you wish to grow incurved Chrysanthemums, do not rely upon the largest varieties too much. What we call the Queens, that is Queen of England, Empress of India, etc., never make good solid flowers unless well grown. It looks very bad on a board to see a big flower which, instead of being cupped and incurved, has a hollow centre and the flower flat with florets reflexing. Again, there is what we call the Princess family—Princess of Wales, Mrs. Heale, Violet Tomlin, etc.; these require very high cultivation to secure good blooms. There are a large number of incurved varieties, and good old varieties they are, that you may nearly always be successful with; they are not only easy to bloom but of good habit and dwarf growing. Among these are Lady Harding, Mrs. Shipman, Barbara, Mr. Bunn, Beverley, Prince of Wales, Antonette, Prince Alfred, Lady Slade, Eve, and Mabel Ward.

Turning to the Japanese section, I would divide them into two classes, single and double flowers, the singles comprise many of the very largest varieties, Boule d'or, Edwin Molyneux, Mrs. Wheeler, Comte de Germiny, Beauty of Castlewood, and Mrs. F. Jameson. If you attempt to grow any of these, you will generally find them come with hollow centres, especially if we grow them on to what we call the terminal flower; that is to say the flowers that would come if left to bloom naturally. Now to get the fine flowers of these varieties that we see at the shows, we have to cultivate them, so that they become double; instead of letting them go on to the terminal bud, we cut short the plant's growth, and do what we call securing the crown bud. Now if the plant has previously been well grown so that it has become well matured, all the growth that we have cut short will be converted into florets and the flower becomes double, but it will only do this under exceptionally good cultivation, such as few of you are able to give in your small gardens. You will understand, then, why such varieties as I have mentioned, always come with what you call a big eye, or what I call single flowers. My advice is to avoid all varieties that have this tendency, for you will rarely ever succeed with them.

Double flowers are those that no matter what bud you take them on, or how many blooms you grow, even the small side shoots come double, that is well filled up flowers, with florets to the centre. You will find this in such varieties as Mdlle. Lacroix, Madame de Sevin, Val d'Andorre, La Triomphante, Duke of Berwick, Margot, and in many of the more recent novelties, such as the beautiful Viviand Morel, Miss Anna Hartzhorn and Florence Davis, really good double flowers, which are all easy to grow.

Another very great mistake which many amateurs make, is attempting to grow more plants than they have room for; nothing invites failure sooner than this. Each plant must have a certain amount of space to grow, so that it may obtain the necessary amount of air and light. If you give one plant plenty of space you may get three or four good blooms; put two plants in the same space, they will grow more spindly, and the blooms will be smaller; and if you can manage to squeeze three plants in, most probably you will get no bloom at all. And you often find that those who grow the least number of plants are the most successful in exhibiting.

A third mistake I would draw your attention to, and that is over-feeding, plants must not be starved any more than ourselves; but we are too apt to take instructions from those who speak from the professional grower's point of view. The amount of food his strong plants will take would act as poison to the general run of plants grown in the confined space of small gardens. I have always cautioned amateurs against much feeding. Chrysanthemums do not want the amount of food many of our writers on the subject insist on. Give them good soil of loam, manure and grit to start with, and only re-pot when the plants absolutely require it irrespective of dates and seasons; and then gently feed with liquid manure. When the plant's growth is finished, and you find the pots full of roots, then you will find the plants greatly benefited.

With the careful selection of varieties, confining yourself to only as many plants as you can properly grow and attend to, giving them good honest bread and cheese, instead of gorging them with rich pastry, and you will overcome most of your difficulties.

GARDENERS' ORPHAN FUND.

The annual general meeting of the subscribers to this charity was held at the Cannon Street Hotel, on the 5th inst., Mr. William Marshall presiding. The committee, in their report, congratulated the subscribers on the growing importance of the fund to the gardening community, as testified by the generous support it continued to receive from all classes. The proposal made by Mr. N. N. Sherwood and Mr. H. J. Veitch at the last general meeting: That, if the subscribers would contribute a minimum sum of £250, they would jointly provide any further sum that might be required to allow the committee to place on the fund the seven children who had that day been unsuccessful, as a memorial to the late chairman, Mr. George Deal, was readily accepted by the committee. The sum of £555 16s. 6d. was speedily raised, enabling the committee to grant the benefits of the fund to seven orphans. The lamented death of Mr. B. S. Williams, a warm supporter of the fund, called forth a very general desire that his honoured name should also be associated with the fund in a similar manner, and, on receipt of £250 from the Memorial Trustees, two more children, on the nomination of Mr. H. Williams, were elected. The committee greatly regretted that they were unable to arrange for a floral fête in Covent Garden Market as in former years, owing to practical difficulties in carrying them out. The loss thus sustained was in a great measure compensated for by a generous subscription raised by the standholders in the market and by the profits arising from the Rose Fair and Floral Fête held at the Crystal Palace. The desirability of establishing this fête at the Crystal Palace as an annual event was under the consideration of the committee. The national card collection which was instituted in the summer of last year, resulted in adding the handsome sum of £250 to the resources of the fund. This collection, it was proposed, should be continued annually. At the present time 39 children were receiving the benefits of the fund, and the committee recommended that 11 be elected that day, thus raising the number of beneficiaries to 50, who would be supported by the fund at a cost of £650 a-year.

The Chairman, in moving the adoption of the report and the annexed statement of accounts, pointed out that eighteen months had elapsed since the last report and statement of accounts was issued, owing to the alterations made in the rules twelve months ago, which provided for the commencement of the financial year being altered from July 1st to January 1st. But he was glad to report that, although the accounts included the working expenses of eighteen months, and the subscriptions practically only for the twelve months, there had been no diminution of revenue, but, on the contrary, a considerable increase. Their receipts for the eighteen months amounted to £2,594 17s. 4d., which was most satisfactory, even allowing for the extra six months. Their nearest approach to it was in 1888-9, when the receipts amounted to £1,976 3s. 7d. As regards the financial position of the fund he might say that during the four and a half years it had been in existence they had received over £8,000, of which sum they had now invested and in hand £5,786 3s. 8d. Of that sum they were liable to thirty-nine children to the extent of £3,118, leaving a balance of £2,668 3s. 8d. to meet their liability to the children whom they wished to elect that day. On the whole he thought the committee had had a very successful year indeed, and the alteration in the date of the commencement of the financial year had acted exceedingly well. Mr. H. J. Veitch seconded the motion, which was carried unanimously.

The retiring officers were unanimously re-elected as follows:—Mr. T. B. Haywood, treasurer; Mr. W. Sharp, auditor; Messrs. J. Assbee, H. Cannell, G. W. Cummins, G. Gordon, F. Q. Lane, W. Roupell, C. H. Sharman, and B. Wynne, members of the committee; and Mr. A. F. Barron as honorary secretary.

Mr. R. Dean and Mr. B. Wynne were elected scrutineers, and at the close of the poll the eleven successful candidates were declared to be—Mary Esther Green (272), Thomas James Francis (259), Charles Newrey Wasley (244), Annie Parker (216), Edward William Butcher (163), John Ernest Vine (141), Agnes Jane McIntosh (137), Edmund Norgate (129), James Alfred Bolton (122), Janet Hood Ireland (99), and Olive Hall (90). A cordial vote of thanks to the chairman and scrutineers brought the proceedings to a close.

GARDENERS' ORPHAN FUND.—CASH STATEMENT, JULY 1ST, 1890, TO DECEMBER 31ST 1891.

RECEIPTS.

		£ s. d.
To Balance from last Account		807 8 11
,, Subscriptions, General	£359 10 6	
,, Ditto collected by Local Secs.	130 7 6	
		489 18 0
,, Donations, General	332 19 2	
,, Ditto collected by Local Secs.	117 4 2	
		450 3 4
,, The George Deal Memorial		555 16 6
,, The B. S. Williams Memorial		250 0 0
,, General Card Collection		294 7 3
,, Crystal Palace Fête		129 3 3
,, Annual Dinner		67 15 6
,, Advertisements in List of Subscribers		31 2 0
,, Miscellaneous Receipts		52 14 4
,, Dividends on Stock and Interest on Deposit ...		173 17 2
		£3,302 6 3

EXPENDITURE.

		£ s. d.
By Allowances to Orphans		695 10 0
,, General Card Collection		44 5 2
,, Crystal Palace Fête		90 2 3
,, Annual Dinner		54 1 8
,, Printing List of Subscribers...		24 0 0
,, Secretary's Clerk	£78 15 0	
,, Printing and Stationery	46 12 4	
,, General Meetings (2) and Election...	16 12 7	
,, Hire of Rooms for Meetings... ...	8 2 0	
,, Postage	23 0 0	
,, Bank Charges	1 14 4	
,, Sundry Expenses (Petty Cash) ...	14 11 4	
		189 7 7
,, Purchase of £517 8s. 9d., 2¾% Stock	500 0 0	
,, Ditto £500, 2¾% Stock ...	475 0 6	
		975 0 6
,, On Deposit with Bankers		600 0 0
,, Balance at Bank		629 19 1
		£3,302 6 3

NOTE:—INVESTMENTS, ETC.

2¾% Consols	£4,056 4 7	
3% Canadian Stock	500 0 0	
	£4,556 4 7	
On Deposit with Bankers	600 0 0	
	£5,156 4 7	

Having inspected the Securities, and examined the Books and Vouchers supplied to us, we certify the above account to be correct.

(Signed) JOHN FRASER, Lea Bridge ... ...
WM. SHARP, Chartered Accountant, 60, Gresham Street, E.C. ... ... } *Auditors.*

Dated January 18th, 1892.

FLORICULTURE.

The Carnation.*

At an opportune time Mr. E. S. Dodwell has issued a cheap edition of his book on "The Carnation: its history, properties, and management." It is one of the classics of floriculture, and the information conveyed in its pages is all the more valuable because it may be said to summarize the experience of a lifetime devoted to the culture of this popular and fragrant flower. The Carnation has so increased in popularity of late; it has such distinctive claims to recognition on account of its hardihood, its great variety, and its exquisite perfume; and these qualities being recognised by so many who have been induced to take in hand the culture of the flower—a manual dealing with its development during the past half a century; its typical characteristics; its management; and setting forth reliable lists of the best varieties, was urgently needed, and it is supplied in the work under notice.

All the letter-press of the first edition is retained, and the directions given for the management of the flower every month in the year appear in all their original fulness. The descriptive lists of varieties have undergone revision, some of the older names have been dropped, with those of newer varieties which failed to answer to the expectations formed of them; nothing really good which has put in appearance since the second edition of the work was published is overlooked, and growers for exhibition in particular can depend upon the selections made. In these descriptions can be found a large amount of historical information that probably the author alone could give, and this portion of the works constitutes a valuable reference that will be consulted for years to come.

One new feature of more than ordinary interest is the addition of three chapters dealing with the Yellow Ground Carnations. They are such chapters as only Mr. Dodwell could write, for who has made such a close and patient study of the flower as himself? Chapter 1 is entitled a "Retrospect and a forecast," and carries the reader back to Thomas Hogg's experience of the flower, for he is acknowledged to be the first to introduce it, and the difficulties he encountered in cultivating it. Hogg called the Yellow Picotee "this delicate exotic," and this appears to have been the general experience of it down to 1860 and later, when Yellow Picotees began to drop out of both collections and trade catalogues.

In 1848, writing in the pages of the *Midland Florist*, the late Dr. Horner put in a strong plea for a fuller recognition of the Yellow Grounds. At that time raisers appeared to be moving within a very circumscribed circle; they narrowed their ideal of a good variety to the most circumscribed dimensions, and Dr. Horner was fain to admit that the varieties "exhibit but little of difference, and still less of distinction." In a powerful passage, which Mr. Dodwell quotes in full, Dr. Horner sets forth the possibilities of development in the Yellow Ground with something of prophetic insight; and the writer lived long enough perhaps to witness the first steps in a new development, which these later days have realised to a degree approaching the marvellous. Dr. Horner's appeal in favour of more consideration being given the Yellow Grounds produced but poor results; and, as Mr. Dodwell remarks, "various and diverse causes contributed to this. In the first place, thanks to the barbarous fiscal regulations which prevailed up to the earlier years of the forties, except in the garden of the most opulent—and there, in mode and fact alike, generally imperfect and inadequate—glass had no place, its use was unknown. The coverings of the florist were of wood or oiled calico, or other opaque substance. Such conditions were very unfavourable to the due acclimatising of the 'delicate exotic' spoken of by Hogg. Next the mighty mass of florists had little or no knowledge of fertilization. Seed was difficult of attainment, and when obtained, its issue in the main was deficient alike in stamina and in those properties sought for, and to such a large extent were on the white grounds." We think those who attempted to raise seedling yellows crossed varieties sadly wanting in vigour of constitution, with the result that the Yellow Picotee became in those days practically a thing of the past.

It was not until early in the eighties that the revival of the Yellow Grounds commenced. Such varieties as Prince of Orange, Royal Ascot and others, with marked improvement in constitutional vigour, came to the fore, and in 1886, not 1866 as given on page 110, the Kilmurry Yellows were sent to Oxford, and since then the onward march has been something remarkable. Among raisers Mr. Douglas proved singularly successful; Benary's Germania was a floral star of the first magnitude, and the more recent varieties raised at Erfurt, because of their vigorous growth and singular distinctness, have been heartily welcomed. Mr. Dodwell has added lists of the best Yellow Grounds and fancies, including several of Mr. Ernest Benary's varieties, together with the Kilmurry Yellows, and the best of his own raising at Oxford. There is a wonderful future in store for the Yellow Grounds. Each succeeding year brings some new revelation, and it is the earnest hope of many that Mr. Dodwell may be spared to witness more advanced developments in this interesting class than has yet been realised.—*R. Dean.*

* "The Carnation: its history, properties, and management; with a descriptive list of the best varieties in cultivation." By E. S. Dodwell. Third edition, with supplementary chapter on the Yellow Ground. London: Gardening World Office, 1, Clement's Inn, Strand, W.C.

A late-flowering Japanese Chrysanthemum.

A few days since Mr. Robert Owen sent me from his nursery at Maidenhead some blooming sprays of Golden Gem, a late-flowering decorative variety of great value, and which singularly enough is variously described in catalogues. The flowers sent to me are of a bright yellow colour, with a reddish apricot centre, and though they came to hand as late as the 1st of February, they were singularly bright and effective; and I should think it would be difficult to name another so useful for cutting from at this season of the year. It is a variety rescued from oblivion by Mr. Owen, and he grows it largely for its lateness. His method of treatment is simple enough. He puts three cuttings or three young struck plants in a pot about April, and the shoots are continually stopped till the end of July or the first week in August. The plants need to be exposed to all the light and air possible, in order to thoroughly harden or ripen the wood, and kept outside until there is danger from frost; they then require to be protected from harm while it lasts, until the month of November, when they are housed. Specimens that have been well cared for are by November in twenty-four or thirty-two sized pots; they are from 1 ft. to 2 ft. through, and carry from twelve to twenty-four heads of bloom. It does seem as if Golden Gem supplies the very variety for late cutting, and on that ground deserves to be widely grown.—*R. D.*

LILIUM HARRISI.

A great change in the method of growing this Lily has taken place in our country. When first introduced the largest bulbs that could be obtained were the ones in demand, the smaller ones being used as necessities. For the past two or three years bulbs from 7 in. to 9 in. in circumference have been thought the most desirable, but some of our thinking florists two years ago commenced to grow bulbs from 4 in. to 5 in. in circumference, with the best results. These are potted as soon as received from Bermuda, about the first of August, singly in 5 in. or quart pots. As soon as potted, they are placed under the benches in the greenhouse, and watered thoroughly; no further care is given them, other than to occasionally water sufficiently to keep the bulbs from drying out. As soon as they start to grow, they are placed on the bench and given all the sunlight and air possible. When fires become necessary the temperature is kept at from 45° to 50° at night, and from 65° to 70° in the day-time, the latter temperature would be too high unless there is a free circulation of air. This treatment will give plenty of flowers by December 1st, and the main crop by Christmas and New Year, when flowers are in demand.

It is important that no large bulbs should be used if the crop is wanted early, as those from 7 in. to 9 in. will not come into flower until nearly two months later. Our florists find it is far more profitable to grow the small bulbs, which produce from one to three flowers each, as they are only used for large decorations, and spikes with two flowers will sell for as much as one with two flowers and half-a-dozen buds. Besides the small bulbs do not cost but about one-third as much as large ones. If a succession is wanted, when the bulbs are potted they are kept in a cold frame and brought in as wanted. The experiment was tried of putting three of these bulbs in a 6-in. pot, which carried them nicely, but as the bulbs have a way of coming into flower when they like, no two at the same time, this plan was given up, in order to economize space, the bulbs being thrown out as soon as the flowers are cut.

For Easter decorations, large bulbs are planted, and in 8-in. pots. Plants grown in this way will give from five to ten flowers each, but then they do not afford as much profit as the small plants with two flowers, grown in 5-in. pots, and in half the time. The successful ones who have tried the small bulbs claim that they can get as many flowers from a given space, from the small as from the large ones, besides getting two crops during the season instead of one.—*C. L. Allen, Floral Park, N.Y.*

IRISES AT TOTTENHAM.

Great interest centres round the early-flowering species and varieties of Iris, though it is well known to lovers of hardy plants that at this period of the year, protection of some kind is necessary to have the flowers in anything like presentable condition in our fickle and uncertain climate. Iris stylosa flowers in the open air at various times from October to February or March, according to the locality in which it is grown, and the mildness of the winter, or otherwise. Most of the undermentioned flower very early if merely protected with a frame or hand-light when the weather is severe; but when mild, as it has been for some time past, the Irises should be freely ventilated or in the case of some kinds wholly uncovered, at least during the day. The later flowering kinds can be grown without any protection whatever.

Most of the undermentioned were flowering the other day when we saw them with Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, and a few were over. Amongst the latter were I. Danfordiæ, which flowered before Christmas. The flowers are of a uniform pale yellow. Those of I. Bornmülleri are similar in form, and like the first-named are peculiar on account of the standards being reduced to mere rudiments that are scarcely noticeable to the untrained eye. I. Bornmülleri is the hardier of the two, and the flowers are golden yellow, spotted on the claw of the falls, and have pale sea-green stigmas reminding one of Ixia viridiflora. It has just finished flowering and was in perfection about fourteen days ago. I. Histrio, one of the prettiest of the I. reticuata type, flowered before Christmas, and is best for pot work or for cold frame culture in this country till it acquires the habit of flowering later.

Everybody who has seen I. Bakeriana admires it as a gem of the first water amongst plants of this class. The falls are of a deep velvety and almost violet black hue at the apex, and blotched with violet on a white ground lower down. The standards are bright blue and the stigmas somewhat paler. It has been in bloom since Christmas. The flower scapes are only about 3 in. high and shorter than the glaucous ribbed leaves. Another charming little Iris is I. reticulata cyanea, which varies somewhat in colour in different individuals. One has falls of a deep blue with a golden band in the centre surrounded with white. The narrow standards and the stigmas are of a beautiful pale blue. Another is characterised by the warm orange band along the centre of the falls, while the standards and stigmas are of a bright blue. Another fine form of I. reticulate is I. r. purpurea, otherwise known as I. r. Krelagei. The lamina of the falls is of a deep violet black and velvety as in I. Bakeriana, with a median orange band. The standards and styles are of a deep purple. The flowers are larger and the colours altogether richer than we have hitherto seen in this variety.

Very different from either of the above is I. alata, otherwise known as I. scorpioides. The large flowers remind us of the early summer blooming types, but the foliage is different, not being of the flattened and Flag Iris type. The leaves are subulate, channelled above and narrowed from the base upwards. The falls of this type are bright blue with a yellow band in the centre and radiating white lines. The short and small standards and the long, deeply bifid stigmas are all of the same bright colour as the falls. There are three very fine varieties of this, namely, I. a. speciosa with deep purple flowers, I. a lilacina with lilac flowers, and I. a. alba with white flowers. I. alata together with I. reticulata purpurea are planted out in a cold frame amongst

CHRYSANTHEMUM ABBOTT'S WHITE.

very sandy soil, the surface being all sand. The main object is to keep them dry during the winter and flowering period.

A curious species is I. atropurpurea, which has been flowering in a pit for some time past where a little heat is maintained. The falls are of a deep brownish crimson, more purple round the edges, and covered with short bristly points all over the yellowish centre. The standards are large, broadly obovate, dull purple with darker veins and very conspicuous. The stigmas are brown, and yellowish towards the base. The leaves are like those of I. pumila, but very much smaller, narrower, of a light glaucous green, and 3 in. to 6 in. long. The flower scape stands about 6 in. high.

CHRYSANTHEMUM ABBOTT'S WHITE.

HITHERTO the bulk of the new varieties appearing in this country have been raised on the Continent, in Japan, America, or have been home productions. The new incurved variety under notice is an exception, and comes from New Zealand, where it was raised by an enthusiastic amateur. Although described as a true incurved, it is possessed of peculiarities which would lead one at first sight to describe it as a Japanese incurved. The florets are regularly arranged and closely incurved, but the broad rounded tips are curled inwards or hooked, and appear in concentric zones or circles, sometimes so regular as if cast in a mould. The flower head, but more particularly the florets, have been described as resembling those of Empress Eugenie, but are pure white and, on the whole, very distinct from anything else in the section to which it belongs. The plant only grows about 3 ft. high, and is described as free flowering, with every flower perfect. No doubt it will become very popular when once it gets disseminated amongst the growers. We are indebted to Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, for this opportunity of illustrating the novelty.

The Carnation: its History, Properties, and Management with a descriptive list of the best varieties in cultivation. By E. S. Dodwell. Third edition, with supplementary chapter on the yellow ground. London: GARDENING WORLD office, 1, Clement's Inn, Strand, W.C. 1s. 6d.; post free, 1s. 7d.—[ADVT.]

FRUIT TREES BY THE WAYSIDE.

When I read the note on this subject on page 352 of your last issue, I could not but recall to mind the remarkable spectacle, perhaps unique in England, of a country road, probably a mile in length, bordered on either side by Damson trees, growing in the hedgerows, and when I passed through them last autumn, were carrying a heavy crop of fruit. That was within a couple of miles or so of Swanley, and I was indebted to Mr. H. Cannell for the sight. Still I could not but think how well conducted must the *gamins* of the locality be, for I know too well that in myriads of districts were fruit trees thus exposed to public tenderness they would soon be stripped of branch as well as fruit.

It is but too certain that the bulk of our people are yet far too indifferently trained to teach them to respect fruit, no matter where or whose, if it were at all accessible, and especially so tempting, as in roadside fruit. Besides why do we want to plant fruit trees in such exposed situations, when we have literally thousands of acres of land which would pay well to plant, and the produce of which could easily be protected from damage? In the same way some hysterical people occasionally advocate the planting of railway embankments with fruit trees or bushes, utterly oblivious of the fact that nine-tenths of these embankments are composed of pure sand, or gravel, or clay, or chalk, or some other form of substrata which is entirely unfitted for the growth of fruit. Then they take no thought for the danger incidental to growers and workers on these embankments consequent upon the passing trains, or of the exceptional difficulty found in properly cultivating such steep inclines.

We have such immense areas of good land which can easily be planted and cultivated, that it does seem absurd to urge the planting of fruit trees either in places where exposed to damage, or else where the lives of the workers would always be in great peril. It will be very long yet ere we shall be so driven into a corner for land as to need cultivating railway embankments. Every acre of land gardened at once gives three times the produce it did when farmed; hence the more of the land converted into gardens the better for the nation.—*A. D.*

EFFECT OF STOCKS ON APPLE TREES.

The budding and grafting of fruit trees on different kinds of stocks has developed within recent times to quite an art in its way, and those who have been studying it from practical experience know what kinds succeed best on any particular or given tree used as a stock. One of the chief objects of grafting or budding the Apple tree on any other stock than the Crab, is to reduce the vegetative vigour of the tree, so that instead of producing a large quantity of useless wood, it will develop a smaller amount of wood and come into a fruit-bearing condition at a much earlier period. Now some of the stocks are naturally so weak in growth that they exercise a too dwarfing effect upon trees in the open ground, although they might prove more serviceable for trees in pots. The French Paradise and some of the varieties of it which are used by fruit growers on the Continent belong to this class, and in this country exercise a too dwarfing effect on certain varieties, including New Hawthornden and Stirling Castle.

A considerable number of stocks, that is, different kinds, are and have been under trial for a number of years in the gardens of the Royal Horticultural Society at Chiswick, and the effects on various varieties of Apple may there be studied, as well as the peculiarities of the sorts of Apple themselves. New Hawthornden on the French Paradise of M. Baltet is too dwarf to be worth growing for profit in the open air. The same Apple however on the Doucin stock, not only on the same piece of ground but in the same line, is strong and well set with flower buds. A tree of Stirling Castle on M. Baltet's variety of the French Paradise is only about two or three feet high, while another on the French Paradise as grown in this country is even weaker, and evidently would not remain in a healthy condition for many years. Stirling Castle must therefore be grown on a more vigorous stock in order to secure the union which will exercise a sufficiently dwarfing effect without actually crippling the tree by placing it on a stock that either cannot supply the requisite amount of nourishment, or forms so bad a union by the unequal growth of scion and stock that no progress can be made. The English Paradise and the Doucin are intermediate in their dwarfing effect between the French Paradise and the Crab, the Doucin being the more vigorous of the two, and to be recommended for very strong growing varieties of Apple.

An example of a good union is that of Manks' Codlin upon the English Paradise. The trees are about 4 ft. or 5 ft. high even after being pruned, and the two year old shoots are closely set with spurs bearing bloom buds. Annie Elizabeth on the Crab grows very vigorously, and although fairly well spurred, would probably do better on the Doucin, which would to some extent check its rampant vigour. On the other hand Bedfordshire Foundling when grown as a bush is a scraggy or leggy-looking plant, producing a crooked leading stem with very few and irregularly placed laterals. Trees on the English Paradise do not seem to be improved in habit, nor are they furnished with fruit-bearing spurs. Possibly it may give more satisfaction as the trees get older, for as yet they are relatively young. The Irish Peach is another variety which does not fruit freely in the young state. It has the peculiarity of producing a single flower bud on the tips of weak lateral shoots, while spurs in the true sense of the term are not produced. The strong leading growths do not however terminate in flower buds. The tree gets more fruitful as it gets old, and produces numerous weak shoots. Although grown on different stocks none of them exercise any effect in causing a production of spurs, at least in the young state.

GARDENING MISCELLANY.

PRUNUS SINENSIS FLORE PLENO.

The dwarf habit of this Chinese Plum, and its floriferous character, renders it a useful subject for pot culture for the decoration of the greenhouse or conservatory in the early months of the year. Flowering as it does in spring out of doors, it submits to gentle forcing, by which it may be had in bloom in January and February; hard forcing would not be conducive to large flowers nor to their long lasting properties. The best plan is to bring the plants on slowly in a moderate heat, and, as the leaves expand, give ventilation on all favourable occasions to get colour and substance into the leaves. The latter add much to the general appearance of the plant, and the flowers are also more interesting and look more natural when accompanied by good foliage. The typical form of the plant has small, white flowers, but the double variety under notice has relatively large white flowers. They are not of course so large as those of the best double form of the Wild Cherry (Prunus Avium), as that could hardly be expected when we consider the difference in size between the two plants. The double Chinese Plum flowers freely in pots when only about 18 in. or 2 ft. high; the other is a small tree.

CYRTANTHUS LUTESCENS.

The species of Cyrtanthus are characterised by their long tubular or funnel-shaped, and curved flowers. Few of them are at all common in gardens. C. M'Kenii has fragrant white flowers, freely produced in a cool house during the winter months. Those of C. lutescens are somewhat smaller, narrowly funnel-shaped, and produced in drooping clusters of two to five on scapes 12 in. to 15 in. long; the lamina consists of six short, revolute segments. The leaves are linear, slender, and about 3 in. to 6 in. long when the bulbs are flowering. Those who take an interest in bulbous plants would find in this species something to contrast with C. M'Kenii, as it has clear yellow flowers, as indicated by the specific name. The large flowered C. sanguineus blooms in August, and therefore offers no competition with either of the above.

THE ZAMONA PALM.

Such is the popular name of Socrate exorhiza, a Palm which is interesting as well as beautiful, on account of the curious development of aërial roots from the base and sides of the stem giving the plant the appearance of standing on its toes, or as if propped up to prevent its falling. The stem elongates rather rapidly from the young state onward, but does not thicken in proportion to its height. The basal portion remains slender, as it was in the early stages of the seedling, while the upper portion thickens greatly: hence the necessity of the lateral propping up afforded by the strong adventitious roots resembling the stays of a ship's mast. A specimen raised from seeds about ten years ago at Kew, has a stem about 4 ft. to 5 ft. high, while the nearly upright leaves continue the height to 10 ft. The leaves are pinnate with very curious, oblique or somewhat trapezoid pinnæ, sinuately toothed along the oblique edges. Some of the larger pinnæ are divided into three or four segments. At present the stem is supported by 5 stout and 7 slender roots.

CYCLAMEN PERSICUM GIGANTEUM.

When passing through the houses recently at Beechcroft, Edgbaston, Birmingham (gardener Mr. Swain), my attention was called to a Cyclamen carrying flowers of various colours, some of which were pure white, and others of a dark magenta shade. Such an occurrence has not, hitherto, come under my observation.—*J. McNab.*

CROTON LORD DERBY.

The leaves of this variety are similar in form to those of Disraeli, but they are showier because more highly coloured. They are three lobed, the two side lobes being produced near the base, making the leaf somewhat halbert-shaped. They are closely arranged upon the stem, and vary in length according to vigour from 6in. to 12in. The upper surface is of a rich, dark green with a broad, yellow band along the centre of the lobes, and is more or less shaded with crimson over the yellow, more particularly in the summer time, when the light is good. The plant may lack the grace characteristic of the long, narrow, and drooping leaved kinds, but the stiffish, horizontal leaves in this case are by no means stiff and formal, while they are at the same time highly ornamental for table or other decoration. The variety is grown amongst a collection of numerous kinds, in the nursery of Messrs. J. Laing & Sons, Forest Hill.

ANTHURIUM ATROSANGUINEUM.

The hybrid Anthuriums are now getting pretty numerous in gardens, and are serviceable on account of the bold character of the foliage and large spathes. The chief drawback to them is the amount of space they require, so that when space is a consideration preference is given to plants of smaller dimensions. The leaves of the hybrid under notice are heart-shaped, of great size, leathery, and of a rich dark green when young, getting paler when mature. The spathes are heart-shaped, and slightly wrinkled, recalling those of A. Andreanum, but of a rich shining crimson. The stout spadix is creamy-yellow and erect. It would undoubtedly be found more serviceable for large stoves and warm conservatories than smaller kinds which are useful for rockwork in warm houses and for pot work. That under notice has been flowering for some time past in the Forest Hill nursery of Messrs. J. Laing & Sons.

SAXIFRAGA BURSERIANA MAJOR.

Notwithstanding the beauty and neatness of this Alpine, and the length of time it has been in the country, it is by no means so common as it might be in private gardens generally. It is very hardy, and coming as it does from the Alps, it should be planted in open and well-drained situations fully exposed to light. Sunshine will not harm it provided there is sufficient depth below the roots to afford a supply of moisture by capillary attraction during periods of drought. The firm and rigid nature of the leaves shows that the plant is well adapted for exposed situations, whether exposed to winds or sunshine. But an adequate supply of moisture during the summer months is indispensable, not because a large amount is necessary, but the small quantity must be continuous, hence the danger of planting in the shallow pockets of an artificial rockery at low elevations, where the heat, more especially when reflected from the stones of such a rockwork, is great. In the open the plant flowers with us in March; but it may also be cultivated successfully in pots kept in a cold frame, as it is treated in the nursery of Messrs. J. Laing & Sons, Forest Hill. The flowers of the variety under notice are pure white, large, and produced singly on stems about 2 in. high.

ADIANTUM VERSAILLENSE.

SUCH is the name given by MM. Trufaut & Sons, Versailles, near Paris, to a remarkably divided and crested form of A. cuneatum. The frond is sometimes divided to the base of the lamina, and then appears as if it consisted of two joined by their petioles. In other cases the lamina is deeply lobed, or heavily crested and tasselled in several ways, and the whole plant is compact and never of any great height. At all events it seldom, if ever, develops the vigour as seen in A. cuneatum grandiceps, and is always so much more crested as to appear quite distinct and easily distinguishable even by ordinary observers. We noted some plants of it in the Forest Hill nursery of Messrs. J. Laing & Sons.

BILLBERGIA DECORA.

THE leaves of this Bromeliad are strap-shaped, sharply serrated on the edges with small spines, somewhat hoary, with a thin coating of scales, and slightly blotched with yellow towards the base. They range from 18 in. to 24 in. in length, and are arranged few together from each crown. From amongst these the flower scape proceeds, and becomes strictly pendulous as it attains length. A few of the bracts near the flowers attain a large size, and are lanceolate, of a soft pleasing rose colour on both surfaces, the colour being toned down as it were with a coating of white or hoary scales. The ovary and the sepals are even more decidedly hoary with tomentum; while the petals attain a considerable length, say from 1½ in to 2½ in., and are of that soft or bluish-green hue which is peculiar to the flowers of a considerable number of this order. The bracts and flowers together render the plant very ornamental by contrast. A plant flowered recently in the Victoria House at Kew.

IPOMÆA RUBRO-CŒRULEA.

THE large funnel-shaped, bright blue flowers of this species are very showy at whatever season they may appear. Under certain conditions of cultural treatment, the plant flowers in July and August, but it is now flowering pretty freely in the Victoria House at Kew. The climbing stems are trained under the rafters, and the flowering shoots allowed to hang down loosely. The flowers are produced in short clusters or sometimes in elongated racemes from the axils of the leaves, and are white in bud, with a clear red lamina which becomes of a bright, rich blue when fully expanded, the tube retaining the original hue. The leaves are heart-shaped as in the annual species grown in gardens. It was introduced from South Mexico in 1830, and remains evergreen all the winter when grown in a stove.

SOCIETIES.

Royal Horticultural, *February 9th.*—The annual general meeting of this society was held at 117, Victoria Street, S.W., on Tuesday afternoon, Sir Trevor Lawrence, Bart., M.P., presiding. The usual preliminary business having been got through, including the election of sixty-seven fellows, the largest number that had been elected at any one meeting of the society, and the appointment of scrutineers, Mr. W. Marshall and Mr. H. J. Veitch, the President proceeded to move the adoption of the report and balance sheet (which was taken as read), and in so doing said the key-note of the report was to be found in the first paragraph, which stated that the year 1891 had again been one of steady work and progress for the society. They had had more varied and more interesting meetings than ever before, and the public were gradually coming to appreciate the attractive displays made at the Drill Hall. Still the attendance was very small considering the interesting character of the subjects exhibited, the fact that almost all new things made their first appearance there, and that on the society's committees were men of great experience in their respective departments of science and practice. The council greatly appreciated the work so generously done by the committees, and most cordially thanked them. With regard to the Temple Show, he did not think that a more beautiful or complete exhibition the society had ever had. The Conifer Conference he believed would lead to the publication of a very valuable report; and the Sunflower Conference had also been the means of clearing up a good many of the knotty points that existed with reference to the nomenclature and classification of that showy tribe of plants. The Society's Journal had been published with commendable regularity, and still proved to be a valuable inducement to provincial horticulturists to join the society. The society had expended a considerable amount on the maintenance of the Chiswick Gardens, in which so many of the Fellows were interested. The council had under consideration a scheme for utilising the gardens as a school of horticulture; and they had dropped the Horticultural Hall Scheme, but for a time only, as they were not without hope that in more prosperous times the money would be forthcoming to provide a suitable home for the society. With reference to the accounts he need only say that the balance of receipts over expenditure was larger in amount than the society could show for some years past, and unquestionably they could say now that the society was in a satisfactory condition. Baron Schroder seconded the motion, which was carried unanimously.

The scrutineers declared that Sir Herbert Maxwell, Bart., M.P., Mr. Owen Thomas, Windsor, and Mr. C. J. Lucas, Warnham Court, Horsham, were elected members of the council in the place of Sir J. T. D. Llewelyn, Bart., Mr. E. A. Hambro, and Mr. R. Martin Smith; and that Sir T. Lawrence, Bart., M.P., was re-elected president; Mr. P. Crowley, treasurer; the Rev. W. Wilks, secretary; and Messrs. Harry Turner, Henry Williams, and A. H. Pearson, auditors. A cordial vote of thanks to the president brought the proceedings to a close.

The exhibits at the Drill Hall meeting were more numerous than usual at this season, Orchids, Cyclamens, hard-wooded greenhouse plants, stove plants, and Apples being the leading features. A Silver-Gilt Banksian Medal was awarded to Messrs. J. Laing & Sons, Forest Hill, for a group of Palms, Crotons, and other stove plants, freely intermixed with Orchids. A Silver Flora Medal was awarded to Messrs. B. S. Williams & Son, Upper Holloway, for a good-sized group of Orchids mainly composed of Cypripediums, Dendrobiums, and a sprinkling of other subjects. A Cultural Commendation was awarded to Mr. Miller, gardener to Lord Foley, Ruxley Lodge, Esher, for a small group of grandly-flowered Cœlogyne cristata Ruxley Lodge var. A Silver-Gilt Banksian Medal was awarded to Messrs. H. Low & Co., Clapton, for a fine group of Orchids, including Phalænopsis, Vandas, Cypripediums, &c., in great variety, set up with Ferns. Messrs. F. Sander & Co., St. Albans, had an interesting group of Oncidiums, Dendrobiums, Lycastes, and others, for which a Silver Banksian Medal was awarded. A small group of Orchids was exhibited by Messrs. J. Veitch & Sons, Chelsea, including Cypripedium Hera and Zygopetalum leucochilum, both hybrids. A vote of thanks was accorded F. Wigan, Esq. (grower, Mr. W. H. Young), Clare Lawn, East Sheen, for a pretty display of Phalænopsis. A group of Cypripediums, Odontoglossums, Masdevallia macrura, and other Orchids, was exhibited by Messrs. Seeger & Tropp, East Dulwich, S.E.

A fine group of hard-wooded greenhouse plants, inclusive of Boronias, Pimeleas, Azaleas, etc., was exhibited by Messrs. H. Low & Co., for which a Silver Banksian Medal was awarded. A similar award was made to Mr. J. Walker, Whitton, Hounslow, for a well-flowered group of Cyclamens. Mr. John May, St. Margaret's, Twickenham, also exhibited a fine group of Cyclamens, as did the St. George's Nursery Company, Hanwell, W., and in each case a Silver Banksian Medal was awarded. A collection of Camellia blooms, large flowering branches of Acacia dealbate and others were shown by the Hon. P. C. Glyn (gardener, Mr. J. Friend), Rooksnest, Godstone, and a Silver Medal was accorded them. Late-flowering Chrysanthemums and some Chinese Primula blooms were shown by Mr. Robert Owen, Castle Hill, Maidenhead. A small group of Chinese Primulas was exhibited by Messrs. H. Cannell & Sons, Swanley, Kent. A fine head of bloom of Brownea Crawfordii, and a huge bunch of fruit of Caryota Cumingii, etc., were brought up from the Royal Gardens, Kew.

At the meeting of the Fruit Committee a Silver Banksian Medal was awarded to Messrs. J. Cheal & Sons, Lowfield Nursery, Crawley, for a collection of Apples and Pears in fine condition. A Silver Gilt Banksian Medal was awarded to A. H. Smee, Esq., (gardener, Mr. G. W. Cummins), The Grange, Carshalton, for a large and varied collection of Apples and Pears. A Silver Medal was accorded to Lord Foley for a smaller collection of Apples, who also exhibited Mushrooms. A basket of Lily White Seakale was shown by Mr. T. H. Crasp, Canford Manor, Wimborne. Mr. P. McArthur, 4, Maida Vale, submitted a sample of the new tying material, "Jaroba," which was sent to Chiswick for trial.

ORCHID NOTES AND GLEANINGS.

Dendrobium barbatulum carneum, *nov. var.* SUCH is the name I suggest for a very pretty variety of D. barbatulum, which has been sent to our office by Robert Twiss, Esq., Birdhill House, Birdhill, Limerick, Ireland, who says that it is different from all the other plants of D. barbatulum he has seen (as far as the flowers are concerned), inasmuch as the whole flower is suffused with a light pink shade. This is indeed the case; hence my reason for suggesting the varietal name carneum. It might, however, with equal propriety be called D. barbatulum Birdhill var. if the owner so desired. The lateral lobes of the lip are also striated and suffused with purple internally; but in no other respect does the variety differ from the type. The variety is, nevertheless, very pretty, and at first sight reminds one of D. Fytchianum roseum, but is paler in colour, and differs entirely in the petals being narrower than in the last named, and in the middle lobe of the lip being of a different shape, while agreeing exactly with D. barbatulum in that respect. I am not aware of this pink variety having occurred in any other collection.—*J. Fraser.*

Cattleya Trianæ delicta.

THE early-flowering forms of C. Trianæ are now getting quite plentiful. Amongst a number presenting considerable variety in the nursery of Messrs. H. Low & Co., is the named sort under notice. The flowers are of great size with sepals and petals of the palest blush, and a pale pink lip having a large soft golden yellow blotch in the throat. The size of the flowers and their delicacy of colour will always render this variety one of the more distinct and appreciable in a collection. Alongside of it is another well marked form, without name however, and notable for the extreme width of the petals, which may be described as roundly ovate, and overlapping not only the sepals but even one another round behind the column. The lamina is also relatively large and richly coloured.

Cypripedium callosum delicatissimum.

HITHERTO there has been comparatively little, if any, variation in the flowers of this species, all the plants imported bearing flowers very much alike in colour. That under notice however is a distinct break. The upper sepal is white, with slender green veins, and lightly shaded with purple about the middle. The petals are pale green, with a few black warts on a white edge, and are of a soft rosy pink at the apex. The lip is of a pale dull purple. The varietal name therefore refers to this delicacy of colour pervading all parts of the flower. The variety may be seen in the nursery of Messrs. Charlesworth, Shuttleworth & Co., Park Road, Clapham.

The Elms, Belgrave, Leicester.

MANY valuable acquisitions have been added to Mr. Wood's fine collection of Orchids since my former visit, and two new houses have been erected for their reception with all modern appliances. It was very satisfactory to note the vast improvement in the health of all the plants since they have been transferred to more favourable conditions. Mr. Pearson, who is the indefatigable gardener, is a thorough orchidist, and he considers his success to be due to cleanliness more than anything else. I must say that I entirely agree with him—unless Orchids are kept clean, failure must be the result.

The subjects in bloom were arranged with exquisite taste, the various colours blending with wonderful effect. Seeing a grand Cœlogyne Cristata simply a mass of bloom, I was sorely tempted to count how many individual blooms there were, and the aggregate exceeded 300. Near by stood a fine plant of Cœlogyne Cristata, Chatsworth variety, Lycaste Skinneri, and Saccolabium Blumii, models of culture and carrying fine spikes. Several Oncidiums stood prominently with huge but graceful spikes, and what a grand effect they have in a group of Orchids. The curious and interesting Angreacum sesquipedale was carrying some fine flowers, the admiration of all who saw it. Calanthes were in strong force and really well done; as many of the spikes had upwards of fifty expanded blooms, whose delicate and refined shades of colour gave a most pleasing effect to the whole, intermingled with numerous Cattleyas, Dendrobiums, Lælias, Cypripediums, and Vandas, making one of the prettiest sights I have seen for a long time.—*J. McNab.*

WHAT TO DO IN THE GARDEN.

Ixoras.—Young plants consisting of a few stems, and which it is desired to grow into bushy form, should have all the young shoots pinched back, unless it is desired to get them into bloom as early as possible. Some varieties are liable to get leggy if allowed to grow on without being checked in some way. Ixora macrothyrsa, on the other hand, must be allowed to grow on without stopping, otherwise it will fail to bloom. The stems do undoubtedly get large and leggy, but that is a matter which cannot be helped.

Gardenias.—The batches of plants whose buds are now swelling should receive plentiful supplies of water, and it will greatly assist them if supplies of weak liquid manure are given them occasionally. A genial and growing atmosphere should be maintained.

Clerodendron fallax.—Plants of this, and young ones especially, are apt to concentrate their energies on a few leading shoots, which by the time of flowering give the plant a leggy appearance. The young shoots should be pruned hard back to the lowest bud or two, and when these break into growth, all the stronger and leading shoots at least should be pinched back to encourage the production of a number of growths.

Cape Bulbs.—Now that the bulk of these in greenhouses and similar places are making rapid growth they should receive close attention in the matter of light, ventilation and watering. A shelf near the glass would give them all advantages in the matter of light; but in this position they should not be neglected in the matter of water, because out of sight.

Hyacinths, Narcissi, &c.—The stock of these in pots even for late work has now made a considerable amount of growth, and should have the ashes removed, at least from the top, so that the leaves may gradually assume their wonted green colour. If allowed to get drawn before this is done the evil can never afterwards be remedied. Where the plants are in cold frames, the pots might be lifted out, the ashes levelled, and the pots returned to their old quarters until required for use elsewhere or to be hastened into bloom.

Early Vinery.—The most advanced vines will soon be in a position to require thinning of the berries, if not already in that state. The sooner this is done the better, when it can be perceived which of the berries have taken best and give the most promise. If the bunches are too numerous, the weakest cannot be removed too soon. The evaporating pans should be kept well filled with weak liquid manure, and water the border or pots likewise with it, first of all heating the water till it becomes tepid. The night temperature should be kept at 65°, giving a rise of 10° early in the day.

Fruit Trees on Walls.—Where trees were transplanted in the autumn, the soil will by this time have settled down, so that the branches may be put into position and nailed on the wall. Young trees should receive the necessary pruning if that has not already been done. The side shoots should be shortened to encourage the growth of a strong leader to be nailed in the following season. If left unshortened the apex often terminates in a bloom bud to the injury of the tree in after life. The leader should also be shortened back to the desired height from whence laterals are desired for covering the wall.

Heading down Old Trees.—Where old or unremunerative trees or bad varieties of Apples and Pears exist, and it is intended to head them down for the purpose of grafting, it should be done without further delay, in fact it might have been done to advantage last month. The scions intended to be grafted upon them should also be selected and laid in soil behind a north aspect wall or in some similarly shaded position, until required for use in March. Lay them in thinly, and cover them up for half or three parts of their length with soil.

Raspberries.—The young canes that were left in the autumn to furnish fruit this year should be shortened back to the desired length and firmly tied to the stakes. Good ones may be left at 4 ft. high, while weaker ones may be cut down to 3 ft. Thin and weakly ones cannot furnish a good crop of fruit. Autumn fruiting kinds should be cut down within a foot of the ground, so that the young canes in spring may receive every encouragement to make an early growth and fruit in the autumn. Give the ground a fresh mulching of manure to make all neat till spring.

Peaches.—Attend regularly to the disbudding of the young shoots as soon as it can be seen where they are being developed in unsuitable places, or in too great quantity for the space to be apportioned them next year. Syringe the trees two or three times a day and keep the paths and soil well damped down.

Obituary.

On the 23rd of January last, at Charleville Forest Gardens, Tullamore, passed away the "Veteran Grape Grower of Ireland," Mr. John Roberts, gardener to Lady Emily Howard-Bury. After an illness of but two days' duration he succumbed to an attack of pneumonia brought on by influenza. He had reached the 62nd year of his age, and the 36th year of his service in the Charleville family. Mr. Roberts was the faithful servant of five members of this house, including three Earls, having been engaged by the second Earl of Charleville, while in the old Pine Apple Nursery, Maida Vale, London. Previous to this, he had served Lord Ellesmere at Worsley Hall, Lord Windsor at Hewell Grange, and Sir Joseph Radcliffe, Bart., at Rudding Park. As a gardener Mr. Roberts was very successful, he had an intense love for Horticulture and indeed for Aboriculture also; this together with the gift of a rare intelligence and a liberal education was the means of advancing him to a high rank in his profession. It was as a Grape grower, however, that he made his mark, and at the shows of the Royal Horticultural Society of Ireland held in Dublin, he generally swept the board. His exhibits at such times were surrounded by a circle of admirers, and the "Charleville Grapes—again" passed from mouth to mouth. Several times he carried the war into the Sister Islands and wrested victory from noted and able opponents, as at the Internationals held in Manchester, Edinburgh, &c. During his career as an exhibitor he gained over 50 medals, including several of the coveted Veitch Memorial Medals. Mr. Roberts was the raiser of an improved variety of Gros Guillaume and exhibited several very large bunches, one of which weighed over 23 lbs. He was held in high esteem by all those with whom he was brought in contact, and his services were highly valued by his noble and generous employers. Some years ago he was taken out to Algiers by the Countess of Charleville for the purpose of laying out the gardens and grounds attached to the winter residence of the family in that place. He leaves a widow, five sons, and two daughters to mourn his sudden demise. His son-in-law, Mr. Robert McKenna, of the Chief Secretary's Gardens, Dublin, succeeds him.

QUESTIONS AND ANSWERS.

Names of Plants.—*Aberdeen*: 1, Platyloma rotundifolia; 2, Aspidium (Polystichum) angulare proliferum; 3, Nephrodium (Lastrea) spinulosum dilatatum; 4, Polypodium vulgare; 5, Asplenium flaccidum; 6, Doodia aspera; 7 and 8 are varieties of Aspidium (Polystichum) angulare; 9, Asplenium Trichomanes; 10, evidently a seedling of Asplenium flaccidum, but too young to make certain; 11, Blechnum Spicant; 12, Ligularia Kæmpferi aureo-maculata, frequently called Farfugium grande.

Names of Fruits.—*R. J. Carter*: Apple, Lucombe's Pine.—*W. Shrives.* Apples: 1, Golden Noble; 2, Claygate Pearmain.

Japanese Wineberry.—*William Allibone*: No botanical name, as far as we are aware, has been given with the advertisement relating to the Japanese Wineberry; but, judging from the illustration of it, we think there can be little doubt about its being Rubus phœnicolasius, a Japanese Bramble which was introduced to this country in 1877. At present, however, it can only be found in a few gardens outside of botanical establishments. You might be able to get it from Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, or Messrs. J. Veitch & Sons, Chelsea.

Sweet Peas, Medicinal Plants, &c.—*L.E.G*: Nasturtiums and Sweet Peas are amongst the more popular of annuals grown in gardens at the present day. Nasturtiums have been greatly improved within recent years, and Sweet Peas even more recently have been brought to a state of great perfection. You must have been improperly informed as to their popularity and decorative value. In ancient times every plant was supposed to possess medicinal properties, so that we cannot undertake to name all the wild plants growing in or around London. The young shoots of Nettles and Hops were formerly esteemed as good vegetables, and they no doubt were wholesome if not medicinal in their properties. The Mallow and Milfoil (Achillea Millefolium) do possess medicinal value even if not much used at the present day. All occur in the suburbs of London. The term Simples was applied to medicinal plants generally, and at one time they were doubtless more common at Battersea than at present, because much of the ground is now built upon. The Simpler's Joy was Verbena officinalis, a noted medicinal plant of those days, although it is not now considered to possess any medicinal properties. The plant is still to be met with on the banks of the Thames in the western suburbs of London. It may exist at Battersea, but we have not seen it there. The story of the Moonwort (Botrychium Lunaria) thriving best on human corpses we believe to be all fabulous and imaginary. It generally grows in wet meadow land, and dislikes being disturbed at the roots. Further we, believe it its roots were placed in contact with a decaying body it would die in a short time.

Gardeners' Royal Benevolent Institution.—*G. A., Tenbury*: Apply to the secretary, Mr. G. J. Ingram, 50, Parliament Street, S.W.

Various.—*Flos*: The true Cicuta virosa when growing wild, occurs on the banks of ponds and ditches. Some other plant must be meant when it is said to grow in arid fields. From what you say of the Ulma it may not even be a French plant; at all events something more definite must be said about it before it can be indentified. The Tithymale, like all other Euphorbias, is to some extent poisonous. The Oleander has long, lance-shaped leathery leaves, and largy showy, pale yellow, white pink or rose flowers. It does best in a stove and succeeds fairly well in a greenhouse. The Thorn Apple (Datura Stramonium) has large, ovate coarsely toothed leaves, white flowers, and a large fruit covered with spiny outgrowths; it is an annual. The roots of the Wheat may be dried up in dry soil or droughty seasons for want of moisture. Provided there is plenty of the latter in the ground, no amount of heat we get in the country will injure the plant. We do not believe that the heat goes down the hollow stalks doing the mischief you speak of. The Pimpernel (Anagallis arvensis) opens best in fine weather, and closes if cloudy. Stagnant pools are most offensive in warm weather, say in summer time, by the decay of animal and vegetable matter in the water. The Sweet Briar never twines. The Caprifoil twines in summer when making its growth, and would retain this growth in spring, so that the stems twisted round the Blackthorn in summer would be there in spring if they have not in the meantime been removed. The Buckbean would open in early summer whether the weather was the most favourable to the well being of the flowers or not.

Blackthorn in Spring.—*Flos.*: The Blackthorn like other plants does not always behave in the same way. Sometimes it forms an arching mass of branches which might be compared to a bower; but at other times it forms a dense and almost impenetrable mass of thorny erect shrubs. When tall with spreading branches and covered with myriad of white blossoms, a poetical imagination would readily conclude that it formed a bower or arbour. Other plants that occasionally climb over it are Brambles, (Rubus), Honeysuckle or Caprifoil, (Lonicera Periclymenum) and other subjects af a climbing nature.

Communications Received.—A. H.—D. C.—T. B.—Tuberose.—H. E.—T. W. S.—E. S. D.—J. S.—W. C.—M. C.—R. T.—R. & Co.—T. P.

TRADE CATALOGUES RECEIVED.

Edward Webb & Sons, Wordsley, Stourbridge.—Annual Catalogue of Farm Seeds.

M. de Reydellet, à Valence (Drôme), France.—Chrysanthemums and Cannas.

John Green, Norfolk Nurseries, Dereham.—Vegetable and Flower Seeds, Rooted Cuttings, &c.

John Forbes, Hawick, N. B.—Vegetable and Flower Seeds, &c.

Ireland & Thomson, 81, Princes Street, Edinburgh.—Vegetable and Flower Seeds, &c.

Vilmorin, Andrieux & Co., 4, Quai de la Mégisserie, Paris.—Flower and Vegetable Seeds, Bulbs, Plants, &c.

H. Cannell & Sons, Swanley.—Floral Guide for 1892.

Pitcher & Manda, Swanley, Kent.—Catalogue of Chrysanthemums.

Knight, Clarke & Co., Westham Nursery, Langney, Eastbourne.

John K. King, Coggeshall, Essex.—Illustrated Garden Manual for 1892.

McDowell, Guarjardo Hnos, Monterey, Mexico.—Price List of Cacti.

J. E. Barnes, 9, Exchange Street, Norwich.—Vegetables, Flower and Farm Seeds,

W. Cooper, 751, Old Kent Road, London, S.E.—Plant and Fruit Houses, Horticultural Sundries, &c.

Dickson, Brown, & Tait, 43, 45, Corporation Street, Manchester.—New Farm Seeds.

Dicksons & Co., 1, Waterloo Place, Edinburgh.—Select Catalogues of Fruit Trees and Roses.

Richard Dean, Ranelagh Road, Ealing.—New and Choice Hardy Plants, Seeds, Potatos, etc.

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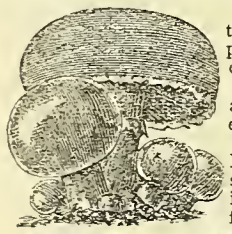

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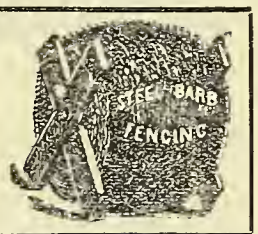

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To KILL "FLY" or "THRIP."

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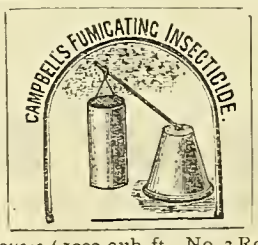

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Prices—*For houses with a capacity of* { 1000 cub. ft., No. 3 Roll, 1/- each; 2000 " " 4 " 1/9 " } *Post Free.*
The Rolls may be cut for houses of a smaller capacity, or to make up required quantities for larger houses.

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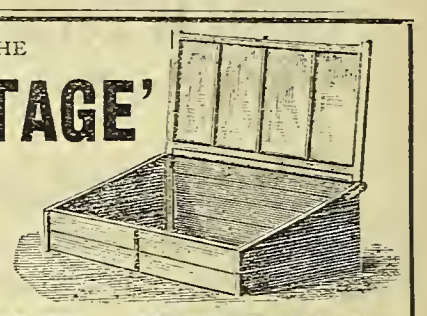

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Pæonies, Dahlias, Cannas, Lilies, Iris, &c. PLANTS

Besides an immense variety of other Bulbous and Rhizomatous Roots & Plants, specially adapted for

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Extremely hardy. Per packet, 1s. 6d.

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ILLUSTRATED SEED CATALOGUE for 1892, gratis and post free on application.

B. S. Williams & Son, UPPER HOLLOWAY, LONDON, N.

For Index to Contents see page 393.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, February 22.—Sale of Hardy Perennials, &c., at Protheroe & Morris' Rooms.

WEDNESDAY, February 24.—Sale of Greenhouse Palms, Ferns, &c., at Protheroe & Morris' Rooms.

THURSDAY, February 25.—Sale of Lily Bulbs, Pæonies, and Herbaceous Plants, &c., at Protheroe & Morris' Rooms.

FRIDAY, February 26.—Sale of Imported Orchids at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, FEBRUARY 20th, 1892.

THE POTATO DISEASE.—The announcement made last week as to the appointment of that distinguished botanist, Mr. W. Carruthers, of the Natural History Museum, South Kensington, by the Royal Agricultural Society, to conduct certain enquiries as to the exact nature of the effect produced on Potato plants by the Bordeaux Mixture, Bouillie Bordelaise, to which reference has been so frequently made, will be regarded with undoubted satisfaction. It is all the same unfortunate that so important an enquiry should be left to any society to conduct, as it is evident, now that there is a distinct agricultural department of the Government, that that department should charge itself with the cost and conduct of the enquiry.

Still the nature of the effects of this Bouillie Bordelaise on Potato plants and the Potato disease has a great interest for horticulturists, as well as for farmers; indeed it is of exceeding interest to everyone who cultivates Potatos, because the preservation to the extent of one-third of an allotment or cottage garden from disease is to the poor man of as much importance as the safe preservation of the farmer's larger area is to him. What we have so much need for is an enquiry into the way in which the mixture when applied to Potatos operates. Does it kill the fungus spores, or only coat the foliage with a thin surfacing which is impervious to the operation of the spores? If either method of prevention be right at least it is certain that only can the application of the mixture become preventive when somewhat frequently applied, and we want precise information not only as to the proper strength of the mixture, but also how frequently it should be sprayed on to the plants. We also want to know to what extent the application of the mixture influences the growth of the plant prejudicially, as some experimenters have assured us is the case.

It seems hardly worth while to experiment upon varieties that are recognised as disease resisting, but those long proved to be amenable to disease attacks should be selected for the purpose. That there is special need for the experiments with the Bouillie Bordelaise has been shown by the recent report of the Highland Agricultural Society, that exhibited an absolutely negative result.

SEA-KALE.—It seems to be but too certain that in respect of many garden products, there are amongst many gardeners somewhat indefinite ideas as to what constitutes real quality. Probably in the matter of forced products there is no place in the world where lessons may be learned on this head like Covent Garden Market. It is very largely perhaps this defective conception as to what constitutes quality that leads to so much disappointment when provincial gardeners consign Vegetables, Fruits, and Flowers to the London markets and find their returns so much below their expectations.

These products have to compete in the market with those furnished by the most experienced trade growers—many of them specialists—in the kingdom, and produce only which is really first-rate stands any chance in the contest for top prices. We saw the other day a big basket of growing Sea-kale which had been sent up to the James Street Drill Hall for the judgment of the Fruit Committee. It had travelled some 120 miles, was a heavy parcel, and must have been found an expensive consignment. This was from one of the best of our southern private gardens, but the sample after all was only third-rate, and so far behind what is considered the best quality of Sea-kale in the market that it could not secure approval.

The roots were small and had been allowed to carry two or three crowns. They had been cut down very short, so that the sustaining power of the stems was very limited. The leaves had developed fully two inches and the stalks were thin and rather flavourless. If senders of such samples as these could only see what first-class market Sea-kale really is they would find the knowledge extremely useful.

THE LONDON COUNTY COUNCIL AND THE PARKS.—Our opinions as to the proposed appointment of a Parks and Gardens Superintendent for the whole of the open spaces under the control of the London County Council are well known. We can well imagine that now the members of that body are about to meet their constituents the majority who voted at the meeting on Tuesday must feel some satisfaction that the proposal so far has been shelved. The Council appear to experience considerable difficulty in finding just the right man, and Lord Rosebery

was wise in pointing out that it would not be wise to create heart burnings and difficulties just now by making an appointment that was certainly open to criticism. The gentleman nominated by the Parks Committee, Col. Walker, was said to be over the age stated in the advertisement, and therefore was ineligible, but independent of that he had no direct horticultural qualifications for the office.

We sympathise with the Council in their difficulty, and at the same time very cordially wish to recognise the very important work which they have done during their term of office in not only largely improving the parks under their control, but also in creating many other open spaces, in furnishing bands of music in many parks and gardens, in providing gymnasiums, and in other ways doing its very best to help make all its parks into favoured resorts for all classes of the community. No part of the good work the Council has done should help to secure the re-election of the best class of members so readily as this, and we trust that under no circumstances will anything occur during the next few weeks to in anyway check other schemes for improvement or extension which the Parks and Open Spaces Committee may have in hand. These parks and open spaces are precious boons to the inhabitants of London and they cannot be too ardently cherished or maintained.

Weed-Killing Poisons.—Seedsmen and sundriesmen who deal in arsenical compounds for killing weeds are referred to an important decision with reference thereto recently given by a County Court Judge, which will be found on page 387.

The Hale Farm Nurseries, Tottenham.—The old-established business which has been carried on for so many years by Mr. Thomas S. Ware, has passed into the hands of Mr. Francis Fell, who has been engaged in the business for the last twenty years, and for a considerable portion of that time as manager. Mr. Fell will continue to trade under the old style and title, and those who know his energetic and high personal character will, we are sure, wish for him a long and prosperous future.

Birmingham and Midland Counties' Mutual Improvement Association.—At a meeting of the members of this association, held on February 3rd, Mr. James Martin (of Messrs. Sutton and Sons) read a most interesting paper on "The Gloxinia from 1739 to 1892." The life history of the plant was well explained, and many interesting details told with reference thereto. Mr. Martin also discussed the principal cultural requirements. An animated discussion followed, and much information was imparted to the mutual benefit of all present. At the previous meeting, on January 20th, Mr. J. Pope (Pope and Son, Nurserymen, King's Norton) introduced for discussion a very able paper on "The English production and consumption of Apples," and the latter part of a most interesting meeting was taken up with a "Practical illustration of the Art of Pruning," by Mr. W. Spinks, of the Solihull Nurseries.

The Sydenham and District Gardeners and Amateurs have recently formed themselves into a Mutual Improvement Association, on the lines of similar institutions, and we believe with every prospect of success, as the district covered includes a good deal of gardening talent. Mr. H. Edwards, 14, Rowland Grove, Sydenham, S.E., is the secretary.

The Premier County for Forestry.—It is noteworthy, says the *North British Agriculturist*, that two-fifths of the surface planted in the last ten years is returned from Scotland alone, while practically half of the 41,000 acres of new plantations in that country are accounted for by the returns from the counties of Aberdeen, Inverness, and Ross and Cromarty. In Scotland the county of Inverness accounts for 169,000 acres of woodland. This area is far the largest in Great Britain. It is considerably in excess of the surface returned as under all forms of crop or grass in that county, and nearly equal to a fifth part of the whole Scottish woodlands.

Dundee Chrysanthemum Society.—The Dundee Horticultural Society having decided to drop the Chrysanthemum shows, of which they have held three, and very successfully, a number of the local growers and admirers of the Autumn Queen have founded a special Chrysanthemum Society for the town and district, with the Lord Dean of Guild McGrady as president, Mr. David Storrie as treasurer, and Mr. W. P. Laird as secretary.

Shropshire Horticultural Society.—At the annual meeting of this flourishing society held last week, it was stated that the receipts for the past year had amounted to £3,334 10s., the total of the previous year being £2,963, which was considerably in excess of previous records. In prize money there was paid £428 7s. 6d., sports and fireworks £421, bands £253, and the profits of the year were £970. A sum of £500 had been added to the invested capital, which now amounts to £3,500. Since the society was started the annual balances have been expended in the improvement of the public grounds, the Free Library, or some charitable institution in the town. Last year £753 was so expended. Mr. A. P. Heywood Lonsdale was elected president for the year.

Early Potatos.—The *Royal Cornwall Gazette* states that many of the market gardeners in the Padstow district have planted their early Potatos, the land being of a light description and ready to receive them. The Ashleaf variety seems to be the most favoured sort. The gardeners hope to get new Potatos grown and ready for the market by the 1st May. Padstow is noted for the growth of early Potatos and vegetables.

SEEDLING CHRYSANTHEMUMS.

Although the Chrysanthemum has been treated nearly ever since it was introduced into this country as a hardy herbaceous perennial, experience has proved that it may be treated as an annual with the greatest facility and success, and, doubtless, all lovers of this old-time autumnal favourite will be induced to give their attention to the raising of seedlings, inasmuch as this practice, apart from the prospect of obtaining something new and distinct, is fraught with an immense amount of interest and pleasure from the time the seed is sown to the production of the flowers.

In raising seedlings it is good practice, as soon as the young plants have grown sufficiently, to take off the tops and root them, as these I think afford a better opportunity for testing the merits of any seedlings of promise. In fact, the cuttings should be treated in the same way as pot plants, and the parents be planted out in a well-prepared border and receive natural treatment, so that should any prove worthy the stools will make good healthy stock plants for propagating.

It must be admitted that the Chrysanthemum is so easy to manage when once the seed is obtained, that the merest tyro may with ordinary care and attention succeed in obtaining very satisfactory results from his or her labours, bearing in mind that now especially there are very many of the fair sex who are enthusiasts in the art and practice of plant cultivation. I believe that at no distant date some of the growers of the Chrysanthemum whose object is the production of seed will materially extend their energies in this direction, and make it a purely commercial business. At the present time when so much love exists for plant growing, who would not be pleased I ask to buy a packet of seed in which confidence may be placed, and the plants raised from which will give no more trouble than striking the cuttings and keeping the plants from nine to twelve months for about a fortnight's bloom in their best condition.

Should new kinds be offered in commerce at the same ratio as during the last few years, this must bring about a dead lock as regards selections and collections in the minds of many growers, unless they visit the various shows and have occular demonstration as to what is distinct and what is not. Multiplicity of names help to swell out long lists, but really tend to confuse rather than assist those who are or might be making a selection so as to obtain the very best. As regards the raising of seedlings, the pleasure in so doing is intensified from the fact that anticipation renders the whole routine one of continuous pleasure and enjoyment, which, I think, is comparatively less when you are quite familiar with what is being cultivated. Plants distributed in endless numbers under fresh names annually half-a-century ago, such as Dahlias, Petunias, Verbenas, Carnations, Pinks, and many others, are now readily procured of good quality; and I opine that anon Chrysanthemum seed will in commerce become an article in ordinary in all respectable seedmen's catalogues and select lists of choice novelties.—*Man of Kent.*

A MALIGNANT FLY-TRAP.

It is well known that the peculiar conformation of the flowers, but more particularly the nature of the pollen and the attachment of the pollen masses to a speck of viscid matter, in the natural order Asclepiadaceæ, are often productive of mischief to their insect visitors. The insects visit the flowers in search of food, and inserting their tongue or proboscis about the gland, or viscid matter to which the gland is attached, they get glued to it, and none but strong or energetic insects are able to withdraw their tongue with the gland and pollen masses attached. These flowers seem designed for strong insects only, while all the smaller as well as the lazy or cowardly large ones are unmercifully taken as captives, apparently without any object in doing so beyond the fact that they are useless to the plant in not being able to transfer the pollen from one flower to another so as to effect cross-fertilization. Neither the plants nor the flowers are carniverous, nor are the captives of the latter utilised in any way.

A box of flowers of Physianthus albens with their captives has been sent us by a correspondent (G. H. K.) from Homebush, New South Wales, showing that the plant is virtually a mischievous fly-trap. The insects made captives were moths, butterflies, and bees. Many of the moths were small and brightly coloured, thus affording indications of their being day-flying species. Others were brown, grey, or of other dull colours, and no doubt are nocturnal. The latter included a hawk moth, which, although only of medium size for that particular family, had nevertheless a large and heavy body, and the wonder is that so large a creature could be detained by so small a speck of viscid matter, and the small and light pollen masses.

Our correspondent describes it as most interesting to watch the insects and their behaviour when visiting the flowers of Physianthus albens. During the early stages of a flower, that is, when it first expands, the viscid glands are not effective, and insects may visit it without being detained; but the moment they begin to operate the unfortunate insects are doomed to be hanged by the snout. Some of the flowers sent us had detained butterflies of large size and bright colours. They resigu themselves to their fate with comparatively little endeavour to release themselves, like a bull with a ring in his nose, and in this respect they exhibit more cowardice or a greater lack of energy than either the moths or bees. The latter are the most persistent in their endeavours to get free, and not unfrequently they do liberate themselves by pulling out the glands with their attached pollen masses. A new trouble, however, awaits them: for with the pollinia attached to their proboscis they become frantic, turning themselves round and round upon the corolla, and occasionally trying to pass their proboscis down into the nectary. This they cannot do on account of the obstruction caused by the pollinia. They then rub it against the corolla and stigmas, and finally fly off in despair. While the pollinia are still attached to the proboscis, the bee can neither close its labial feeders, close its under jaws, nor put back the proboscis into its natural position when at rest.

Preying insects appear to know the nature of the plant in question, as it is the favourite resort of the mantis and others of that nature, which find in the captured insects an easy prey. The entomologist, or insect collector, also resorts to the same plant in quest of rare specimens. Our correspondent had his attention directed to the plant some three years ago by a gentleman who had a large collection of insects, and who said that he "was indebted to that plant for quite a number of species which he had never seen on the wing, more especially those of nocturnal habits." The plant is by no means plentiful in New South Wales, as our correspondent has only seen three specimens. It is a native of Brazil, and must have been introduced to New South Wales, where the native insects cannot be accustomed to it, or know its malignant propensities for fly catching. The specimens of bees sent us appear to be those of the native British black-hive species, so that they must be as much from home in New South Wales as the native insects are unfamiliar with the introduced Physianthus albens.

POISONOUS WEED KILLERS.

IMPORTANT TO SEEDSMEN.

AT the Barnstaple County Court on the 8th inst., his Honour Judge Paterson delivered reserved judgment in an important action which was tried at the previous court, in which the Pharmaceutical Society of England were the plaintiffs, and Mr. E. J. Butt, seedsman and florist, of Barnstaple, was the defendant. The cause of action was that the defendant sold in his business a certain compound, known as "weed killer," which contained poison in such quantities that only a registered chemist was entitled to sell.—Mr. Flux, of London, represented the Society, and Mr. A. Seldon defended. It was understood at the last Court that the Society's minute book should be produced before judgment was given. Mr. Bremridge, the plaintiff in the action, as representing the Pharmaceutical Society, now deposed to receiving authority from the Society to prosecute in this case, and he produced the minute book showing an entry to this effect made in October last. His Honour then delivered judgment. He said this was an action brought by the Society under section 15 of the Pharmacy Act, 1868, for selling poison contrary to that enactment. It was proved before him at the last Court that the defendant was not a registered pharmaceutical chemist, or a chemist or druggist within the meaning of the Pharmacy Act, and that on Tuesday, the 26th of October last, he sold in his shop a gallon drum of weed killer. The drum, which was made of iron, was labelled "poison," also, it was labelled, "weed killer," with directions for its use, and "with care." It was admitted on the part of the defendant that the drum contained arsenic in large proportions. The first section of the Pharmacy Act made it unlawful for any person to, *inter alia*, sell poisons unless such person shall be a pharmaceutical chemist, or a chemist or druggist within the meaning of the Act. The second section declared that the articles named in schedule A to the Act should be deemed to be poisonous within the meaning of the Act, and amongst the articles named in the schedule was "arsenic and its preparations." By the 15th Section it was enacted that "any person who shall, *inter alia*, sell or keep an open shop for the retailing, dispensing, or compounding of poisons, not being a duly registered pharmaceutical chemist, or chemist, or druggist, shall for every such offence be liable to pay a penalty or sum of five pounds." Mr. Seldon, for the defendant, contended that the Act applied only to poisons pure and simple, and not to a compound which might contain any of the poisons mentioned in the Act. There was no express decision as to whether the Act does or does not apply to any such compound, but the poison might be fatally dangerous though sold in a compound, and the Act would lose much of its effect if the poisons mentioned in it were to be limited to such as were pure and simple. It was true that the poison sold in the present case was in a compound to be used for an innocent purpose, namely, the destruction of weeds. But it was not to the purpose for which it was to be used, but the sale without the requirements of the statute which was illegal. Here the drum which the defendant sold contained arsenic in large proportions, and arsenic was one of the poisons decribed in Schedule A, and so within the meaning of the Pharmacy Act, 1868, and therefore the defendant, not being duly registered as required by that statute, committed an offence which made him liable to the penalty of £5 under section 15. Consequently, he must give judgment for the plaintiff for £5 and costs, the costs to be on the higher scale, but plaintiffs were not to have costs of the adjournment. As this matter was one of general importance he gave the defendant leave to appeal.

SMALL FRUITS.

(Concluded from p. 370.)

CURRANTS.

THERE are three distinct sorts of Currants: the red, the white, and the black. The treatment required by the two former is identical, but that of the latter differs widely. Currants are extensively grown for culinary purposes, especially the red which is used for pies, tarts, and jellies; the black is mostly used for preserving, and the white as dessert. Red Currants are generally in great demand all through the season for making tarts, as, with a few Raspberries, they form one of the most delicious dishes obtainable. The season can be considerably prolonged by planting in different aspects, and by netting and matting. A few bushes with a south aspect will produce the earliest supplies, followed by those in the open quarters, and later still those in a north border. The latest supplies can be had from a north wall that has been protected by Archangel mats. It is surprising the length of time the berries of the red kind will hang on the bushes in good condition when protected from birds and rough weather. I have repeatedly gathered Red Currants in the latter days of November in good condition. There is no material difference between the propagation of Currants and Gooseberries (except Black Currants which will be referred to later), therefore my remarks on Gooseberries (p. 370) apply equally here, and the same may be said of planting.

PRUNING AND TRAINING RED AND WHITE CURRANTS

When the young bushes have been raised as advised for Gooseberries they must be treated very differently in regard to pruning. The fruit is borne on the spurs formed on the old wood, therefore the branches must be thinly disposed to allow the buds and, later on, the fruit to ripen. In forming bushes do not leave too much wood for extension; from 6 in. to 8 in. is sufficient. If too much is left on, spurs will not form along the whole length. The branches should not be forked if a sufficient number can be obtained to form the bush without. In shortening the shoots they should always be cut to a bud pointing in the direction that the branch is wanted to go. Red and White Currants are greatly benefited by summer pruning or stopping; the bushes should be gone over in the summer (about June), and all the young shoots not required for extension shortened to four or five leaves. These at the winter pruning must be cut back close to the fruit buds at the base. A bush that has been treated in the manner described should have when established nine or ten branches clothed with fruit buds their entire length. Red and White Currants are extensively grown on walls, and they can be trained with any number of stems, but double cordons are the most serviceable. Whatever form is adopted the branches should be 1 ft. apart on the wall, and if a little more space can be given so much the better. All the shoots, except the leader, should be stopped the same as advised for the bush form, and cut back in the winter. The leader should not be left more than 1 ft. long in a season or spurs will not form along the whole length.

BLACK CURRANTS.

As these differ so widely from the other sorts, they must be treated separately. The strongest shoots should be selected for cuttings, and the lower buds should not be removed as in the other sorts. But the terminal one should be removed to encourage the production of young shoots, and if suckers can be obtained they will form stronger bushes. In forming young bushes the leading shoots must be shortened annually, until the bush has attained a fair size. They should then be left their full length, as it is from the previous year's growth that the finest fruit is obtained. As in the case of Red and White Currants the branches must not be allowed to crowd each other; there should be a clear space of 9 in. between each. The annual pruning of established bushes is very simple; all that is required is to cut out the old and weak wood, replacing it with strong young shoots from the bottom. The suckers that spring from the ground should be encouraged; of course if they are crowded the weakest must be thinned out. The most favourable soil and situation for Black Currants is a good stiff loam and rather damp.

VARIETIES OF BLACK CURRANTS.

In private gardens it is not desirable to grow a large collection of Currants. The most useful variety amongst the Red kinds is the old Red Dutch. If more variety is wanted or a few large showy fruits, some of the following should be grown, namely: Victoria, Knight's Large Red, Cherry, Houghton Castle or Raby Castle. And amongst the White sorts, White Dutch, Wilmot's Large White, and Grosse White or White Champagne are good. The best Black variety is Black Naples, but if more are required Black Champion or Black Prince should be grown.

ENEMIES.

Of these the most destructive are small birds, which eat the buds just as they are opening. If the bushes are dusted with a mixture of soot and lime in damp weather, it will help to protect them, as then the buds have a disagreeable taste. Currants are also attacked by caterpillars, which play such havoc with Gooseberries; the same remedies as advised for Gooseberries should be applied to Currants.—*T. W.*

NEW & RARE PLANTS.

THE undermentioned plants were exhibited at the Drill Hall, Westminster, on the 9th inst., at the last meeting of the Royal Horticultural Society, and were awarded certificates according to their merits and value.

BERTOLONIA ARGYRONEURA.—The leaves of this beautiful variety are of large size even for a Bertolonia, and of great substance and hardiness, of which there was occular demonstration at the Drill Hall. The plants had been grown without the aid of a bell glass or other protection, so that when placed on the exhibition table there was no necessity for covering them at all; and after being on the table all day, the leaves were as fresh as in the morning. They are elliptic, and deep green with seven white longitudinal nerves, more or less joined or connected with short lateral ones of the same hue, and closely mottled all over with white spots.

BERTOLONIA COMTE DE KERCHOVE.—The leaves in this case are as large as those of the last named, and ovate-oval with a cordate base, of a deep olive green with seven rosy nerves, connected together with numerous transverse veins of the same hue, giving the leaves a netted appearance, the meshes being large. There are a few spots of a rosy hue, but they are not nearly so numerous as on the leaves of B. argyroneura; and like the last named this variety is also very vigorous and requires no protection from a bell glass. Both were exhibited by Mr. C. F. Bause, Morland Nursery, South Norwood, London, and in each case a First-class Certificate was awarded.

ELAEIS MELANOCOCCA.—In this we have a species of Oil Palm, but the palm oil of commerce is chiefly if not wholly, obtained from E. guineensis. The plant under notice was exhibited by Messrs. B. S. Williams & Son, Upper Holloway, who were accorded a First-class Certificate for it. The specimen was about 2 ft. high or a little over, and furnished with numerous dark green, finely pinnate, spreading leaves. A rough comparison may be made between this Palm and a Phœnix, but of course the leaves are not furnished with the spines so characteristic of that well-known group of Palms. E. melanococca is smaller in all its parts than E. guineensis and more procumbent, so that it is better adapted for culture under glass and for general decorative purposes. It comes from tropical America.

IRIS HISTRIOIDES.—The penduncle, with the flower itself, of this Iris only reaches a height of 3 in. to 4 in. The leaves are longer, slender, and of a glaucous green. The falls are of large size, spreading nearly horizontally, and are of a rich dark blue, variegated with spots of the same colour on a white ground along the centre. The erect standards are narrow, and, together with the petaloid stigmas, are of a bright blue. The rootstock is bulbous as in the case of I. Histrio. An Award of Merit was accorded it when shown by Messrs. J. Laing & Sons, Forest Hill.

CLIVIA HON. MRS. P. C. GLYN.—The habit of this Clivia so far appears to be dwarf, yet the plant is sturdy and vigorous with trusses of large, richly coloured orange flowers. The segments are broad, especially the inner three, and spread widely at the mouth. A plant was exhibited by Mr. J. Friend, gardener to the Hon. P. C. Glyn, Rook's Nest, Godstone, Surrey, when an Award of Merit was accorded it.

LILAC PRESIDENT GREVY.—The flowers of this variety of Lilac are double and borne in large panicles or bunches. When forced and flowered at this season of the year they are nearly white with a pale lilac tube, and in general terms might be described as porcelain white. They are also agreeably fragrant. Being a variety of the Common Lilac (Syringa vulgaris) the leaves are of the ordinary heart-shaped form. Some trusses of bloom were exhibited by Messrs. Paul & Son, when an Award of Merit was accorded it.

FLORICULTURE.

Carnations: A split Calyx.

A CORRESPONDENT writes:—"I should be very glad if you would kindly give me the names of a dozen or so of *good border* Carnations that *do not split their pods*. I have purchased several of the recent introductions, and find that most of them are 'pod splitters,' which, in consequence, in my opinion are not worth the trouble of growing."

The only answer I can make to your enquiry, is that I know of no double Carnation which may be guaranteed to bloom without more or less of irregularity in the points of the calyx. Singles and semi-doubles alone in my experience throw out their petals without infraction of the calyx beyond the opening of nature. And pray forgive me, and least of all do not think I would be offensive, if I say I have no sympathy with your objection to a split calyx. No florist in any generation has more stringently insisted upon the point that flowers for competition should have the calyx intact. But outside competition I am really at a loss to know why we should reject a mass of glorious inflorescence because, perhaps, it comes nearer in a few cases the winged form of the Lily than the hemispherical Dianthus. This is my conclusion after fifty years of study, and after such attempt to understand the principles of beauty as may be found by one daily engrossed in business cares and necessities. But I do not for one moment mean to say you are bound to arrive at a similar conclusion.—*E. S. Dodwell.*

National Dahlia Society.

THE annual meeting of the above society was held on the 9th inst., in the room of the Horticultural Club, Hotel Windsor, Mr. E. Mawley presiding, and there being present a good representation of growers and exhibitors. The report read by the secretary stated that owing to the reduction in the amount of the members' subscription a less sum had been received this year than last, though there had been a slight increase in the number of members. The annual exhibition held at the Crystal Palace last September was stated to have been the best held since 1887, the show and fancy varieties being numerous and very fine, the Cactus and single varieties never before so numerous, and of such high quality. The experiment of a class for true Cactus varieties answered well, and made a specially interesting feature; and the list will have to be extended by the addition of the new varieties of 1891. The death of Mr. Henry Glasscock, of Bishop's Stortford, the champion amateur Dahlia grower, was deplored as a serious loss to the society. The financial statement showed an income from all sources, including the balance brought over from 1890 of £31 17s. 7d., amounting to £153 1s. 1d., and the entire expenditure, including the payment of all the prizes awarded at the Crystal Palace, to £150 18s. 3d., leaving a balance in the society's fund of £2 2s. 10d. Some members' subscriptions not yet paid, when realized, will enable a balance of something like £7 7s. to be carried forward.

The usual exhibition will take place at the Crystal Palace on the 2nd and 3rd of September. The names of Mr. Samuel Barlow, J.P., Mr. G. H. St. Pierre Havus, and Mr. John Downie were added to the vice-presidents; and those of Messrs. A. Rawlings, F. Glasscock, F. Vagg, and G. Phippen to the committee. The hon. secretary, Mr. T. W. Girdlestone, was re-elected, and heartily thanked for his services during the year.

WEATHER FOLK LORE.

REGARDING old sayings about the weather, it is worth remarking how true two at least of them proved in relation to the year 1891.

A cold April brings Corn and wine,

i.e., a good harvest, and it is cheering to find that notwithstanding the fact that the bitterly cold spring of 1891 was followed by as cold, wet, and cheerless a summer as anyone could well wish not to experience, the Corn grew and "did" far better than could have been expected. The Wheat-ears were long and well filled, and although the wet, stormy weather at the end of August gave us Barley too much discoloured for the fastidious taste of the brewer, and here and there Wheat "laid," and even a little chitted, yet the latter grain, albeit a little coarse in the skin from standing too long in the fields, seems from all accounts to yield remarkably well when brought to the threshing machine. The other prophecy was fulfilled only too well.

All the months in the year
Curse a fine Februeer.

We had last year the finest February which has occurred within living memory; but since the close of that month it is no exaggeration to say that June and the early part of September gave us the only seven consecutive days of genial, seasonable weather which we enjoyed. The very heavy fruit crop, as well as our ornamental and timber trees, suffered sorely from the autumnal gales; and the remembrance of those long weeks of continuous rain as the short dark days came upon us will make us glad to see "February fill dyke" in all its old form again.

It was observed recently that the partridges began to pair much earlier than the traditional 14th of February, and those who are dwellers in country districts and take note of such things say that the fact of the early pairing of the partridges may be taken as indicating the probability of an early and genial spring. Let us hope so, for it is nearly time Nature awoke to the sense of responsibility of her position, and paid some attention to the just claims to consideration the gardener can place before her.

GROWING TURNIPS FOR EXHIBITION.

To succeed well at a Flower Show, knowledge and experience is necessary in the growing and showing of the simplest subjects, even such as the common Turnip. No doubt many a one wonders how the beautiful golden yellow balls to be seen at some shows are produced, with skins so smooth as often to elicit the remark, "That fellow has polished them with butter." I don't believe in the butter dodge, but by treating them as hereinafter described, the grower may depend on producing specimens to his satisfaction.

SOIL.

This has much to do with success, and should be poor. A bed that has carried an exhausting crop the previous year, or is otherwise poor, should be chosen. A layer of sand along the rows and mixed a little with the soil, is of advantage in reducing its strength and giving a smooth surface. Among rough soil snails find a lodgement, and these pests may spoil a whole crop for competing purposes; the Turnip bed should therefore be smooth. The time to sow is regulated to some extent by the date of the show. For shows at the end of August, sow one crop about June 1st, and a second sowing about three weeks later, so as to make certain of hitting the time. So much depends on locality and climatic influence that arbitrary dates cannot be fixed. Sow in rows about 15 in. apart, and thin out to 8 in. or 9 in. between the plants. Should the Turnip Fly visit your crop give a slight dusting overhead with soot when the leaves are wet; while effecting a cure the soot also acts as a stimulant. Sunlight and air should get to their roots as much as possible, in order to assist the colouring of the yellow varieties. From a bed in which nothing can be seen for foliage no prizes may be expected.

EXHIBITING THEM.

It is easier to arrive at a standard for judging vegetables than flowers. Utility is a first consideration, form and size coming after. Some vegetables are spoiled both for show and culinary purposes by being grown extra large; others are not. Among the former is the garden Turnip. A large specimen has no chance on the exhibition table, or should have none; while in the kitchen it is looked on with suspicion as being soft and hollow-hearted. What is wanted is a firm built bulb of medium size, say about a foot or little more in circumference. In form it should not be quite round, but a little flattened and well-proportioned throughout, the root small and thin, the leaves few and cut off an inch from the crown; colour, a deep-golden yellow, or if white, of course as pure as possible. The yellow varieties, which are most in favour for exhibition (at least in Scotland), are often dressed by having their rough parts carefully scraped off with a knife and the whole polished with a cloth; some competitors in their enthusiasm even using silk. It should be noted that the mature yellow turnip is richest in colour. The Snowball variety will not stand rubbing or bruising. If their silvery-white skin is broken they soon after appear of a dirty white. Simply wash them clean. The yellow varieties are much improved in colour by being lifted two days before the show, and then buried in damp sand. When staging them they should be neatly arranged on plates, or in boxes lined with silk paper. Artful staging should never be lost sight of; it often means a prize instead of a blank.

GROWING TURNIPS FOR ORDINARY USE.

About the beginning of May sow Early Milan or Snowball for first crops, and another sowing about the end of May. In mild localities a sowing may be made in April, but a sharp morning's frost may make a whole crop run to seed. Two sowings of yellow varieties may be made, one in May, and another in June for second crops. Laing's Swede should be sown about June 1st, for winter use. All other varieties are best used in a young state, hence sowing at intervals is recommended. The soil should be moderately rich only, except for Swedes, which should have a liberal supply of manure. The Swede should be in rows 2 ft. apart and 9 in. in the rows, the others about 15 in. between the rows.

I trust the foregoing directions will be of service in helping beginners into the list of prize-takers, and also Amateurs who do not compete, in having a fresh and seasonable supply of the indispensable garden Turnip mostly all the year round.—*Michael Cuthbertson, Public Park Nursery, Rothesay, N.B.*

PHALÆNOPSIS AT CLAPTON.

THE Phalænopsis house near the entrance to the nursery of Messrs. Hugh, Low, & Co., Clapton, is now gay from end to end with different species, varieties, and natural hybrids of this beautiful genus of plants, popularly known as Moth Orchids. The bulk of the kinds we noted the other week consisted of P. Schilleriana and P. amabilis, as might be expected, but there were numerous other and rarer kinds. It was a little too early for P. Stuartiana when we inspected the collection, so that few of them were in bloom. The fine show at present is doubtless due to the absence of fog since Christmas. Good cultivators have no difficulty in making a display of Phalænopsis, but in the neighbourhood of large towns the fog nuisance often plays havoc with the flowers.

Near the entrance to the house above mentioned we noted a fine piece of P. casta well furnished with strap-shaped deep green leaves. The flowers were large and handsome with white sepals and petals slightly tinted with pale purple near the base. The lip was white, tinted with yellow at the base of the middle lobe; the base of the side lobes and the golden yellow crest were spotted with crimson. Another noteworthy kind was P. leucorhoda rosea, having rather darker flowers and more colour in them than in the type. The leaves were 12 in. long, obovate-ligulate, leathery, and mottled or marbled with deep olive green on a greyish-green ground. The side buds of the flower scape develop into sprays of bloom should the apex get cut off either accidently or intentionally. This is an advantage should the first opened blooms get destroyed by fog, for then the upper portion may be cut off in the hope of getting a second flowering later on. This peculiarity is also shared by P. amabilis, P. Luddemanniana, P. Brymeriana, and in fact most if not all of the species except P. Schilleriana.

The flowers of P. Brymeriana are smaller than either of the above named, excepting of course P. Luddemanniana, but they are nevertheless pretty and interesting. The flower scape may either be panicled or racemose according to the vigour of the plant. The sepals and petals are white faintly tinted with pink. The side lobes of the lip are shaded with rose and streaked with red on a white ground; the middle lobe is of a warm reddish purple. What may interest connoisseurs is that the points of the middle lobe of the lip of P. Brymeriana are subulate and straight as in P. Veitchi. There was a fine plant of this sort, grown in a basket and kept in a light position near the glass.

Amongst the very numerous specimens of P. Schilleriana in bloom a considerable variation may be noted in the colour of the foliage and also in the size and colour of the flowers, as well as the amount of branching of the flower scape. One variety we noted had very dark foliage and also more richly coloured flowers. Another plant exhibited an interesting peculiarity. It bore two flower scapes,

one of which was panicled bearing a large number of flowers. The other scape terminated in a young plant or leafy bud, consisting of leaves 2½ in. to 3 in. long, but a side bud had elongatad into a raceme bearing four good sized flowers.

The other houses devoted to Phalænopsis had their usual complement of plants in good condition, but fewer of them were in bloom. Amongst them were P. grandiflora which will produce a greater display presently, and P. intermedia was flowering.

LYCASTE SKINNERI ALBA.

Numerous and beautiful as are the varieties of Lycaste Skinneri, the white variety is admitted on all hands to be the most valuable and ornamental. Many white varieties of other species have a flimsy appearance and lack of substance compared with the highly-coloured forms of the same types. This cannot be said of L. Skinneri alba, for it attains as large a size as the type, and presents a massive appearance. The segments are of great substance, and the sepals in well-grown specimens measure fully 5½ in. across, as may be seen by reference to our illustration, which was prepared from a plant exhibited by Mr. R. Johnson, gardener to T. Statter, Esq., Stand Hall, Whitefield, near Manchester, at the meeting of the Royal Horticultural Society, on the 9th inst. The petals are as pure white as the sepals, but they are of smaller size and stand erect in the centre of the flower. The lip is spreading and is also pure white, with exception of the tongue or crest on the centre, and which is of a pale lemon-yellow, showing off by contrast the purity of the rest of the flower. Very few have been disappointed in this plant who have been fortunate to add it to their collection. One pseudo-bulb gives rise to a number of flowers, and they are very numerous before a reduction in the size of the blooms becomes visible. Its value is further enhanced by its flowering at this early period of the year. Wherever we have seen it in bloom the owners have been quite enthusiastic in pointing it out as one of the choicest gems of their collection.

Lycaste Skinneri Alba. (Natural size.)

APPLE TREE CULTURE.

In taking up the thread of Mr. W. Crump's paper on Apple tree culture at the Manchester Fruit Conference, which was dropped on p. 359, I may state that Mr. Crump does not apparently regard with much favour the propagation of Apple trees from own roots cuttings, or layers, as advocated by your contemporary, *The Garden*. He holds that so long as such good results as those previously set forth can with certainty be obtained from prepared free stocks, it is little better than a waste of time to trouble with cuttings, or even to resort to paradise or other "alien" stocks, as Mr. Crump terms them. If only short-lived toy trees are required, then such stocks may be resorted to, but seeing the indigenous Crab is preferable, and the results in every way justify its use, its use is commended. Still Mr. Crump does not ignore the fact that no rule will apply to all soils and situations.

Budding these prepared free stocks is done at Madresfield in August, as it is desirable the buds should remain dormant until spring. The sap is found to be most active, and the bark will rise freely and best after rain. But some caution has to be exercised, as sometimes, when rain comes after drought, the sap rises too freely, as only bark sufficient to receive the inserted shield-shaped bud should be disturbed, otherwise failures will follow. We prefer to bud close to the ground, leaving the stocks untrimmed until the following spring. We then trim them up closely, retaining some 16 in. or 18in. of the stock to be afterwards utilized as a stake for the purpose of tying the young buds' growth to, and to prevent the wind blowing it out.

After the work of rubbing off the growths from the stock is entered upon, it is frequently done. If any buds fail, the stocks are cut off quite close to the ground in the spring and grafted. By the end of the season the growths of the budded and also of the grafted trees are about equal—the reasons are obvious why Mr. Crump gives the preference to budding.

There is one passage in Mr. Crump's paper bearing upon the operations of nature and the influences of stocks *versus* scions—which appears to be both subtle and uncertain—I should like to reproduce in full. "Our experiments," he says, "have been aimed to improve the flavour, size, colour, habit, good bearing, or long keeping qualities—all or some of them combined. Prepared stocks have been worked at the ground, with Blenheim Pippin as the medium, and re-grafted at various heights with such kinds as Ribston Pippin, Cox's Orange Pippin, King of Pippins, Cornish Gillyflower, Cellini Pippin, Glassega, Barnack's Beauty, May Queen, Lane's Prince Albert, Rymer, Margil, Bismarck, Grenadier, Lord Burghley, Sandringham, Ashmead's Kernel Duke of Devonshire, Worcester Pearmain, Gascoyne's Seedling, and others. Results so far are various, but more time is required to test them thoroughly; till then it would be premature to state their peculiarities. Our trial ground contains upwards of two hundred named varieties." These experiments are so full of interest that it is to be hoped Mr. Crump, when he has carefully studied and systematised his experience, will publish the results in some form. We are yet in the infancy of systematic Apple culture in this country, though we profess to have learned so much.

Two classes of trees are cultivated for general stock at Madresfield—one is the orchard standard, as suitable for hop or grass lands; the other is the dwarf open bush, for select plantations. Planters as a rule desire extra strong large trees, but Mr. Crump considers this a mistake. He prefers younger trees of some two or three years old, as moving better, whether they be standards or dwarfs. When planted on grass land Mr. Crump thinks it a good plan to leave the stems untrimmed for a few years, as the stems thicken and they are better able to dispense with stakes; it is a cause of great labour staking trees, and if neglected and the trees are blown about by rough winds, irreparable injury is sometimes done by wind chafing the bark, causing canker, etc. Really Mr. Crump's paper well deserved the criticism passed upon it by the Earl of Derby, the chairman of the Conference, that it was one of the best and most practical he had ever listened to.

PRUNING ROSES.

The mild weather experienced throughout the latter part of January, and early in February, will soon cause many Roses to start into growth, especially if in somewhat sheltered situations, and throughout the Southern Counties. This will doubtlessly cause many to think of pruning their plants; indeed, only to-day I noticed more than one group of Roses in villa gardens that had already been pruned. It is not that I consider the time has come for this important operation that I give these few notes, but to warn others against too early pruning, and at the same time give them an outline of how to do this, so as to secure a maximum amount of good flowers.

The middle or end of March is a good time to prune the "queen of flowers," but no set date can be given. The seasons differ so much, and this, with the sheltered or exposed situation that the Roses may be growing in, must be taken into consideration. Some years February and March are quite winter months, while at others they have such a spring-like character that one naturally gets much forwarder with all such work as pruning. For the Tea-scented and Noisette classes, I consider the middle of April quite soon enough, unless the situation be very warm and favourable. There is no gain—rather the reverse—in pruning too early. One only gets premature growths, that are almost certain to receive severe checks from spring frosts. Early growths often receive such a sharp check towards the end of May that the first crop of flowers is practically spoilt. Later pruning will avoid a great deal of this; besides it is the growth that comes on rapidly and without any check that gives the finest flowers. It is really surprising how very quickly such growth will overtake that started earlier, and which has probably been checked by cold nights or a morning frost. Early pruning is often to blame for the malformed and green-centred blooms one meets with early in the Rose season. The principal cause of these is cold ungenial weather while the flower buds were swelling. This causes them to bind, and so the flower grows in the centre only, and eventually bursts into a bad shape, and with the green core of the bloom showing.

There has been such valuable additions made to the climbing Roses during the last few years, that I intend giving the first part of this paper to them. When properly and rationally pruned, these are the most floriferous of all Roses. But if pruned as is too often the case, they are decidedly "shy." Many persons, amateurs in particular, prune all classes of Roses alike. This is an error, because almost every class has its own characteristics and peculiarities. All strong growing climbers require very little pruning indeed at this time of year, provided they receive proper attention during the summer. This consists of removing as much of the wood that has flowered as is possible without cutting away the long growths of the current summer. It is these long maiden growths that will bloom so freely the following spring. When what may be styled the "summer-pruning" has been attended to, the only need for the knife at this time is to remove the weakest side growths and any immatured points of the strong and vigorous shoots made during the past summer. Too often these shoots are shortened in rather severely, under the impression that they are of rampant and wasteful growth. When one bears in mind that it is the characteristic of these strong growers to flower from almost every eye of such shoots, it will easily be understood what folly it is to remove more of them than can be helped. No other part of the plant will flower so freely; and if as much vigour as possible is thrown into the long growths during the summer, large crops of good flowers are sure to result, provided the wood gets thoroughly matured This is the only way to grow these Roses to perfection, and the same idea must be carried out whether growing on walls or used for pillars and arches.

The very strong growing Hybrid Perpetuals should be treated in much the same manner, the only difference being that these are always best when pegged down. In fact they make the best of Roses for bedding purposes. Why I advise the pegging down of these kinds, is the much greater tendency they have to break into growth from the top portions of the shoots compared to those of the Tea-scented and Noisette classes. If the Hybrid Perpetuals are kept in a horizontal position, they will break from almost every eye and carry a large quantity of flowers; while, if the same shoot had been left growing in a more or less perpendicular manner, it would in all probability have borne from three to five flowers only. The strong sucker-like growths from the base of the plant, and which will shoot up every summer, should have the same care taken of them as I advised for those of the Teas and Noisettes.

The medium growers, of both Teas and Hybrid Perpetuals, may be pruned in the manner usually adopted—that is, cutting them back to within three or nine inches of the point they were previously pruned to. The simplest rule for this section is to prune them according to their strength, cutting the weakest growers back much harder than those of strong and robust habit.

Weaker growers—such as Louis Van Houtte, Horace Vernet, and Xavier Olibo among the H. Perpetuals, or Comtesse de Nadaillac, Souvenir d'Elise, and Grace Darling among the Teas—should be cut back much harder than Duke of Edinburgh, General Jacqueminot, or Mrs. John Laing of the first named class; and Marie Van Houtte, Madame Lamberd, and Anna Olivier among the last named.

A great deal more depends upon the pruning of the plants than many would think to see the uniform way in which some prune all classes of Roses. It is these persons who complain of the shyness in flowering that many climbers and strong growers are taxed with, when the fault really lies with themselves. All Roses, of whatever class they may be, will flower freely in proportion to their strength and the amount of wood they make, if properly pruned.—*Experience.*

PARCELS POST AND GARDEN PRODUCTS.

In your leading article last week you draw attention to a recent meeting of farmers at which the employment of the Parcels Post was advocated for the transmission of farm and garden produce. I see many great objections to this mode of transit generally, as in the case of eggs and ripe fruit especially, for unless most carefully packed breakages in transit would arise, and the Postal authorities would soon be on the war-path for the prevention of damage to other parcels. Then the want of knowing how safely to pack, of having wood boxes at hand, being within easy reach of a post-office, and other difficulties crop up; besides in many of the country districts a rural postman has to walk very long distances night and morning, and is allowed no conveyance, so that in common mercy to him he need be spared heavy packages.

In a contemporary recently, I advocated the formation of centres in districts with a simple plan of collecting produce and conveying to eligible markets. I live in Warwickshire, and I have some knowledge of the surrounding counties and rural districts, and I know how very difficult it is in large towns like Birmingham, Wolverhampton, Walsall, Stafford, Crewe, and other large central beehives of labour, to obtain supplies of *fresh* Strawberries and other fruits, and to whom a supply of nice, fresh-gathered Marrows and Peas is a luxury almost beyond reach. These large towns have to depend upon the greengrocers and fruiterers for their supplies, procured through the markets after long journeys very often.

In the rural districts last year there were thousands of bushels of Damsons, Plums, Pears, Apples, &c., which could easily have been collected and sold, had there been an organization at work; and for want of it, a great deal of the fruit was wasted. Reference has been made to long rows of Damson trees by the roadside in Kent. In the Midland Counties, we too repeatedly see these things, and they go unmolested, and very lovely objects they are at the blooming time.

What I want to see done is this. That either by private enterprise or the formation of a society, with a small capital, experiments may be tried by establishing central depots in Birmingham and elsewhere, with two or three active men with horses and vans or carts, to take certain districts within a radius of ten or twelve or more miles, and collect from cottages and farmers any produce they may have for sale, such as eggs, poultry, honey, good fruit, especially Raspberries and Black Currants, always in demand, any quantity of fresh Green Peas, early Potatos, Mushrooms, home-made wines, and in fact any produce readily saleable, and pay for them on the spot. The collectors of course would buy at as reasonable a price as possible, and should have an idea of market value, and in a day a large breadth of country could be covered, and a quantity of fresh marketable produce be collected. I am perfectly sure of this, that a very ready sale would soon clear out the stock if sold at reasonable prices, for the desire to get fresh country produce is strong in towns. If a central shop or stores were obtained, the packing of surplus collected produce could be attended to and sent on to other towns. Agencies could easily be opened, and there is one establishment in Birmingham, a very large supply stores, which I have no doubt would be a ready customer. I instance Birmingham only as one centre.

Very much is talked and written at the present time, and at political meetings especially, on the enormous advantages that will arise to the agricultural labourers by giving them more allotments and ground. There is a great deal of humbug about this, used I am sorry to say for political ends chiefly. I am a strong advocate for allotments and good gardens for cottagers, and I want to see good sanitary houses for them at a low rental. Wages must always be governed by the state of the farmers and employes. Bad seasons crop up too often, and farming has been a precarious and unprofitable occupation for years. I am not going into the causes, and it is sufficient here to acknowledge the fact. But with such an organization at work about the country farmers would be benefitted by a cheap and easy sale of their produce, and would devote themselves to the production of produce which would find a ready sale and profit. The large numbers of cottagers about the country would gladly welcome such an agency for the sale of their spare produce, and in fact would readily adapt themselves to the further production of such things as they found were wanted and would put money into their pockets. My ideas may be thought Utopian by some—they are not by me, for were I much younger and better off, I should try the experiment, for I know so well *that there is money in it.* In this way the income of many a country cottager may be increased, and so their condition in life bettered. I think it a shame that we allow so much garden produce to go to waste as we do, and that good wholesome home-made wines are not within the reach of everyone.

A good deal has been written about the superiority in flavour of home-grown Apples, and this is so. But in the country Apples are gathered and sold for what they will fetch, or not sold at all. With central depots, Apples could be collected, stored and properly looked after and made to pay; but although advancing rapidly in improved sorts and culture, we are lamentably behind generally in the storage and care of Apples and Pears during the winter; and when making new orchards or plantations, only a few of the best market sorts should be planted, and several trees of a sort. A few sorts of good Pears that will bear early, as pyramids or low bushes, should also be grown, for good home-grown Pears are difficult to obtain in the shops in the Midland and Northern towns. Mushrooms, so exceedingly easy to cultivate out of doors and in outhouses, when only a little fermenting material is wanted as a starting point, would be within the reach of so many in the rural districts, and good Mushrooms always fetch fair prices in the Midlands and North. Some of the finest later sorts of dessert and culinary Plums could also be grown, for fresh good

fruit in good condition commands a ready sale for preserving; and as for Raspberries and Black Currants for preserving, I have never yet known the supply to be equal to the demand in the Midland and Northern towns.

Some day my views will be taken up and worked out. Not just now, perhaps, for it is not easy to get out of old grooves. Many cottagers have large gardens, larger than they really want for their own family use, and for the brief time they have from their ordinary daily occupation for work in their own gardens. If they knew of a certain outlet for any crops they might grow for marketing, and which they would soon find out were wanted, depend upon it they would soon begin to make more profit out of their gardens than had been previously done.—*W. D.*

GARDENING MISCELLANY.

THE COLLECTION OF APPLES AT CHISWICK.

We have at present at Chiswick one of the largest (if not the largest) collections of varieties of Apples in the world. There are, however, a number of good sorts scattered here and there throughout the country, and but very little known. The council of the society invite the owners of such comparatively unknown sorts to send grafts of them, with name, locality, age of tree (if known), and any other particulars, to Chiswick for trial alongside of the standard collection. Grafts, &c., should be addressed to the Superintendent, R.H.S. Gardens, Chiswick.—*W. Wilks, Sec. R.H.S., Feb. 10th, 1892.*

VEITCH'S RED-STEMMED WHITE PRIMULA.

This is a very pretty thing indeed, and is a pleasing departure from the ordinary white (Primula sinensis finibriata alba). The flowers are quite as large, of as good substance, and quite as floriferous, while the flower stem and the leaf stalks, instead of being a greenish-white, are of a deep ruddy-crimson hue. The red colour sets off the white flowers to great advantage, the contrast being a most pleasing one. I have seen it in many conservatories in Devonshire, and the other day I saw a nice batch of them in Messrs. Veitch's houses at Exeter.—*Devoniensis.*

PRIMULA OBCONICA.

Should any of your readers experience any strong itching sensation from being stung by this plant in the course of handling and re-potting it, a very simple cure is to be found in an application of Condy's fluid and cold water, say half a wine glass-full of the former to a pint of water, and bathe the arm and hands with it, allowing it to dry in. It is a safe and quick cure. Some persons are so frightened about its stinging properties as to discontinue growing it, but they need not be with so simple a remedy. And it is always well to have Condy's fluid in the house as an efficient disinfectant, and I know its value in a sick room under the suffering from bronchial asthma and great difficulty in breathing, and have found a little Condy's fluid, dropped upon a hot coal, throw out a vapour which gives ease and comfort.—*D. W.*

EARLY STRAWBERRIES.

In November I started a batch of Strawberries, including La Grosse Sucrée, Keen's Seedling, Noble, and a dozen of Black Prince; I had not seen this variety for twenty years, until two years ago, when a friend spoke of it as being grown by him for conserves, no other being accepted. He offered me some runners, and last year I layered a dozen in small pots, and grew them on in the usual way. On the seventh of this month there were three perfectly ripe fruit on the Black Prince, and one or two more on each pot colouring. This day, February 15, La Grosse Sucrée and Keen's are changing colour, and Noble will do so at the end of the week, the fruit being larger and more evenly set than the others. If those in successional batches do as well as they did last year, I shall be well pleased with Noble. None of our pot plants have attained the size of those in previous years in consequence of the cold sunless wet season, and I do not think that they received more than two waterings from the time they were layered, the almost daily showers being a little too much. After this I do not think much importance can be attached to crown ripening. At any rate, so far as we are concerned in this district, the essential conditions were entirely absent, and the previous season was only a trifle better, yet our forced Strawberries were never better than they were last year. I feel sure that if I had fifty plants of Black Prince this year, that I could have picked a pound of fruit on the seventh of this month, so it appears that in point of earliness we have not improved on old sorts. —*W. P. R., Preston.*

HARDY TREES & SHRUBS.

Deciduous Spindle Trees.

For some years past the evergreen species and varieties of Euonymus have received the greatest amount of attention from planters, and those who grow young plants for window boxes, pots and decorative work generally. This is doubtless commendable for towns where something hardy and evergreen is wanted in the immediate vicinity of dwelling houses during the winter months. The deciduous species on the contrary are most interesting when in fruit during the autumn months, and loaded with their red fruits, but more especially after the latter burst and expose the seeds which are covered with an orange-coloured aril. The birds molest them very much, and consequently the fruits do not hang so long as they would otherwise do. The deciduous kinds are generally if not always propagated from seeds, which they produce usually in great abundance.

E. Europæus.—The British species is perhaps the most abundant, and the most widely disseminated

Euonymus Europæus.

in British gardens. The lance-shaped leaves are finely sawed on the edges and resemble to some extent those of the almond in miniature. The plant may be described as a large shrub or low tree when allowed to attain its proper dimensions, and then produces its highly-coloured fruits in great abundance during September and October. The capsules burst open exposing the orange-coloured seeds suspended by means of long stalks similarly to those of the Magnolia when it ripens seeds. The decaying leaves often become bright red before they fall. The capsule itself may be described as rose coloured, but there is a variety named E. e. fructu albo in which the capsules are white while the seeds retain their bright orange hue. Several varieties have been cultivated, but most of them have got lost during the period of neglect which shrubs in general have suffered for some years past. The accompanying illustration shows the character of the leaves and the fruit when mature and burst so as to expose the seeds.

E. latifolius.—The leaves of this species are broader than those of the European Spindle Tree, ovate and finely toothed. The fruit is acutely angled or somewhat winged, and ripens in September, when it becomes of a bright red. It is larger, even more showy, and if anything more abundantly produced than in the case of E. europæus. The leaves also become of a purplish-red before they drop. The species is a native of South Europe from the south of France to Tauria. The branches even in winter are more interesting and attractive than those of any other deciduous species. It should be allowed plenty of space to develop its true character, and the planter who does so will be amply pleased with the results, for it is highly ornamental when well laden with fruit. Seedlings are also easily raised as in the case of E. europæus.

E. verrucosus.—Seldom is this species seen in gardens, but used to be grown by collectors of shrubs who valued it for the sake of its distinct upright habit and warted branches as indicated by the specific name. It is a native of central Europe and grows to a height of 6 ft. to 12 ft., and bears fruit which ripens to a reddish purple in September.

E. atropurpurens.—The leaves of this species attain a length of 2 in. to 5 in. and are lanceolate, resembling to some extent those of a Peach. The fruit is bluntly four-angled and furrowed, crimson, with white seeds covered with a red aril, and ripens in October. The flowers are dark purple as indicated by the name, and the decaying leaves are purplish red. Like many other American plants it likes a peaty soil, and does best when grown in somewhat shady positions. Several other deciduous species have been introduced, but like the last two they have been suffered to get out of cultivation from neglect.

WASTE NO FRUIT AND VEGETABLES.

A lady, writing recently in a public journal, said that one of the lessons to be derived from the life of that splendid old man recently deceased—Cardinal Manning, who at the time of his death possessed practically nothing—is that of thought for others. We are sadly in need of more of this kind of consideration all round. Those who cannot give money can sometimes render help in other ways, and kindly sympathy is always acceptable. I am quite sure many persons waste a good deal of the fruit, flowers, and vegetables they grow—there is more than the family and servants can consume, and it is wasted. How easy it appears to say to those who are not so well off in these respects, and have no gardens of their own, "If you care to send you can have a basket of vegetables, or if your children will come for some fruit, they shall have it." I have a neighbour—a lady with a benevolent nature—who does this, and her kindness is greatly appreciated, and she is regarded as the Lady Bountiful of the neighbourhood. An act of this character comes to a fine nature as a positive luxury. It is not necessary to be rich to perform such little acts of kindness—far from it; what is necessary is to be thoughtful and unselfish. Where in this wide world can anyone find such compassion as that shown by the poor for the poor? A few flowers given from a garden is at all times a worthy gift, and especially so when made to an invalid, or to a person in a lowly station of life. Rich people are in too many instances so far removed by position from the bulk of their fellow-men, that they miss opportunities of taking a personal interest in them. But thoughtful people of small means have it in their power to do a great deal; there is scarcely a limit to the little acts of kindness they can perform. Gardeners and those interested in gardening are to be commended for their support of the provident and charitable institutions connected with horticulture, but let us give generous impulses a wider play in some such directions as we have ventured to indicate.—*R. D.*

Apple May Queen.—In general appearance this variety may be compared to a small Blenheim Orange, but it is firmer and keeps much longer, in fact till May, as indicated by the name. The fruit is globular, slightly compressed at either end, and of medium size. The skin is of a greenish yellow on the shaded side, speckled all over with small green spots and lightly suffused or streaked with red, but of a bright red all over the sunny side, and more or less splashed with a darker hue; the whole surface is bright and shining. The half open eye is set in a moderately deep even cavity, and the very short stalk is set in a deeper and narrower evenly rounded cavity. The flesh is still very firm but crisp, tender, and sweet, pale yellowish white and slightly suffused with red just under the skin, as seen in Duchess Favourite, Red Baldwin, and others, and is agreeably fragrant. A dish of it was exhibited by Mr. W. Crump, Madresfield Court Gardens, Malvern, when an Award of Merit was granted it.

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.

It is always necessary to look well ahead, by having everything ready for any emergency, and although they may not be required just yet it will be well to get the blinds fixed and ready for use at any moment, as sometimes during the latter part of this month we get very strong sunshine, necessitating their being rolled down for a few hours during the hottest part of the day. After passing through the dull winter months the plants are not in a fit state to stand much sunshine, the consequence of too much of which just yet is scorched leaves, which are a great disfigurement to any plant.

Imported Orchids.—In view of the many large importations of all kinds that have reached this country recently, it may be of service to amateurs if I detail the treatment we successfully pursue with such plants. With Cattleyas the first thing is to thoroughly clean the plants, cutting away all the dead roots, decayed bulbs, etc. They are then placed on the stage in the cool house for say a week or ten days, which is generally long enough at this time of the year for them to plump up sufficiently before being potted or basketed as the case may be. By keeping them cool they retain their leaves, which would in all probability fall off if they were placed in the Cattleya house at once. After potting we stand them on the stage at the shadiest end of the Cattleya house. Very little water is given until the roots have taken hold of the compost, but the syringe is kept going about the pots.

Odontoglossums are potted up as soon as received, and treated thus they very rarely fail to do well. I may say that when buying imported plants we make a point of buying those that have a fair chance of growing, and unless all amateurs do the same it is much better and cheaper to buy established plants from the best known firms.

East India House.—As the Phalænopsis go out of flower they should be attended to, rebasketing where required. When grown in cylinders very few roots will be found inside, so that all the crocks may be replaced by clean ones. The plants should be elevated as much as possible, so that the moss does not touch the bottom leaves. Unless the sphagnum is very clean it should be washed before using it for these plants. After washing it will be necessary to let it become moderately dry before using it. This may be done by spreading it out in the house where the plants are grown. It will then, when ready for use, be at the same temperature, which is of great importance. The temperature of this house might be allowed to rise a few degrees gradually during the next fortnight, if the weather keeps mild.

Cattleya House.—Any Miltonia spectabilis and Morrelliana that require potting should now be done. We grow some in pots, pans, and baskets, but I must say that, although they all grow and flower well, those in the baskets do the best. Sphagnum moss and good fibrous peat, added to which should be some small crocks and silver sand, suits well, and we pot moderately firm. Very few insects attack this species. White scale is the only one that I am aware of, and then only when the plant is out of health. The temperature of this house will be sure to range a little higher now both night and day without any more firing being used than before, and with a little more moisture in the air by damping down it will benefit the plants that are growing

Cool House.—We shall not raise the temperature of this house just yet. Keep the paths and stages syringed twice daily, but do not syringe the Odontoglossums overhead; Disas, however, will appreciate it.—*C.*

Zygopetalum leucochilum.

Hybrid Orchids are the rule of the day, and the plant under notice presents a very pleasing combination of the colours of its two parents. The seed bearing parent was Z. Mackayi, and the pollen parent Z. Burkei. The sepals are oblong and striated, or striped with brown for the greater part of their length on a pale green ground, the apical portion being suffused with brown. The petals are slightly shorter and broader, but otherwise similar. The lip is pure white, and lined with violet on the fleshy cup-like crest. The scape, about 20 in. high, bears a short raceme of flowers near the top. The leaves are linear lanceolate; and the whole plant is vigorous and apparently of easy culture. It was shown by Messrs. J. Veitch & Sons, and received a First-class Certificate.

Oncidiums from Westmount.

We are in receipt of some handsome flowers of Oncidium Rossii and O. Forbesi from Mr. David Wilson, Westmount, Kelvinside, Glasgow. One scape of the former carried three flowers of large size, and the name O. R. giganteum has been suggested for it. Notwithstanding the fact of there being three flowers on the scape, each measured 3½ in. both across the petals and across the sepals. The petals further were ⅞ in. wide, white suffused with blush and blotched with purple at the base. The sepals were heavily and closely blotched with purple all over on a groundwork of white. The lip was also very large, beautifully crisped or wavy along the margins, and blush deepening to a soft pink with a lemon-yellow crest. Another form of O. Rossii majus had its petals blotched with dark brownish-purple along the middle as far as the apex, thus imitating the sepals to some extent. Accompanying the above were some flowers of O. Forbesi with deep cinnamon-brown sepals streaked with yellow and rich reddish-brown petals and lip, all wavy at the margins with an irregular or wavy band of bright yellow round them. All were beautiful and acceptable at this early period of the year.

Lycaste Youngi.

Some of the deciduous Lycastes are highly ornamental when well flowered, and such may be said of L. Youngi as it was exhibited at the Drill Hall, Westminster, on the 9th inst. by Sir Trevor Lawrence, Bart., M.P. (grower Mr. W. White), Burford Lodge, Dorking. A good sized piece of it was simply one mass of golden yellow flowers, which were the more conspicuous by the absence of leaves. The sepals are ovate, and yellow shaded with green, while the petals are obovate-elliptic and golden yellow. The three-lobed lip is of a paler yellow with a few brown spots; the side lobes are very short, and the crests consist of two ridges or a deeply furrowed piece. Messrs. B. S. Williams & Son, Upper Holloway, also exhibited it, and an Award of Merit was accorded in both cases.

WHAT TO DO IN THE GARDEN.

Alocacias.—These will soon be in active growth, and the annual repotting should be accomplished before that takes place. A suitable compost for such kinds as A. Veitchii, A. Lowii, and A. metallica would consist of fibrous peat, chopped sphagnum, some small nodules of charcoal or broken potsherds and silver sand. This makes an open compost favourable to the development of the somewhat aërial roots, but is not of course long lasting; hence the necessity of annual repotting, particularly where the old soil has become too solid or sour.

Caladiums.—Turfy loam, fibrous peat, leaf soil and well-rotted manure in about equal parts will form a suitable compost for these tuberous rooted subjects. A common practice is to place the tubers singly in small pots, and shift them into larger sizes as the roots develop. In all cases the tubers should be sorted into sizes, so that if large plants are ultimately made up, tubers of equal strength may be used. They may be increased by removing the separate crowns or buds with a sharp knife, having a piece of tuber to each bud.

Pancratiums and Hymenocallis.—These may now conveniently be repotted. Offsets may be removed and the large bulbs potted singly, as they then form plants of a convenient size that may be used in various ways for decorative purposes. When a number of bulbs are grown in a large pot, they may not come into bloom simultaneously.

Clivias.—Where these have been kept in a moderately high temperature they will soon be throwing up their flower scapes, if not doing so already. The flowers will be much larger, and the plants enabled the better to produce them, if supplies of weak liquid manure are given them about two or three times a week.

Pimelias.—Plants that are wanted to flower in June or July may have the tips of the young shoots pinched out now. There are several other hard-wooded subjects which may be treated in the same way, and many of them may be retarded, if so desired, by placing them in a cool house with a north aspect.

Verbenas.—Where these were placed in heat some time ago, as advised in a previous calendar, the young shoots will now have attained some considerable length, and may be taken off for insertion in the propagating bed if that has been prepared for them. With a mild bottom heat they should be ready for potting off a fortnight hence. Seeds may also be sown of Verbena venosa or any other kind in light, sandy soil.

Calceolarias and Cinerarias.—Look closely after the plants at this time of the year to guard against the attacks of green fly. This is particularly the case with Calceolarias. Late batches of the latter should be potted into larger sizes or their flowering pots as the case may be. Late batches of Cinerarias or those not yet in flower should have weak doses of manure water about twice a week. Keep the plants near the glass and ventilate freely.

Peaches.—The night temperature in the earliest house may range from 55° to 60° according to the stage of advancement of the fruit and the state of the weather for the time being, allowing a good rise by day, more especially when the rise is due to sun heat. Ventilate when the temperature rises above 65°, and increase it during the day. Close early, syringe the trees well, and damp down all available surfaces. Weak liquid manure in the evaporating pans will help to keep down red spider.

Melons.—The early sown Melons should by this time be ready for planting out in their permanent quarters. If need be they may be retained in pots a little longer till the beds are ready for them. I fermenting manure is to be used to keep up the bottom heat, it should not be allowed to heat fiercely before puting it in the bed, otherwise it will lose much of its utility. When making up the bed beat or tread down the manure rather firmly, as that will make the heat milder and more durable.

Garlic, Shallots, Chives, &c.—As soon as the soil is in a favourable condition as to dryness, the above subjects may be planted out in lines 9 in. apart and about 6 in. from plant to plant; or a little more may be allowed between the lines for the better convenience of keeping them clean by means of the hoe.

Obituary.

We regret to record the death, at Bigsweir, Monmouthshire, on the 2nd inst., in her 76th year, of the Wife of Mr. George Rawlings, formerly of Bethnal Green, and Romford, and one of the oldest raisers and cultivators of Dahlias now left.

QUESTIONS AND ANSWERS.

*** *Correspondents are requested, in order to avoid delay, to address all communications to "The Editor" or "The Publisher," and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa London."*

Royal Horticultural Society of Ireland.—*G. Hestmeath*: The Secretary is Mr. W. P. North, 189, Great Brunswick Street, Dublin.

Names of Fruits.—*D. Campbell*: Apple, Dumelow's Seedling, most frequently called Wellington. Pear, Beurré Diel.

Names of Plants.—*H. L.*: 1, Crocus Imperati; 2, Galanthus nivalis lutescens; 3, Eranthis hyemalis; 4, Erica carnea; 5, Daphne Mezereum. *A. M. P.*: 1, Hamamelis virginica; 2, Cupressus nutkænsis; 3, Thuya orientalis; 4, Juniperus recurvus; 5, Pinus austriaca; 6, Pseudotsuga Douglasii. *R. G.*: 1, Acacia dealbata; 2, Acacia Drummondi.

Asparagus.—*S. C., Inverness*: The spray you sent is simply a fasciated form of Asparagus plumosus nanus, and if you like to give it a special name, you might call it A. plumosus fasciatus. A similar variety was exhibited at one of the R. H. S. meetings a few weeks ago, but we are not aware that it has received any special name. It cannot become a popular plant, because too heavy and lumpy.

Cauliflowers and French Beans.—*T. P.*: We do not think that even with 24-size pots you would be able to get heads of Cauliflower sufficiently large to make it worth your while spending time with them. You would be able to get heads by close attention to watering and feeding, but they would be very small. If Cauliflowers could profitably be done in this way, the system would be adopted by cultivators generally, but it is not. We would advise you to grow French Beans in 32 or 24-size pots, as they would be more certain to produce a profitable crop.

Angle of Elevation.—*Omega*: If the fruit house is meant for an early one, you may set up the roof at an angle of 45° so as to catch a maximum of the rays of sun in the early part of the year. For late work, either in the case of fruit or plant houses, the angle of elevation should be less, first because there is no object in making high roofs, and secondly because

the plants do best when kept as near the glass as possible. In building houses for plant growing, the pitch or elevation of the roof should just be sufficient to throw the water off properly; and the plants will then get the full advantage of light.

CANDYTUFT.—*Omega*: For spring flowering make a sowing about the last week of August or the beginning of September. A further sowing may be made about the end of March and at intervals of a fortnight from that time till June. You can prolong the flowering period of each sowing considerably by keeping the seedlings well thinned out from the early stages onwards.

COMMUNICATIONS RECEIVED.—J. S.—E. S. D.—R. S.—A. O.—T. W.—W. D.—A. D.—G. H. K.—Experience.—W. J. J.—A. M.—W. F.—Veritas.—D. P. L.—Stirling.

TRADE CATALOGUES RECEIVED.

T. HOPKINS, Sherwood Hall Nurseries, Menlo Park, San Mateo County, California.—Chrysanthemums and other plants, Trees and Shrubs, &c.

JOHN WATKINS, Pomona Farm, Withington, Hereford.—Seed Potatos.

MAX DEEGIN, Kostritz, Thuringen, Germany.—Dahlias and Roses.

LONDON SEED TRADE.

February 16th, 1892.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, E.C., report a steady sale for Red Clover at unchanged rates. White Clover, Alsike, and Trefoil firm. Perennial Ryegrasses are dearer. French-Italian Ryegrass offers on easier terms.

COVENT GARDEN MARKET.

February 17th.

FRUIT.—AVERAGE WHOLESALE PRICES

	s. d. s. d.		s. d. s. d.
Apples... per ½-sieve	1 0 5 0	Grapes .....per lb.	1 9 3 0
Canadian and Nova Scotian Apples		Pine apples. —St. Michael's, each	2 6 6 0
per barrel	12 0 25 0	Cobbs... per 100 lbs.	40 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d
ArticbokesGlobe doz.	3 0 6 0	Horse Radisb, bundle	2 0 4 0
Asparagus, Eng. bun.	10 0	Lettuces ...per dozen	1 6 2 0
Beans, French, perlb.	1 0 1 6	Musbrooms, p. basket	1 3 2 0
Beet..... per dozen	2 0 3 0	Onions.....per bunch	0 4 0 6
Cabbages ... per doz.	1 6 2 6	Parsley ... per buncb	0 6
Carrots ... per bunch	0 6	Radisbes... per dozen	1 6
Cauliflowers, Eng.dz.	3 0 6 0	Smallsalading,punnet	0 4
Celery.....per bundle	2 6	Seakale ...per basket	2 0 3 0
Cucumbers .....each	0 6 0 9	Spinach, per strike...	1 6
Endive, French, doz.	2 6 3 0	Tomatos..... per lb.	0 6 1 0
Herbs .....per bunch	0 2 0 6	Turnips .....per bun.	0 6

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d
Cyperus .....per doz.	4 0 12 0	Marguerites, perdoz.	6 0 9 0
Dracæna term., doz.	24 0 36 0	Palms in variety,each	2 6 21 0
Dracæna viridis,doz.	9 0 18 0	—scarlet .....per doz.	4 0 6 0
Epipbyllum per doz.	9 0 12 0	Poinsettia, ...per doz.	9 0 18 0
Erica Hymalis, per	12 0 18 0	Primula Sinensis per doz.	4 0 6 0
— gracilis, per doz.	9 0 12 0	Roman Hyacinths, per doz.	9 0 12 0
Evergreens,invar.doz	6 0 24 0	Solanums...per doz.	9 0 12 0
Ferns, invar.,per doz.	4 0 18 0	Tulips.....per doz.	8 0 9 0
Foliage Plants, doz.	12 0 60 0		
Hyacintbs,...per doz.	6 0 9 0		
Lily of the Valley, doz. pots	15 0 24 0		

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Acacia or Mimosa French per bunch	1 6 2 0	Marguerites, 12 bun.	2 0 4 0
Arum Lilies, 12 blms.	4 0 6 0	Mignonette... 12 bun.	1 6 3 0
Bouvardias, per bun.	0 6 1 0	Narciss, Paper White doz. sprays	0 9 1 0
Carnations, 12 blooms	2 0 3 0	Narciss, French, doz. buncbes	3 0 6 0
Cbrysanthemums, doz. blooms	0 9 2 0	Pelargoniums, 12 sps.	1 0 1 6
Chrysanthemums, doz. bunches	6 0 24 0	—scarlet.....12 bchs.	9 0 12 0
Encharis ...per doz.	3 0 6 0	Poinsettia. doz. blms.	4 0 9 0
Gardenias 12 blooms	8 0 12 0	Primula, double, bun.	0 9 1 0
Hellebore or Cbristmas Roses, doz. blooms	0 6 1 0	Primula single, doz. sprays	0 4 0 6
Heliotropes,12 sprays	0 6 1 0	Roses, yellow, dozen	3 0 6 0
Hyacinths, Roman, doz. sprays	0 6 0 9	— Red..... doz. blms.	1 6 2 0
Lilac, French, per bunch	5 6 6 6	— Saffrano...per doz.	2 0 3 0
Lilium Harrisii, doz. blooms	6 0 10 0	— Tea ..... per dozen	1 0 3 0
Liliumsvar.,doz.blms.	1 6 3 0	Tnberoses, per doz.	1 0 1 6
Lily of tbe Valley, doz. bunches	10 0 15 0	Violets, Parme, Frnch per bunch	3 0 4 0
MaidenhairFern,12bs.	4 0 9 0	— Czar, French bch.	1 6 2 0
		— Dark, French, doz. buncbes	2 0 3 0
		— English,doz. bcbs.	1 6 2 0

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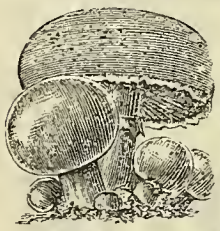

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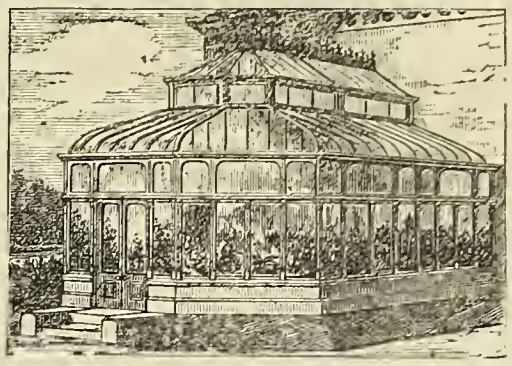

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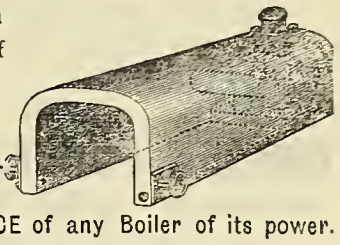

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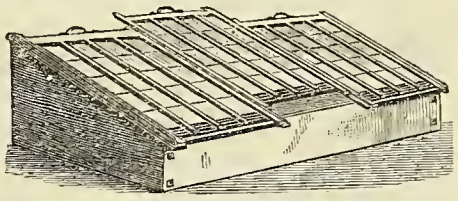

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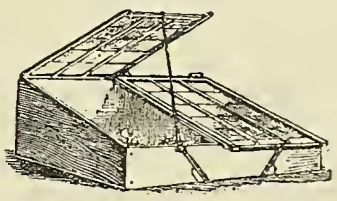

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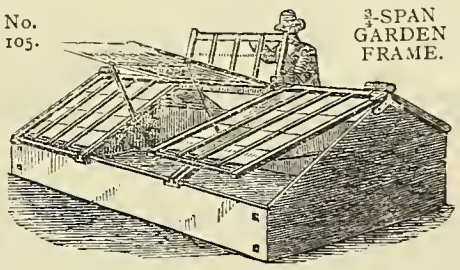

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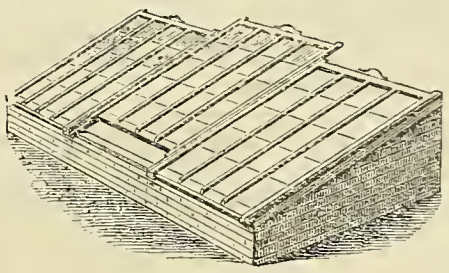

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The Gardening World.

ESTABLISHED 1884.

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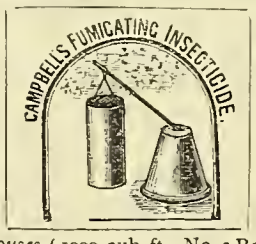

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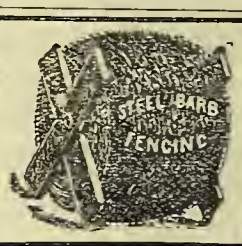

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For Index to Contents see page 409.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, February 29.—Sale of Hardy Perennials, at Protheroe & Morris' Rooms.

TUESDAY, March 1.—Sale of 5,000 Odontoglossum crispum, at Protheroe & Morris' Rooms.

WEDNESDAY, March 2.—Sale of Azaleas, Roses, &c., at Protheroe & Morris' Rooms.

FRIDAY, March 4.—Sale of New Orchids, at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, FEBRUARY 27th, 1892.

POISONOUS GARDEN MIXTURES.—There can be no doubt but that ere this the attention of the seed trade, as well as that of all engaged in the supply of what are termed horticultural necessaries, has been seriously given to the interesting report we furnished to our readers last week of the County Court case at Barnstaple. That such a decision whilst it stands must very materially affect the trade in all poisonous mixtures employed in horticultural purposes, there can be no doubt. It is to be hoped that the matter will be carried into a higher court; and an authoritative judgment obtained; and the entire trade concerned in the sale of these compounds should unite in promoting the appeal, and of securing an unquestioned judgment.

Looked at from the view of the judge of the Barnstaple court, it would seem as if the law were against the dealers; on the other hand, the uncertainties of the law are proverbial, and High Court judges may place upon the Pharmacy Act, so far as it effects the sale of poisons, a very different interpretation. Of course if the sale of the weed killer be by seedsmen or others who are not registered chemists practically prohibited, so also must the Hellebore Powder, Paris Green, or any other compounds or mixtures which have for their chief base a potent poison.

Were all these things entirely prohibited, still there are many useful insecticides that would not come within the restricted range. Plant enemies however are many, and some such as the Potato disease for instance are difficult to encounter, except through the agency of compounds which are powerful enough if so employed to destroy human life wholesale.

LADY GARDENERS.—That is distinctly an amusing story which is told in another column with reference to the Lady Gardeners at Sawley. It will be remembered that at the time the proposal was made to establish a school or training institution for ladies as gardeners at Sawley, some time since, we referred to it, and perhaps in not too complimentary terms. The recent trial in the Derby County Court, in the action Campbell *v.* Harriman, was a claim on the part of one of the lady students for the return of a sum of £30 for breach of contract on the part of the principal to instruct her in the art of gardening, and for abrupt dismissal.

It would seem that the principal instructed her "Dear Lady Gardeners" through written communications and not in person, hence there seemed to have been an incorrect interpretation of instructions, and ladies, of whom complainant was one, refused to go out lifting Potatos at four o'clock in the morning, holding that four o'clock in the afternoon was meant. Besides, the part the ladies were to perform in the rather hard task of lifting Potatos was also objected to. They were not to dig the Potatos up—that was to be done by men of whom the lady principal, in writing, said "they could not be of spotless character"—but to go round with the men "three ladies to a man," and carry the Potatos to hampers to be placed at the end of the rows.

Well-bred ladies might naturally object to some forms of association with men not "of spotless character" were the labour ever so elementary or menial. If women, however, will so far forget their station and partake in labour which is rough and laborious for man, they must not be squeamish but take the consequences. To our mind the whole thing wears the semblance of a burlesque on woman's sphere or vocation.

COUNTY COUNCIL HORTICULTURE.—We have noticed with much satisfaction that in reply to a query addressed to Lord Cranbrook, President of the Council, in the House of Lords, by Earl Cowper, in relation to the permanency or otherwise of the grant now allotted to the County Councils, for purposes of technical education, obtained from the Beer and Spirit Duties, that the President of the Council stated distinctly that the grant would be continued by the Government.

It did seem impossible that any Government, after in accordance with the decision of Parliament placing the large sum arising from the duties above-named at the disposal of the municipalities, could totally disorganise all recent efforts in the direction of education by withholding the supplies in future years. The statement referred to will at once allow all local authorities to breathe freely, and encourage that yet very small body of workers who have so far been doing their best to make horticulture an acceptable theme in the estimation of rural dwellers. Earl Cowper was right when he said that persons were qualifying to become instructors, and it would be unjust to them were the grant presently withheld.

However, so far all is well. During the ensuing summer County Councils will be able to do much to perfect their plans, and those acting as instructors will be able also to chalk out lines and methods of working calculated to produce the greatest benefit. The horticultural trade, which so far has done little to encourage the new movement, should presently benefit immensely.

The International Fruit Show.—Our readers will be much gratified to hear of the success which has attended the application of the provisional committee charged with the conduct of the preliminary arrangements of the Great Fruit Show to be held in London next autumn, made to the Court of Common Council on Thursday of last week, for the loan of a large open space on the Thames Embankment for the purpose of the exhibition. The petition was presented by Alderman Sir James Whitehead, Bart., and supported by some fourteen or fifteen gentlemen warmly interested in the movement, and the unanimity which characterised the granting of the application bodes well for the hearty acceptance of the proposal in the City.

The striking popularity of the leader of the movement, Sir James Whitehead, the patronage of H.M. The Queen, the free use of this splendid site, which is but just past the Temple Gardens, and the support which will be cheerfully accorded to the movement by the leading fruit growers of the Kingdom, the success of the proposed show seems to be assured. We can hardly doubt but that beyond the show proving to be a great financial success, that it will also be one in a purely exhibition sense. We want to see not merely a magnificent show of fruit, but a grand *coup d'eil*, or an entirely unique display, which apart from the intrinsic merits of the exhibits shall command the highest admiration, and from an educational point of view be far reaching it its effects.

We want to show to the world literally that whilst fruit culture at home is so far from being a lost art that it can challenge all nations freely, yet that also we can produce in an exhibition of this kind some evidence of art or genius in the creation of effects which shall charm and captivate the multitude. These may seem to be ambitious aims, but certainly nothing less will satisfy us in this case.

The First Crystal Palace Flower Show of the season is announced for Saturday, March 26th.

Shropshire Horticultural Society.—We are requested o state that the amount paid in prize-money last year by this society was £597 5s., and not £428 7s. 6d. as inadvertently stated in our last.

Death of Mr. Hugh Weir, of Whishaw.—The name of Mr. Hugh Weir will be familiar to most Pansy growers as a very successful raiser of new varieties of Pansies, and we regret to announce his death on the 3rd January and the loss of one of our most respected Scottish florists.

The Wolverhampton Floral Fete.—The schedule of prizes for 1892 has just been issued, and is on a most liberal scale, the prizes especially for fruit and Roses being much augmented. July 12, 13, and 14 are the dates fixed; and in the open to all classes for sixteen stove, greenhouse, and ornamental plants, the prizes are £20, £15, and £10. Very liberal prizes are offered in the other plant classes, and in the ten open classes for Roses, prizes to the amount of £67 are offered. For a collection of fruit, open, £7 10s., £5, £3, and £1 10s. are given, with liberal prizes also for other fruits and cut flowers. Several classes are reserved to gentlemen gardeners, open to Staffordshire, Worcestershire, Warwickshire, and Salop, for plants, cut flowers, fruits, and vegetables. The amateurs who do not keep a gardener, and reside within ten miles of Wolverhampton, have several classes with liberal prizes devoted to them, for plants, cut flowers, fruits, and vegetables; and the cottagers have thirty classes for their vegetables, fruits, flowers, and plants, and several liberal extra prizes are devoted to vegetables.

Birmingham Gardeners' Association.—At a meeting on Feburary 17th, Mr. A. Outram, of the Victoria and Paradise Nurseries, Holloway, London, read a paper on "The progress of Horticulture in the United States," and after an annual visit for the last sixteen years he was able to speak with some authority. He spoke in high terms of the great advance made during that time in the formation of first-class collections of Orchids, of new and rare and other plants, now so generally met with, and of the cultivation of which in many instances high praise must be awarded. He alluded to the enormous number of Peaches, Apples, &c., now under cultivation compared with sixteen years since; to the extraordinary progress made in the cut flower trade, and of the hughe establishments now in full swing for their cultivation for market. the great popularity of the Rose and Carnation as cut flowers, and of the excellent cultivation of the Chrysanthemum and the raising of so many fine new varieties. Questioned as to the prospect in America for young English gardeners, Mr. Outram replied that there was a good opening for intelligent, respectable young men who were prepared to work hard, and wait until they got into the ways of the country, and obtained a situation as they may want.

The Weather in the North.—Our Aberdeenshire correspondent, writing on Monday afternoon, says, a renewal of the snowstorm occurred on Saturday night, and yesterday forenoon a heavy snowstorm raged—not alone in Aberdeenshire, but apparently over the greater part of the north of Scotland, and the south of Scotland as well. In Aberdeenshire yesterday's snowstorm was succeeded by rain and a very decided "fresh." Last week's frost seems to have been phenomenal on Deeside: at Ballater on Friday night, the thermometer registered 3° below zero (35 degrees of frost); at Braemar the thermometer sank to within half a degree of zero (31½ degrees of frost), which almost justifies the description applied to the weather as being of "the really rigid Siberian." Serious apprehensions are entertained in the north as to another block on the railway lines, while considerable anxiety is felt by flockmasters. We learn also from Mr. J. Forbes, of Hawick, that the temperature fell to zero there on the morning of the 19th.

Lord Carrington and his Allotments.—Lord Carrington, who is an extensive land-owner in Lincolnshire, Buckinghamshire, and elsewhere, has given some interesting particulars concerning the working of his allotments. His lordship states that there are 1,600 allotments of one-tenth of an acre, which are let to mechanics in Wycombe at the rate of 26s. to £3 10s. per acre. The crop on these has been worth £5, and the land repaid at least £50 an acre. There are also 21 acres split into 175 allotments of 100 yds. long and 50 yds. wide which are let at 6s. each. The crops on these had been valued at £5, which for the 21 acres made an annual return of £875. As regards village allotments Lord Carrington says he has 4,900 of them—a few of three acres, a few of one acre, and the majority of a quarter of an acre. In addition to these he has 152 new allotments being laid out, some of them on his Lincolnshire estates, which were to be let at from 25s. to £2 an acre.

A Horticultural Lecturers' Association.—We have learned that it has been suggested as desirable that all those now engaged in the interesting work of county council lecturing on horticulture, should, at the close of the season, meet and compare notes, exchange opinions, and define so far as is possible, such schemes for future work as may seem to them the most likely to serve the cause of education in horticulture. The idea is an excellent one and would perhaps be further valuable did these gentlemen resolve to form a small lecturers' association, so that it might be found helpful in many ways. The considerable experience gained during the present winter is far too valuable to be flung broadcast anywhere, whilst utilised amongst themselves might assume the form of business capital. That there will be next winter a wider development of this horticultural instruction there can be no doubt, therefore it behoves all engaged in it to arm themselves during the summer with all the information and support they can obtain.

Lælia Superbiens at The Briars, Reigate.—Mr. Bailey writes:—"I have cut within the last ten days for house decoration three spikes of this grand old species, one of which had no less than eighteen flowers on a head, and a fellow spike from the same plant had fourteen. The former strikes me as being a somewhat unusual number. Although of a rambling habit of growth this is to my mind a noble plant and well worthy of a place in any collection."

TEN YEARS' SUNSHINE.

A very interesting record is before us in the shape of a pamphlet, published by the authority of the Meteorological Council (Eyre & Spottiswoode), recording the duration of sunshine in various parts of the British Islands during a period of the ten years extending from 1881 to 1890 inclusive. The systematic registration of sunshine was not put in operation till 1880, when an improved form of sunshine recorder, known as the Campbell-Stokes *sun-heat* instrument, was sent to a number of the meteorological stations throughout the country. In two instances the records have been made from two instruments of a somewhat different pattern. One of them was an apparatus which works by photography, and records *sunlight*.

The number of stations at which the records were made is forty-six, and they are scattered over various parts of the British Isles, from the Orkney Islands to Jersey, inclusive of stations in the Hebrides, the Isle of Man, etc. The duration of sunshine for each month of the ten years is recorded in hours, and also the percentages of a possible duration, that is from sunrise to sunset. Where the records have been complete and uninterrupted, the sum total of sunshine during each month for periods of five and also the whole ten years has been tabulated under the names of the respective stations where the observations were made.

It is significant and interesting to note that birds sometimes prove annoying and mischievous to meteorologists as well as to gardeners, notwithstanding the widely diverse nature of the avocations of the two classes of people. In one instance seagulls, and in another jackdaws, were found guilty of picking the cards out of the apparatus employed for registering the sunshine. Whether curiosity or mischief was meant is not recorded.

The sunniest part of the whole of the British Isles is Jersey, which is the only station where on the mean of the ten years an average of half the possible duration of sunshine occurred in any one month. The duration registered for May was 52 per cent., and for August 55 per cent. No other station has registered above 48 per cent. Another striking fact is that during the two weeks from the 22nd to the 28th of February, and from the 6th to the 12th of September inclusive, in the year 1891, the sunshine registered was 89 per cent. of the possible duration. This is considered the highest amount attainable in our climate.

Taking an average of the ten years during the month of January, Jersey stands first with 25 per cent.; Aberdeen follows with 24; London drops down to 4 per cent. at Bunhill Row, and 10 at Greenwich. Jersey rises to 31 per cent. in February, and the seacoast stations, Falmouth, Aberdeen, St. Ann's Head, and Valencia to 27. In March, Jersey rises to 41, to 46 in April, to 52 in May, but drops to 49 per cent. in June, although still showing the highest record. The above-named sea coast stations also take leading positions, while Bunhill Row shows the lowest record. In June, Markree Castle, Ireland, is slightly lower than Bunhill Row, and the former together with Glasgow show the lowest record (26 per cent.) in July. August is a more sunny month than either

of the preceding, and Jersey reaches its highest figure, namely 55 per cent. Sandwick, in the Orkney Islands, furnishes the lowest record, 25 per cent.

The month of September shows a considerable falling off in the amount of registered sunshine for all of the stations, the worst being at Sandwick, Glasgow, Markree, and Bunhill Row (25). Jersey still maintains the highest figure in October, and Sandwick is the lowest, with 21 per cent. A complete change takes place in November. Dublin takes the leading figure with 28 per cent., and Jersey, Aberdeen, and Douglas, in the Isle of Man, are on a par, taking the sixth place with 24 per cent. The prevalence of fogs in the Channel Islands about that time, doubtless accounts for the absence of sunshine. This would also account for the difficulty that fruit growers experience in keeping late Grapes in the Channel Islands. Bunhill Row again drops to the unenviable position of the most sunless part of the British Isles, being in this respect worse than Greenwich, the record being in fact only one half that of the latter place. Jersey again resumes the leading position in December, with 23 per cent. Bunhill Row shows only 2 per cent. of possible duration, while Greenwich and Glasgow are almost as sunless.

The facts to be gleaned from the above are that places on the sea coast get the most sunshine, except large manufacturing cities such as London and Glasgow, whose atmosphere is laden not only with fog but smoke and their attendant impurities and filth. During the summer and early autumn months the north-west of Ireland and Scotland, including the Hebrides and Orkneys, get relatively little sunshine. Curiously enough, Ireland gets more sunshine in late autumn than the greater part of England. During the last ten years the greatest amount of sunshine registered in one month all over the United Kingdom occurred in May, 1882. At least 50 per cent. was registered at 33 stations. The next highest record was in June, 1887, Her Majesty's jubilee month. July and August of the same year were also very bright.

POTATO DISEASE PREVENTION.

Mons. Aime Girard, whose name is closely identified with the attempts made in France to combat the Potato disease, has just made public the results of more of his good work. In July and August, 1890, the Potato crops in his country suffered from excessive rain, which washed off the greater portion of the preservatives applied, and the leaves became quickly covered with parasitic fungus, and the crop was practically lost.

It then occurred to Mons. Girard that, if a solution could be provided with a faculty for adhering to the leaves, it would be of great benefit during rainy seasons. He instituted in 1891 a series of experiments, which consisted of submitting to the action of artificial watering various plots of Potatos that were in full vegetation. These plants were treated with various copper mixtures, in order to determine, by chemical analysis, the quantity of copper retained upon the leaves after treatment, and also after the washing. In order to distribute the water evenly, Mons. Girard had made a special watering apparatus, which distributed the water in uniform drops over the ground.

On twelve plants of Potatos one of the six compositions given below was diffused by the aid of a distributor. From four of the plants half of the leaves were taken, in order to see how much solution was upon them. The remaining leaves were submitted to twenty-two minutes' watering, and were picked in their turn, and analysed, for comparison with the first. Four other plants of the same lot were afterwards submitted to a strong watering of six hours, and the last four were subjected to a gentle action for twenty-four hours. From these leaves for experiment were gathered in the same way. These processes were followed in the case of the six compositions, and the trials furnished thirty-six lots of leaves showing the state of the plant before and after each watering.

Amongst the various copper solutions to combat the disease, Mons. Girard selected six which he considered to be most known, and of which he gives the composition in French weights and measures. (It may be mentioned that the kilogramme equals not quite 2¼ lb, and the 100 litres about 22 gallons):—

Bouillie bordelaise.—2 kil. of sulphate of copper, 2 kil. of quicklime, and 100 litres of water.

Bouillie cupro-calcaire, with little lime.—2 kil. of copper, 1 kil. of lime, and 100 litres water.

Bouillie cupro-calcaire alumineuse.—2 kil. sulphate of copper, 3 kil. lime, 1 kil. sulphate of alumina, and 100 litres water.

Bouillie cupro-sodique.—2 kil. sulphate of copper, 3 kil. crystals of soda, and 100 litres water.

Bouillie cupro-calcaire sucree.—2 kil. sulphate of copper, 2 kil. lime, 2 kil. molasses, and 100 litres water.

Bouillie au verdet.—1 kil. 600 of Paris Green, and 100 litres of water.

In order to submit the plants treated with these six compositions to conditions as nearly as possible like natural meteorological phenomena, Mons. Girard, on the advice of Mons. Mascot and Mons. Augot, adopted three kinds of waterings, all different. In the first place, a "violent storm," corresponding to a fall of ·67 in. of water in twenty minutes; secondly, a "heavy rain," of six hours' duration, when about ·59 in. fell; and in the third and last experiment, a "gentle rain" was made to fall, which corresponded to ·40 in. in twenty-four hours.

The annexed table illustrates the percentage of solution washed off the plants by the different waterings:—

Bouillie.	Solution removed from leaves by		
	Violent Storm, 22 mins.	Heavy Rain, 6 hours.	Gentle Rain, 24 hours.
Cupro-calcaire ordinaire ...	50·9	34·5	13·2
Cupro-calcaire faible en chaux	35·8	35·2	16·5
Cupro-calcaire alumineuse ...	32·7	24·5	15·9
Cupro-sodique	19·7	15.9	7·7
Cupro-calcaire sucree	11·2	Nil	Nil
Au verdet	17·2	17·3	10·2

From the above figures it appears:—1. That, the copper solutions used to combat Potato disease differ very greatly in their powers of adherence to the leaves. 2. That it is owing to heavy rains chiefly, and to mechanical drainage, that the copper deposit partially disappears. 3. Of these six compositions, that which melts the most is the *bouillie cupro-calcaire* (called the *bouillie bordelaise*); that a diminution in the proportion of lime increases the solidity a little, whilst an addition of aluminous matter does not produce a perceptible improvement. 4. That the mixture *cupro-sodique* on the one hand, and the *bouillie verdet* on the other, have a power of adherence nearly double that possessed by the preceding mixtures; but the one above all others was the *cupro-calcaire sucree*, which resisted the action of water with a strength unexpected by the experimentalists.

Mons. Girard says it is to these last three mixtures that preference should be given, but particularly to the latter one, which should in future be used by growers who are anxious to preserve their crops from Potato disease. The *bouillie cupro-calcaire sucree*, which Mons. Girard finds to be the best, is simply the *bouillie bordelaise* compound, with the addition of a certain proportion of molasses. Those who intend to make experiments, or to try to save their Potato crops this year, would do well to try a solution made in the improved form.—*Bell's Weekly Messenger.*

LADY GARDENERS.

A case which caused great interest in Derbyshire amongst gardeners occupied the attention of the County Court for upwards of four hours on the 16th inst. It was an action brought by Miss E. Paterson Campbell against Misses Grace and E. Harriman to recover £30 for breach of a contract to instruct the plaintiff in all matters appertaining to an industry carried on at the Grange Gardens, Sawley, called The Ladies' Fruit and Salad Garden Association, and to provide employment and a home, with sufficient food and drink, for plaintiff.—Mr. Hextall was for the defendants, and Mr. Noble for the plaintiff.

Mr. Noble said the action was founded on a verbal agreement made between the parties on the 17th of April, 1889. That agreement was in effect that the plaintiff should go to a piece of land owned by the defendants at Sawley for a period of twelve months, and that she should be instructed there in gardening, and in return should give her services, and also be supplied with board and lodging. There was a very voluminous correspondence, which was, perhaps, to be attributed to there being women on both sides. He proceeded to read extracts from letters which made it appear that the plaintiff formerly resided at Harrow. They had written for the *Strand* and other magazines with the object of drawing the attention of ladies to a scheme which they desired to float. That scheme was that the piece of land mentioned at Sawley should be changed from turf or grass-land to garden land, and that the ladies joining in cultivating it should join in the receipts from the produce. Eventually, on the 25th of February, the parties met and arranged that three courses were suggested to carry out the scheme of the Misses Harriman, which were—(1) That the defendants should give six ladies a 99 years' lease of the ground, and that these should contribute £100 each, and that the house and grounds should at once become their own, and that it should at some future time be converted into a company; (2) That the Misses Harriman should take the entire risk, and maintain the ladies, teaching them gardening for the payment of a fixed sum; and, (3) That Miss Campbell might board for thirteen weeks at a guinea per week, giving such services as she felt inclined to do. Miss Campbell made an agreement on the second of the courses proposed, paying £20 for the course of instruction. Mr. Noble went through the whole mass of correspondence, which was of a very interesting if somewhat amusing nature. It chiefly related to instruction sent by Miss Harriman to her "Dear Lady Gardeners," regarding the growing of Potatos, Radishes, Tomatos, etc., the time when they ought to be got ready for market, etc. One letter caused some merriment in Court, which was in reply to a letter from the Lady Gardeners at Sawley, from Miss Harriman, telling them that they must not expect men of spotless character to dig up Potatos. (The Judge interposed a remark that they could hardly be expected to be saints.) In consequence of some delay in some hampers of Potatos not being sent to market and a loss of £80 on a crop of Radishes being pulled too late, the relations between the instructress, Miss Harriman, and the Lady Gardeners became strained. Miss Harriman was not residing at Sawley, but wrote her instructions. She went about the country selling the produce. (The Judge: What, selling Radishes?) Miss Campbell wrote a letter owing to a wrong inference she had drawn from a letter of Miss Harriman, that she was not going to work from 4 o'clock in the morning with men of questionable character, whereas 4 in the afternoon was meant. Matters eventually reached a climax, and the defendants stopped the provisions being sent to the house, and starved the Lady Gardeners out. Mr. Noble contended that the whole of the mischief and the misunderstanding had arisen through the absence of the defendant, which was contrary to the terms of agreement. She left all the responsibility on the lady gardeners and pupils. There was no personal supervision, and the dismissal was unjust.

The Judge suggested that the case might be settled between the parties. It would be much better for both.

Mr. Noble concurred, and Mr. Hextall also. He, however, would like it to be stated that there was not the slightest imputation of incompetency against the defendants, who occupied a high position as agriculturists. He, moreover, entirely absolved the Misses Harriman from all blame. They had acted with the highest and most *bona fide* motives.

A consultation was held in the Judge's room, all imputations being withdrawn on both sides.

AZALEA MOLLIS.

A correspondent, "J. B.," asks for some hints as to the management of these plants in pots after flowering. Where they are intended to be flowered in pots regularly, the usual plan is to grow it in pots all the year round. After flowering, the plants should be encouraged to make as much growth as possible; they should then be well hardened off by giving them plenty of air before placing them out of doors. During the heat of summer they should be placed in a somewhat shady position on a bed of ashes to prevent worms getting into the pots. Later on, say in autumn, they should be moved into a lighter position to assist in thoroughly maturing the wood. At no time should they be neglected in the matter of watering. If you resolve to try some of them planted out, prepare a bed or piece of ground for them by mixing a good proportion of peat or leaf soil and sand with the natural soil. We have seen the varieties of A. mollis grown and flowered successfully in an open, sunny position in a moist peaty soil. You might even try them planted out in a cold frame, in peaty soil, using the sash in the spring an early summer to encourage good growth, after which the sash should be drawn right off when the weather gets fine.

FLORICULTURE.

The Fertilization of the Pansy.

HAVING given this subject some little study, perhaps you will allow me space in your valuable paper for a few remarks. But before entering on the subject I would like to say a few words on what I think should be the aim of raisers when trying to produce new varieties. The first point should be to get robust health by selecting the most vigorous growers for the parent plants. We sometimes get very fine flowers with very delicate constitutions, which, although often useful in the hands of the skilled cultivator for competition, are very tantalizing to those who have not quite mastered the secret of growing Pansies to perfection, because they very often either never attain health to grow a bloom worth looking at, or die off before they bloom—which is worse.

Another thing we should aim at is to get something new in colour; we have nothing approaching to scarlet amongst our Pansies that I am aware of. It would be a very striking colour in a Pansy, and if once attained we might get many pleasing shades by crossing with flowers of colours likely to produce the desired effect. Every seedling Pansy should be kept for breeding purposes, whether it conforms to the florist's idea of what a Pansy should be or not, if it is anything like scarlet in colour, as it may be the means of hitting the mark some day. I see in Dobbie & Co.'s "Catalogue and Competitor's Guide" a reprint of an article from *The Gardener's Chronicle*, by Mr. Wm. Cuthbertson, on the fertilization of the Pansy, in which he quotes some remarks by Professor Herman Muller, on the reproductive organs of the wild Pansy. I have not paid much attention to the reproductive organs of the wild Pansy, having been much more devoted to the more advanced types, but it appears to me that Mr. Cuthbertson quite misapprehends the professor's remarks on the self-fertilization of Viola arvensis. What I understand the professor to mean by stating that the stigma is curved inwards, is that instead of projecting outwards, as it does in our modern Pansy, it is turned inwards toward the anthers, which enables them to shed their pollen directly on to the stigma without the aid of bees or any other insects.

Fertilization by bees and other insects I have always understood to be what is termed chance fertilization, but in this age we do not want to leave that important operation to chance; therefore it is necessary to take the pollen from the flower you wish to fertilize with and place it on the stigma of the one you wish to fertilize. It is a very simple operation only requiring a little practice to do it without injuring the stigma. When the pollen is—I will say for want of a better term—ripe, it falls into a semi-tubular formation in the lower petal, just under the pistil; but the pistil of our modern Pansy is so long that the stigma is projected so far out of reach of the falling pollen as almost to preclude the possibility of self-fertilization. I used a camel-hair brush for a number of years in fertilizing my Pansies; but I noticed that if the hairs of the brush touched the viscid matter in the cup-like formation of the stigma it adhered to the brush, and most if not all the pollen stuck to the brush also.

For the last two seasons I have done the fertilization with the end of a pair of tweezers; it is nearly as small as the point of a pencil. I just run the end of the tweezers against the newly-shed pollen, and the pollen adheres to it, so that if necessary I can carry it from one end of the garden to the other, if there is no wind, without the least danger of it falling off, and place it on the stigma of the flower I wish to fertilize with a greater amount of certainty than I could do it by any other method.—*Veritas.*

National Carnation and Picotee Society (Southern Section).

SIMULTANEOUSLY with "R. D.'s" review of the third edition of Mr. Dodwell's book upon the Carnation, with its supplementary chapter on the Yellow Ground, in your issue of the 13th inst., I received a circular from the secretary of the above society informing me of the purpose of the society to issue a "Manual" which is to show how very simple are the conditions needed for the successful cultivation of the Carnation, the mode of obtaining seed, etc., which said "Manual" is to be handed free to all subscribers of 10s. annually, and at half-price to subscribers of 5s.

Remembering what Mr. Horner, whose standing and judgment no intelligent florist will presume to question, wrote of Mr. Dodwell's book on the issue of the first edition, viz., "No one need, and I think no one will, unless from extreme innocence of the existence of Mr. Dodwell's book, attempt to traverse again the floral ground it covers. The history of the Carnation and Picotee could literally only be repeated, and its culture could not be more plainly and practically set forth, while the important principles of improvement by seed are explained by one who has had a rare experience and a large success." I was forcibly impressed with the oft-repeated line, "how" a certain class of persons "step in where angels fear to tread."

But I am also asked to subscribe, and I am told that "up to the present time the society has been crippled for want of funds." This is to me quite a new plea, I do not remember any such complaint being made during the leadership of Mr. Dodwell. Nor is any such plea put forth by the Carnation and Picotee Union, or by the Midland Carnation and Picotic Society, whose headquarters are at Birmingham. This society has indeed just issued a list of prizes of £100 in value, an amount in excess of anything previously offered for the Carnation. But the distribution of the prizes alike in the "Union" and in the Midland Carnation Society is based upon a very different principle to that of the southern section of the National. The competitors at the two former society's exhibitions are classified indeed, but it is by the easily understood and equitable rule of the number of blooms required, these being limited to the power of growers of relatively small stocks, and not by the absurd and anomalous rule as in the southern section, of an "open" and "amateurs'" class, a rule which seems to be maintained to put prizes into the secretary's pocket. Can any anomaly be more glaring than that Mr. Robert Sydenham should be confined to the "open" class, whilst the secretary, a trained and professional gardener, is allowed to show as an "amateur"? So long as this unjust rule is continued the society is likely, I think, or at any rate deserves to remain "crippled for want of funds." No Carnation Society save the southern section tolerates such a grossly partial arrangement —*A Midland Florist.*

The Midland Counties Carnation and Picotee Society.

THE schedule of prizes for the 1892 exhibition, in August next, must be recognized as a most generous and comprehensive one, and cannot fail to attract the leading growers of the kingdom. Classes from 1 to 10, are for blooms in stands, with seven liberal prizes in each class for our grand show Carnations and Picotees, as well as classes for the lovely Selfs and yellow grounds respectively. Classes 10 to 26 are the single bloom classes. An exhibitor can show only one flower in a class, the true test of merit of the best kinds in each class will be brought out. Classses 27 and 28 are for exhibits of Border Carnations in 6 and 12 varieties from plants grown out of doors, and this is a step in the right direction. Class 29 is for a bouquet of Carnations and Picotees, and class 30 for a spray of these blooms, and class 21 for plants in pots, but a smaller size pot for decoration work would have been preferable. Class 32 is for baskets of Carnation and Picotee blooms by lady competitors, with handsome Jewellery prizes; and class 30 is for six bunches of distinct self Border Carnations, for which liberal prizes are given by Mr, W. Robinson. Messrs. Thompson give liberal prizes for blooms of their superb new varieties, Blushing Bride, C. H. Herbert, and A. W. Jones; Mr. Charles Turner gives some special prizes for some of his fine new varieties; and Messrs. Clibran also offer special prizes for some of their new Carnations. Special Certificates will be given to Seedlings of acknowledged merit, and handsome Silver and Bronze Medals to deserving honorary exhibits connected with horticulture. The beautiful Botanic Gardens at Edgbaston will be the locale of the show, and the total value of the prizes and Medals offered amount to close on £100. It will thus be seen that the schedule is of a very representative character, and unparalleled in its generous encouragement to growers of Carnations.

THE FLOWER TRADE OF SCILLY.—Large quantities of Narcissus, Wallflowers, Anemones, and Marguerites are shipped by steamer from Scilly to markets in London, Liverpool, and the midland towns, and up to the present time fairly good prices have been realised.

SOME DAFFODILS FOR EARLY WORK.

IT might be considered that any Daffodil which is showy and useful for outdoor work might with equal advantage be employed for early forcing. Such is not the case, for many of them which are highly ornamental in the open ground cease to be so when forced to flower before their natural season. The flowers are considerably smaller when urged into bloom by much artificial heat, and this applies more particularly to those varieties which have thin and flimsy segments even at the best. Varieties with large flowers of good substance should be selected for early forcing purposes, and the others, if desired for the sake of variety in the houses, should be allowed to come on gradually, under more natural conditions, and the results cannot fail to give more satisfaction.

A well-proportioned flower of good substance is Narcissus obvallaris, which has proved highly suitable for very early work as is evidenced by the large quantities of it put upon the market at a very early period by the growers. The flowers are only of moderate size at the best, and when forced are smaller, but they stand well in the cut state by reason of their firmness, and the well-proportioned condition of all parts. There are two varieties which are likely to compete with the last named when they get plentiful and well disseminated amongst growers; these are Ard-Righ and Golden Spur, both having flowers of large size. The former has broad bright sulphur-coloured segements and a deep golden-yellow corona. Golden Spur has narrower and darker coloured segments with a wider mouthed golden-yellow corona, and is often the larger flower of the two when both are grown side by side under the same conditions.

A somewhat different type of flower is Henry Irving, which has the three outer segments very broad, ovate and overlapping one another; they are sulphur-yellow as are the three inner and narrower ones. The large crown is of a golden-yellow, especially round the edges where the hue is darker. This type approaches the bicolor type, which includes such fine things as N. bicolor Horsfieldi, Emperor and Empress. The latter are splendid varieties for pot work, but they must not be too hard forced otherwise they get drawn in the stems and foliage, with small and worthless flowers. The segments of N. b. Horsfieldi are very broad and imbricate, while their beauty is greatly supplemented by the massive white corona. This is even improved upon as far as size is concerned in the case of Empress. The segments of Emperor on the contrary are of a deep primrose-yellow, while the corona is of a rich deep yellow. All the three have massive-looking flowers, but to be seen in their best condition they must be allowed to come on more naturally than the first-named group, and with little assistance from artificial heat till well into the spring.

Some of the smaller kinds which submit to forcing are Princess Ida, a small Daffodil with white segments and a pale lemon corona, and Stella, a variety of N. incomparabilis, with white flowers and long, narrow, spreading segments. Both are pretty and the last-named is highly ornamental when planted in beds or masses in the open ground, but both are seen to disadvantage when hard forced for early work on account of the smaller size and more flimsy nature of the flowers when so treated. Variety is also sought sometimes by forcing N. odorus and its variety N. o. rugulosus, which are sweet in their way, but do better later on. More use might be made of N. monophyllus than is at present the case, for as it naturally flowers in autumn and winter, say from November till February or March, no forcing is required.

ODONTOGLOSSUM CRISPUM NOBILIUS.

THE varieties of O. crispum are now very numerous, and it might be said that it is difficult to find new ones worthy of distinctive varietal names. The variety under notice is sufficient, however, to dispel that notion. The bold character of the blotches and their rich colour are quite noteworthy. The sepals are oblong-elliptic, very broad, and white, but almost covered with a large, irregularly shaped, chocolate brown blotch. The petals are also very broad, ovate, deeply toothed on the edges, and pure white with one large and two small chocolate brown blotches about the centre. The lip is pure white with a large blotch in front of the yellow disc. A First-class Certificate was awarded it when exhibited on the 9th inst., by Baron Schroder (gardener Mr. Ballantine), The Dell, Egham.

PLANT HUNTING ON RORAIMA.

I LEFT Baitika Grove on the 24th of September (1891) in a big boat with a crew of all colours; and on the way spent two hours with Dr. Law at the Penal Settlement. I met occasionally boats coming down from the gold-fields; and about a week after starting, I met by chance Mr. R. Seyler of Georgetown, who later on joined me in my expedition. Nothing specially important occurred on this trip up the Massaruni and the Curabung. Vainly I tried to persuade some Indians at Camacusa to go along with us, but I was fortunate in getting at least five men at Mr. Barnard's Cassava fields, called Potaring, near the mouth of Curabung. On the 15th of October I arrived at the foot of the Mecrebeh fall, in the Curabung, where I had to cross the Curabung mountain, and then the continual trouble to get, hands and provisions began.

I sent the boat and crew back, wrote the last letters, and waited patiently the arrival of Indians, who, I was told, were living in this neighbourhood in great numbers. But it was not the case; most of them had died of measles, and the rest had gone in all directions. On the 19th I made a start with fifteen men of the Acawois tribe, heavily loaded, leaving a dozen hands behind. I climbed the Curabung mountain, 3,000 ft. high, and after three days' weary walking over a most disagreeable profusion of rocks and roots of all shapes and sizes, descended on the other side to the Membaru creeks. Here we encountered another obstacle—the journey had to be done again by water, and no woodskins were to be found; so while some men went back to fetch the rest of their loads others went out to find woodskins.

After four days' waiting both parties returned, and another start was made on the 26th of October in ten woodskins, and in company with Mr. Seyler, who joined me at this place. We went down the Membaru, a tributary of the Massaruni, then some distance up the latter river, then again up the Camarang river, where from the Sanall Indian settlement, whose chief, named Robert, had travelled once with Carl Appun, we got well provided with Cassava, Yams, Plantains, &c., and after three more days by water came to the usual landing place of the Indians on the Ataparáoo river, on the 31st of October, and here our journey overland began. Here also we got some more new hands, put the loads, consisting of canisters with barter goods and wicker baskets with provisions in proper condition, and went off again next day—but not without having to leave loads behind again. After another ascent of a mountain of awful steepness and similar condition to Curabung mountain, we reach suddenly late in the evening the open Savannah and the boundary of this territory. There was said to be before us a village not far distant, called Ariamang, but, to our great disappointment, the houses were burnt down, the place deserted, and only a few remaining posts reminded one of the former habitation.

Now, there were always open Savannahs to be seen; on the left the peculiarly shaped forms of mountain ranges like Huyat ave-bœ, Irárica-rima, Waiaka-biapa, and, far in the background, the gigantic form of the Kukenaam mountain. Splendid walking, innumerable wood islands, refreshing cool air, with gentle breezes blowing the various sweet scents of the Savannah plants delighted us; many creeks and rivers, whose grass covered sides would certainly offer capital pasture lands succeeded each other. We stopped for a few days on a creek, awaiting our men with the loads; while in the meantime we were busy in collecting, in the surrounding woodlands, the Orchids which were the chief objects of the expedition. Another start was made on the 7th of November; and we three days later passed the first Indian village, Waibana, of the Arekana tribe, whose old chief gave us a cordial reception, and remembered some former travellers. We climbed west from Kukenaam, a hill of such formidable steepness that all other ascents seemed child's play in comparison, and on the 10th of November, at midday, arrived in the village at the foot of Roraima.

Since my first visit a great change had taken place. At that time there were only two or three houses scattered over the district, and now there is a very large village on the left bank of the Kukenaam river, consisting of some twelve new houses, in the centre of which stands the church—churchie as the Indians call it—with its immense high leaf-covered roof. The village was crowded with people who received us with great solemnity. In the centre of the people was a tall strongly built Arecana Indian, with a stern, grave-looking countenance, completely dressed from boots to hat, with a pair of braces over a thick coat, and this Indian was acting as clergyman. The usual greeting and Kasiri drinking ceremonies being over, we began to put one of the houses which the chief gave us—the rent of which was a cutlass and a flask of powder—in order for a longer stay. The house I kept for ourselves and my interpreter, the Indian companions finding abode in different houses.

Every day we started on the mountain early collecting plants, and in the meanwhile had some Indians sent out to clear the path for our intended ascent of Roraima. In a few days we had, with the exception of two of the principal species for which I came, sufficient quantity of Orchids, as they grow in abundance everywhere along the Kukenaam river, in the forests, and principally in the swampy Savannah below the cliffs of Roraima. While some people were employed in clearing the path and getting plants, we went with others in a southern direction to visit again Schomburgh's Ru-imeru, a tributary of the Kukenaam and its fall, of which Schomburgh spoke in such high terms. Two days hard but comfortable walking brought us there. On the way we passed Schomburgh's "our village," of which nothing but a few decayed poles and posts, and some traces of some clay-built houses, remained to mark the site. Seventeen times we had to cross rivers and creeks in those two days, and amongst them the Kukenaam seven times, and its water reached up to our waists. We made a camp below the fall, which descends in seven cascades some 300 ft. high; collected some plants and took photographic views of the fall; and two days after, left and went back to Roraima, but by a different route. Meanwhile heavy rain had fallen. Kukenaam river and others were swollen to a considerable height, and were not without danger in crossing.

On arrival we found everything ready for the ascent, and we determined to undertake it the next day; but heavy rain prevented, and we delayed for another day. Our intention was not only to ascend Roraima, but to risk more and spend one night at least there, so as to get a thorough look about the place. To this end we made all preparations, taking provisions, biscuits, some tinned meats and cocoa, but no hammocks, as we knew that there were no trees from which to sling them, but taking sufficient rugs and tents. After having made up light loads for each man we started early in the morning on the 20th. Luckily there was no rain, and we found the path still in decent order from former ascents. Trotting over the Savannah, which is there 5,600 ft. high, then through a dense bush of low trees, stepping on fallen stems of trees, some times on all fours, getting hold of branches, bustling over rocks, never stepping on solid ground, but sometimes on a surface treacherously covered with leaves but hollow underneath, so that we sank in with one leg on the other—thus we toiled till we reached the perpendicular wall of the cliff. Here we had a short rest, awaiting the arrival of the men, of whom we had to send back one, he having fallen sick already; then again we continued our climbing up and down the ledge which runs along the wall in an oblique manner, the track sometimes so narrow that we had to keep very close to the wall. Here in many places paths were covered over with a most troublesome bamboo, which defied even the sharpest wood knives to sever them. At mid-day we came to the cascade, which descends in one leap from the top. Luckily there was little water, but still we got wet, having to cross in the deepest mud between the cliff and the falling water. On the other side we had to go up natural stone steps, which were so slippery with moss that the greatest care had to be taken in treading on them, and had to plunge over a certain kind of tall growing Bromelia with leaves full of water, which plants to our Indians, who had neither boots nor trousers, were very painful. We had now come nearer the top; another courageous effort and the end was reached. It was one o'clock.

(To be continued.)

ODONTOGLOSSUM CRISPUM NOBILIUS.

LECTURE ON COTTAGE GARDENING.—At a recent meeting of the Stutton (Suffolk) Horticultural class the following resolution was passed:—"We, the members of the Stutton Horticultural class, express our thanks to the Technical Committee of the Eas Suffolk County Council for providing us during the winter season with a course of twelve lessons on cottage gardening, given by Mr. Jordan, of Harkstead, a very courteous, efficient, and practical teacher."

Gleanings from the World of Science.

Floral variations in Streptocarpus Rexii.—A paper recently published in the *Journal of the Linnean Society* contains an account of the observations made by Mr. W. and Miss A. Bateson on floral variations. Amongst other garden plants Streptocarpus Rexii comes in for a share of attention. The authors do not seem to have studied the modern races of Sinningia speciosa, popularly known as Gloxinias, and which have been greatly modified, nay almost transformed by the efforts of the florist: The variations in Streptocarpus would seem to indicate that it is on the high road to become altered in a similar way. Amongst the abnormal flowers noticed were one of S.Rexii and several of S. polanthus having peloric flowers with five petals. This means that all the five were streaked with bands of a dark colour and which are usually confined to the three lower ones only. In one flower only of S.Rexii did five perfect stamens occur. Three or four flowers had a symmetry of four each of sepals, petals, and stamens, with all of the petals of equal size and similar markings. Other abnormal but not peloric flowers were those having four-petalled, and two-lipped, and five, six and seven-petalled bilaterally symmetrical corollas. Unsymmetrical flowers are very common in some species, other than S. Rexii.

Insecticides and Wireworms.—In the case of those insects which pass their larva state beneath the surface of the soil, any insecticides applied, to be effective, must be of a penetrating nature and have more killing power than in the case of those applied to caterpillars on the foliage. Wireworms are the more exceedingly difficult to cope with than most insects on account of the hard and leathery nature of their coats or skins. Some experiments have been made upon them with insecticides at the *Cornell University Agricultural Experiment Station*, and the results are indicated below. Kerosene oil was applied both in the pure state and as an emulsion. In the pure state it had to be applied in too strong doses to be effective; for the quantity that would kill the larvæ was also destructive to most kinds of vegetation. The emulsion was more effective, because it would mix more readily with water and therefore could be made to permeate the soil more thoroughly so as to reach the wireworms. Neither of the two could be applied profitably on a large scale. The experiments with crude petroleum and crude petroleum emulsion were less satisfactory than those with kerosene oil. Sweetened dough, poisoned with arsenic, was laid on the surface of soil containing wireworms, by way of a bait, but they were not attracted to the surface by it, nor did they partake of it. Experiments with bisulphide of carbon, a volatile liquid of a very poisonous nature, were very effective when from three to five per cent of the bisulphide in water was used. A small hole was made in the soil and then quickly closed up after pouring in the mixture. At the above rate it would require 150 gallons to the acre, and would therefore only be profitable on a small scale where valuable plants were concerned.

THE HOP-TREE.

There are six species of Ptelea, natives of the temperate parts of North America, but probably no more than two of them are in cultivation, and only one of them is planted to any extent, namely, P. trifoliata, popularly known as the Hop-tree or Swamp Dogwood. It forms a large bush about 4 ft. to 8 ft. high, and is highly ornamental when in fruit. The flowers are produced in May and June, but are small and insignificant. The leaves consist of three oval or oblong leaflets, resembling some shrubby types occurring in the Pea family; but the subject under notice belongs to the Orange family, and is remarkable for the peculiar shape of its fruits, which are winged, thin, orbicular, and of a light green hue. They are produced in remarkable abundance, and to their general appearance must be ascribed the application of the popular name Hop-tree. It will thrive in any well drained garden soil, and is also valuable for town planting, as it will thrive in the very heart of London. It may be propagated by layers. There is a variety named P. t. aurea having the young leaves of a golden-yellow hue.

Gardening Miscellany.

GARDENERS' & AMATEURS' SEED ORDERS.

We have no doubt that our experience as seedsmen is the experience of the whole trade, namely, that the purchaser of seeds almost invariably withholds his order from his seedsman until he requires the seeds for use, so that, when we get a period of bad weather such as the frost and snow that we have lately experienced, the orders to the seedsmen immediately drop off, and the large staff provided to meet the business are for the time practically without occupation. Then the weather as suddenly changes, and with the first appearance of sunshine the seedsmen are overwhelmed with orders and the staff is compelled to work at very high pressure for a much longer number of hours per day than would be wished either by the employer, or (as we feel sure) by the purchasers. Writing in the interest of the entire seed trade we purposely omit our name from this communication, and feel sure that a word or two from your editorial pen as season by season comes along, would do very much to bring about a more satisfactory state of things.—*London Seedsmen.*

Ptelea trifoliata.

VELTHEIMIA VIRIDIFOLIA.

Considering the ease with which this may be grown in a greenhouse and its ornamental value, it is surprising how seldom one sees it in private establishments. Its chief use would be for the embellishment of the conservatory during the winter months. The scape attains a height of 18 in. to 2 ft. and terminates in a dense raceme of tubular drooping flowers resembling those of a Kniphofia, to which this plant is closely allied. The colour is, however, altogether different, the flowers being closely mottled with pink or rose on a yellowish or creamy-white ground; the six short segments at the mouth are green edged with purple. The strap-shaped leaves are wavy and of a bright shining green, as indicated by the specific name. The plant is a native of the Cape and may be termed half-hardy, but flowers with more certainty in a greenhouse or stove, to either of which mode of treatment it is highly suitable. It has been flowering for some time past in the Hale Farm Nurseries, Tottenham.

GLADIOLUS TRISTIS SULPHUREUS.

It will possibly be remembered by some that Gladiolus Colvillei is considered to be a hybrid between G. cardinalis and G. tristis; the white variety is better known and more popular under the names of G. C. alba and The Bride. The flowers of the variety under notice are not so large as those of the latter, but in many respects they resemble them. The ground colour of G. tristis is yellow, and the three upper segments are closely spotted all over on both surfaces with reddish-brown dots, while the three lower ones are spotted on the outer half only. Some flowers of the variety, G. t. sulphureus have been sent us by Mr. J. R. Petch, nurseryman, Saffron Walden, which are of good average size and are more or less of a sulphur yellow hue just when expanding, but when fully opened they become almost pure white with the exception of a broad pale yellow band along the middle on the lower half; the three upper segments have a pale brownish midrib on their lower half. Mr. Petch is of opinion that it will become a capital early forcing plant, and we agree with him. The corms are only of small size compared with those of the G. gandavensis section, but that which was sent us, although small even for the kind under notice, had given rise to two young ones and two flower stems. The leaves of this species are strongly four-angled, and the angles are themselves square, being developments of so many ribs as may be seen in Crocus.

HELLEBORUS APPLE BLOSSOM.

The above seems a more appropriate name to the rose and white flowers of the coloured variety of the Christmas Rose than Helleborus niger ruber which is generally applied to it. The flowers are not red, but rose externally and white internally, reminding one of Apple blossom. It is the latest variety of the Christmas Rose to flower, as it is the darkest coloured, and serves to prolong the season till a late period. Owing to the mild weather that prevailed during the latter part of January and the first half of February Christmas Roses generally had been greatly hastened, and all were past their best by the 6th inst., except Apple Blossom, which was grown in plenty and was beautiful in the Hale Farm Nurseries, Tottenham.

MUSCARI AZUREUM.

Botanically speaking this is Hyacinthus azureus, but so like a Muscari is it that most cultivators recognise it by that name. The flowers are bell-shaped, very short, and not contracted at the mouth, the latter character determining its place in the genus Hyacinthus. The habit of the plant, however, and the compact raceme of flowers bear a strong resemblance to a Muscari. The flowers are of a beautiful sky blue, and, though small individually, are attractive in the aggregate, especially when a good clump of bulbs is planted. The species was introduced from Asia Minor, and usually comes into bloom during February. We have seen it flowering at this early period for several successive years in the nursery of Mr. T. S. Ware, Hale Farm Nurseries, Tottenham. During stormy and frosty weather it should, however, be covered with a bell glass or hand light, otherwise the flowers would be liable to injury just as early-flowering Crocuses would be.

SEEDLING CARNATION.

We noted the other week in the nursery of Mr. T. S. Ware, of Tottenham, a seedling Tree Carnation of great promise. It is a cross between the brightly coloured Duke of Fife and the terra-cotta coloured Mrs. Reynolds Hole. It has the tall, freely-branching and vigorous habit of the former; and the specimen we noted was 2 ft. to 2½ ft. high with very numerous lateral branches, but the terminal one only was in bloom. The flower is perfectly double, but not crowded, with broad, slightly toothed petals of a bright red, tinted with salmon. This description of the colour is simply meant to convey some idea of the hue, for the combination of the scarlet of Duke of Fife with the terra-cotta of Mrs. Reynolds Hole gives a hue that is not easily described in words. The branching habit will ensure a succession of bloom.

COLCHICUM STEVENI.

The large-flowering species of Colchicum bloom in the autumn months, but there are several smaller flowered kinds not unlike Crocuses, and which are interesting to the lover of hardy plants. The nature of the weather will of course determine their time of flowering, especially if they are grown in the open air. The species under notice is a native of the southern shore of the Mediterranean extending from Morocco to Algiers and Egypt. The flowers are about the size of those of C. crociflorum, but they are pure white with exception of the anthers which are black. When the latter burst they expose an

abundance of golden yellow pollen grains. In the early stages of the flower the black anthers constitute a striking contrast with the pure white perianth segments and style. The plant seems perfectly hardy, for we noted it in full bloom a short time ago in sandy soil in the nursery of Mr. T. S. Ware, Tottenham.

GALANTHUS ALLENI.

The leaves of this Snowdrop are of a light glaucous green hue, intermediate between those of G. caucasicus and G. latifolius, the latter having broad green leaves. The outer segments of the perianth are white. The inner ones are green internally striped with slender white lines, and they have a green blotch of horse-shoe shape around the sinus or apical notch on the outer face. On the whole it is a pretty Snowdrop and worthy of a place in a collection from its distinct appearance when compared with G. nivalis and its more closely allied forms. It commenced flowering some weeks ago in the Hale Farm Nurseries at Tottenham. It may be stated that this is a new form of Snowdrop, by some considered a natural hybrid, and as yet by no means plentiful anywhere.

SCOLIOPUS BIGELOWI.

The specific name of this plant would lead one to infer that it is a North American plant. In habit it resembles a Dog's-tooth Violet (Erythronium) and the structure of the flowers shows some resemblance to that Liliaceous genus. There are about two leaves to each root, and they are elliptic-oblong, deep green, and variegated with large brown blotches. The flowers to the number of four or more arise from amongst the leaves, and although only of moderate size, they are peculiar and interesting. The three outer segments are lanceolate, and of a rich brown with numerous yellow lines; the inner three are smaller, linear, and deep brown with a pale centre. There are three anthers, and the trigonous ovary is surmounted by a style divided into three long, reflexed branches. We noted the plant in the Hale Farm Nurseries, Tottenham, where it was grown in pots plunged in Coco-nut fibre.

THE POTATO, THE BEET, AND THE TURNIP.

At the usual fortnightly meeting of the Devon and Exeter Gardeners' Association, held on the 3rd inst., Mr. G. D. Cann, hon. secretary of the Exeter Horticultural Society, presiding, the following paper on the vegetables above named was contributed by the Rev. A. H. Cruwys, Rector of Cruwys Morchard, near Tiverton, a very successful cultivator.

There is no class of vegetable that pays better for good cultivation than the Potato, and, I may add, as a rule, no class that receives worse treatment. Now in these seasons of blight, when so much has been written, and so many experiments tried with success, it is the duty of everyone to try in a measure to defy its ravages by good cultivation, by which I mean suitable soil, carefully prepared, and good, sound seed, frequently changed. It does not matter whether the disease is caused by electricity in the air, bad soil, or the ravages of fungi, there it is. It shows itself a little earlier, or a little later every year, generally after much rain, or close, foggy weather, and one thing is certain, that the most careless growers suffer most from its attacks. It is truly lamentable to see how some growers seem to invite the disease, rather than try to keep it off. Take a walk in the country at planting time; you will see one man has selected his ground in the corner of a field in which the soil is wet, and too poor to grow either corn or roots. The Potato cave, which has never been looked at since storing time, is opened, and a tangled mass of seed all grown together is exposed, and the weakly white sprouts are rubbed off. Is not this one step towards ruin, disease, and failure? Yet this is the course pursued and the sort of seed sown in many, many a plot and field, and which is expected to produce a good crop! There are many, however, who have learned the value of good cultivation, and who on a good, dry, sharp soil, or, better still, old brake ground, well manured the previous autumn, and planted with seed that has been thinly spread all the winter, and slightly sprouted, will grow a fairly sound crop in any season.

Time for Planting Potatos.

Opinions differ as to the best time for planting the main crop. Some think that should the weather be suitable, and the ground in working condition, that the middle of February is a good time, in order to allow a long season of growth before the blight appears. Others make it a rule to plant as near Lady-day as possible. I am led to the conclusion, after many years' experience, that there is no better time than the second week in April, for I think that the soil, being pulverised by the dry March winds, and heated by the April sun, is in a better condition to receive the seed, which will then start into growth at once, go on at express speed, and be ready to lift at the same time as those planted in February or March, and which have lain in the ground for weeks doing nothing, and exposed to the ravages of slugs, grub, and other pests.

Growing Potatos for Exhibition.

In growing Potatos for exhibition, two points are essential, viz., a warm situation and carefully prepared soil, which should consist of peat, loam, vegetable ash, and sea sand. The ground should be manured in autumn, deeply trenched, and left rough, or in ridges, all the winter. About the middle of March a little fresh lime should be forked into the soil to kill the slugs and worms, and if the wireworm is troublesome (as it generally is in light soil) a sprinkling of salt and soot may be added. Potatos for exhibition should be planted about the middle of April, as they are then likely to escape the early May frosts, and, in case there are any very choice sorts to be grown, it is well to place a few in boxes half filled with earth, and let them form roots, in order to replace any that from any cause have failed, or been touched by frost. It must be remembered that when the first growth is cut down by frost, exhibition tubers must not be expected. For strong growing varieties the drills should be made 20 in. apart, and the seed planted 14 in. apart. This will let plenty of sun and air into them. Cut the sets, from the crown, with two eyes, not more, plant five inches deep, and, as soon as the growth appears, fork lightly between the drills, and continue to do so once a week until the fibres begin to run. Do not mould up in the usual way, but simply draw a little earth each side of the drills, for it must be remembered that the tubers require plenty of sun and air to ripen well, as a proof of which the largest and best ripened tubers are found nearest the surface. Any exhibitor who will take the trouble to grow his Potatos after the manner I have described will not be disappointed.

Lifting the Crop.

Two or three days before the Potatos are wanted for exhibition lift them very carefully with a five-pronged fork, and be very careful not to rub off the smallest bit of skin, or the tubers will be spoilt for exhibition. Having selected the number required (and a few in reserve in case of accident) expose them to the sun for an hour, turning them once, then wrap each tuber in paper, and place in the dark until wanted. Should the weather be dry at the time of lifting, little or no washing will be required; indeed the tubers will look better without it, for they will be quite clean if grown in prepared soil, such as I have described. In selecting samples for exhibition (if highest quality is aimed at) choose tubers weighing about half a pound, and no more; over that weight they become coarse as a rule. It must be remembered that we aim at growing something of the highest quality for table use, and the gigantic specimens we so often see on the exhibition tables are practically worthless for that purpose. At lifting time we are too apt to set aside our very best and most shapely tubers, because we think they are not quite large enough. I trust the day is not far distant when quality will take the place of quantity. Depend upon it, our exhibition tables will be made more attractive by the change, exhibitors will derive infinitely more satisfaction, and the competition, which now too often is confined to a few specialists, will be keener.

How to Grow Beet for Exhibition.

Nothing is more effective on the exhibition table than a well-grown dish of Beetroot, and which, with a little care and trouble, can be grown nearly as perfect in shape as a Carrot. The soil to grow it for exhibition should be precisely the same as that I have described for Potatos, viz., a mixture of good light loam, peat, vegetable ash, and sea sand. Prepare the soil in autumn by trenching to a depth of 18 in., and having roughly shaped the bed, let it lie rough all the winter. A little well-rotted manure may be placed at the bottom of the trench, but none mixed with the soil, either in autumn or at sowing time. About the beginning of March turn the bed over and sow a little salt and soot. About the first week in April prepare the bed for sowing, which, when finished, should stand about 10 in. above the level. Make the drills 1 in. deep and a foot apart. Sow thinly, but evenly, not in clumps at a certain distance apart, which is sometimes the custom, as, by so doing, the plant intended to stand is often pushed on one side, and is apt to grow crooked. Should the weather be warm and dry, give the bed a good soaking. As soon as ever the seed is up, give the bed a good dusting over with vegetable ash, which will effectually prevent the ravages of slugs. As the seed intended to produce exhibition roots will have to be sown (in cold districts) at least a fortnight earlier than the main crop some protection to guard against the spring frosts will be necessary. For this purpose drive a few stakes into the ground each side of the rows, against which place deal planks in a slanting position, so as to leave about 2 in. open at the top. These planks can be removed in the day-time, and replaced at night. Nothing but pure water must be used, no liquid manure of any sort. Do not prepare a large bed for exhibition purposes: one large enough to contain from twelve to eighteen plants is all that will be required, as, if the seed be good, nearly every root will be fit for the exhibition table, under the treatment I describe, and with very few of the course fibrous roots at the side and tail. A model root for exhibition should be as nearly as possible the shape of a fairly-grown Carrot, of moderate length and size, of the finest colour and texture, and free from the long coarse tail so often seen but not appreciated, being perfectly worthless for culinary purposes. Lift and prepare the roots for exhibition the same day as they are wanted, if possible, as the skin becomes somewhat rusty in colour if exposed for any length of time to the air and light.

The Turnip

Of all our garden vegetables (Potatos excepted) perhaps the Turnip may be classed among the most useful, and it therefore deserves the best cultivation that can be given to it. It will grow in shade and in sunshine, in poor ground and in rich, and will yield a plentiful supply at least eight months in the year, if properly managed. Among the early sorts I think the Snowball is about the best, and for summer and autumn crop nothing can surpass Veitch's Red Globe, which, under many years of trial, I take to be the very best white-fleshed Turnip in cultivation. It has often been a matter of surprise to me why yellow-fleshed Turnips are not more cultivated. If people only knew their vastly superior quality and flavour over the white-fleshed varieties a place would be found for them in every garden. I remember a few years ago entering a dish of the Golden Ball Turnip at our Exeter Show, which for shape and quality were good enough to take a first at any show in England. What was my surprise to find that the judges had only awarded them "highly commended." On talking over the matter with my friend, Mr. Veitch, he told me that yellow-fleshed Turnips were not sufficiently known to be appreciated. I returned home thoroughly disappointed, but not beaten, for I resolved to offer a special prize for yellow-fleshed Turnips, in order that the public might judge of their quality for themselves. I trust the class will be better filled this year.

Soil and Situation.

To grow Turnips for the early autumn exhibitions a somewhat damp and half shady position should be chosen, in order that the growth may not be checked during the excessive summer heat. The soil should be moderately light and a good quantity of vegetable ash may be incorporated with it, but no fresh yard manure. No doubt some of you have remarked that the tap root of a Turnip when pulled from stiff soil is hard and coarse, but seldom or never so when taken from deeply trenched light soil.

Time to Sow.

If roots are required for exhibition at the middle or end of August two sowings should be made, one about 25th May, the second about June 7th. It must be remembered that yellow varieties are slower in growth than the white, and therefore require a little longer time. The drills should be made 14 in. apart. Sow the seed thinly, but evenly. If the weather is hot and the soil dry, watch your bed, and as soon as ever you see the soil lifting, soak your bed with water, in which soft soap has been dissolved at the rate of a tablespoonful to the gallon.

(To be continued.)

ORCHID NOTES AND GLEANINGS.

Cattleya Trianæ magnifica.

We have been favoured with a fine bloom of this variety from "W.," an amateur grower and collector of Orchids who is too modest and unpretending to court public notoriety. The plant was originally obtained from the collection of the late Capt. Maxwell, Teregles, Dumfries, under the name given above. The flowers are notable for their great size, and although not so large as they were last year, yet that handed to us measured 8 in. across the petals. The latter were broadly ovate, clawed, beautifully crisped along the margin, of a delicate warm rose, more or less shaded in places with a darker hue, and measured 3 in. across. The sepals were proportionately long, and a shade or so paler in colour. The lip was also very handsome, measuring close upon 4 in. in length, with a widely expanded lamina of a warm mauve-purple hue; the tube itself was equally as dark externally as the lamina; and the large blotch in the throat was of a dark coppery orange. If we might make a comparison, we should say that C. T. magnifica resembles to some extent C. T. delicata, but is several shades darker and an altogether larger flower. The lip reminds us somewhat of C. T. Schroderæ, but the blotch in the throat is not so large.

Cymbidium eburneum.

A splendid specimen of this beautiful Indian terrestrial Orchid is now to be seen in bloom in the Duke of Norfolk's collection at Arundel Castle. It has forty-three spikes, bearing eighty flowers, such an aggregate of blooms as is not to be seen on a plant every day and which I think is worth recording. A few years ago such a plant would have commanded an extravagant price. Mr. Burberry, who has charge of the garden establishment at Arundel Castle, is to be congratulated on his success as a cultivator of this grand plant.—*Rusticus.*

Vanda Lowii.

This remarkable Orchid is known under several names, but the authors of the *Genera Plantarum* consider that Aracnanthe Lowii is the most correct, and that to be upheld. The most striking peculiarity of it is that the two first flowers which expand towards the base of the raceme are different from all the others which follow. Sometimes, however, only one flower is different from the rest, as we noted the other day n the nursery of Messrs. Hugh Low & Co., Clapton, where a large plant now in flower carries three pendulous racemes of bloom. One raceme bears seventeen flowers, two of which are different from the rest; another bears fifteen flowers, only one of which does not conform to the others, and a similar odd flower is borne on a third raceme, having eleven blooms. The sepals of the odd flowers are oblong and blunt, the petals oval, broad, and rounded at the tips, and all are flat, slightly reflexed, and beautifully spotted with crimson on a clear bright yellow ground. The rest of the flowers have narrower and wavy sepals and petals, heavily blotched, and spotted with crimson on a deeper and duller yellow ground. The lip is a small and rather curiously shaped organ, hinged to the base of the column and moveable. The plant we speak of is a large one, but not difficult to accommodate even in houses of moderate dimensions, and it is certainly showy as well as interesting.

Cypripedium Lindleyanum.

The flower scapes of this Cypripedium attain a height of 3 ft. and bear numerous flowers in clusters from the large bracts or spathes on the upper half of their length. The leaves are linear-lanceolate, deep green, and about 12 in. to 25 in. in length, according to the size and age of the plant. The upper sepal is green with brown lines and markings. The petals are paler and fainter, with more slender green veins and wavy on the edges. The lip is brown with deep red veins, and of a rich brownish red on the sides of the claw. A Botanical Certificate was awarded a plant shown by Drewett O. Drewett, Esq., Riding Mill-on-Tyne, at the Drill Hall, on the 9th inst.

Epidendrum Watsonianum.

The pseudo-bulbs of this plant are elliptic or somewhat spindle-shaped, 6 in. to 8 in. long, and very stout. The leaves are mostly terminal, strap-shaped and leathery. The scape attains a height of 18 in. to 24 in., and is branched in the upper portion. The sepals and petals are obovate, bright yellow and closely mottled with crimson. The three-lobed lip is white with some crimson stripes on the obreniform, terminal lobe; the lateral lobes are short and oblong. The flowers collectively are very pretty and conspicuous. A flowering specimen was accorded a Botanical Certificate when exhibited by Messrs. F. Sander & Co., St. Albans.

Dendrobium Fœlschii.

At a casual glance one would scarcely take the plant named to be a Dendrobium at all. This is due to the narrowness of the sepals and petals, the manner in which they are twisted, and the fact that they are crowded together in a close tuft towards the apex of the stem. The individual flowers are produced singly, but the internodes of the stem being undeveloped they are aggregated towards the apex of the same. The sepals and petals are linear, much twisted and white, suffused with purple upwards. The three-lobed lip is white with a purple blotch on each of the three lobes. The pseudo-bulbs are oblong and only about 2 in. long, while the scape arising from them attains a length of 1 in. Taken collectively they are certainly very pretty. A Botanical Certificate was awarded it when exhibited by Sir Trevor Lawrence, Bart., M.P.

Saccolabium bellinum.

An importation of this shows a considerable amount of variation in the colour of the flowers. The ground colour of the sepals and petals varies from a clear yellow to a dark yellow, while the blotches vary in size, colour, and number. These matters may seem unimportant in themselves, but collectively they constitute the difference between a good and a moderately good variety. None of the forms of this species we have seen are thoroughly bad. The lip is both curious and beautiful, being white with a yellow blotch in the centre, sometimes a few crimson spots, and covered over the greater part with white hairs. The sac like pouch at the base is also peculiar to this and a few other species. The flowers are produced in a cluster at the top of the short scape, so that the general effect is quite different from that of S. Blumei for instance. We noted a group of plants in bloom in the nursery of Messrs. H. Low & Co., Clapton, and scarcely two were exactly alike.

Masdevallia macrura.

The greater number of Masdevallias having large flowers bloom in summer, so that the species under notice is exceptional in that respect. The flowers, although not so brightly coloured as those of M. Harryana, M. Veitchi, and others, are nevertheless conspicuous from the great length of their tails. The tube of the perianth is short and wide; the upper lip is triangular, ending in a long tail about 4 in. long; the lower lip on the contrary is two-lobed, ending in similar yellow, pendent or drooping tails. The ground colour of the perianth is pale brownish, more or less spotted with purplish-brown. Each scape bears a single flower which is well carried above the foliage, but not so long as to appear in any way leggy. It is now flowering in the cool division of the Orchid house at Kew. Although introduced from Columbia in 1874, it is by no means common.

Dendrobium Cassiope.

The seed bearing plant of this hybrid was D. japonicum crossed with D. nobile albiflorum. The result is a plant intermediate in size and general character between the two. The stems are about 10 in. high, and in form like those of D. nobile but smaller. Flowers are very freely produced in lateral clusters near the top of the stems. The pedicels as well as the sepals and broadly oblong petals are pure white. The lip is also broadly oblong and pure white with exception of a large purple blotch in the throat. A plant was exhibited at the Drill Hall on the 9th inst. by Mr. Wm. Murray, gardener to Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne, when an Award of Merit was accorded it.

Cypripedium Hera.

This hybrid was obtained from C. Leeanum, itself a hybrid, as the seed bearing parent which was fecundated with the pollen of C. villosum Boxallii. The upper sepal is the most conspicuous organ of the flower, and is pale green in the lower half and heavily blotched with brownish crimson, while the upper half is white with a few purple spots. The petals are obovate, and deep brown on the upper longitudinal half with a yellow margin. The lip is suffused with brownish purple on a yellow ground The leaves are oblong, dark green and very leathery in texture. A plant was exhibited at the Drill Hall, Westminster, on the 9th inst., by Messrs. J. Veitch & Sons, Chelsea, and was accorded a First-class Certificate.

Odontoglossum Edwardi.

The subject of this note is unique in the genus as far as colour is concerned. It is also a very strong growing species, with large pseudo-bulbs, and long lanceolate or strap-shaped leaves. Small or newly established pieces do not produce very strong flower scapes, but established and well grown plants throw up a panicle of bloom, 5 ft. or 6 ft. high, branching throughout a greater portion of its length. Such a specimen we noted recently in the nursery of Messrs. Charlesworth, Shuttleworth & Co., Park Road, Clapham. At the time we speak, the flowers were in the bud state, but almost on the point of expansion, and there were eighty-eight of them on the scape. There are varieties with different hues of colour; one is of a light reddish purple hue, and others have mauve-coloured or almost violet flowers, the latter being the darkest, and certainly the showiest and most interesting.

Odontoglossum Pescatorei Schroderianum.

The flowers of this variety are broad for the species and rounded with well imbricated or overlapping segments. The sepals are broad, elliptic, and white with a few violet blotches in the centre, and sometimes amalgamated in one large irregular blotch. The petals are ovate and white with numerous small violet blotches on the lower half. The lip is white with a yellow disc and some crimson stripes on the calli. A healthy plant of it was exhibited at the Drill Hall on the 9th inst. by Baron Schroder, when a First-class Certificate was accorded it.

Odontoglossum ioplocon.

In general aspect this resembles O. Edwardi, to which it is no doubt closely allied. The rich, deep violet colour of the flowers and their metallic gloss will commend this plant to Orchid growers and connoisseurs. The sepals are lanceolate and clawed, the lateral ones being much the longer, and in that respect this Odontoglot differs from O. Edwardi. The petals are similar in form and undulated or wavy on the margins as are the sepals. The lip is subulate, slightly auricled at the base, with a long pale purple point and a large golden yellow crest at the base, and which contrasts boldly with the other parts of the flower. The branching flower scape when exhibited at the Drill Hall on the 9th inst., by Baron Schroder, was about 5 ft. long. An Award of Merit was accorded it.

Cypripedium insigne Cambridge Lodge var.

The chief feature of this variety is the bold and well-defined character of the blotches on the standard or upper sepal. The lower portion preserves the usual greenish groundwork, and this is richly ornamented with large and well-defined brownish-purple blotches; the upper portion is pure white. The habit of the plant is dwarf and compact, while the flower itself is by no means large, but of good substance. It was exhibited at the Drill Hall on the 9th inst. by R. J. Measures, Esq. (gardener, Mr. H. Simpkins), Cambridge Lodge, Camberwell.

Trichocentrum triquetrum.

The habit of the plant, the shape of the leaves and their arrangement resemble those of a dwarf Iris. The flowers themselves are, however, very different, and are pendulous on short penduncles from the axils of the leaves. The sepals and the broad petals are pale yellow, the former being arranged somewhat in the form of a triangle. The lip is the largest and most conspicuous organ of the flower, and is convolute round the column, with a broad, rounded, pale yellow lamina, spotted with orange. The flowers are on the whole large for the genus, A piece of it was exhibited by Sir Trevor Lawrence, Bart., M.P., at the Drill Hall on the 9th inst., when a Botanical Certificate was awarded it.

WHAT TO DO IN THE GARDEN.

Calatheas and Marantas.—Many of these will soon start into growth, and if repotting is necessary, it should be done before growth has made much headway. The plants may also be divided with most convenience at this season, and this is the readiest and best means of increase. As many roots as possible should be preserved to each crown, and the divisions might be made by means of a sharp knife so as to injure the rhizomes as little as possible.

Pandanus and Variegated Pineapple.—Suckers of these plants taken off now and rooted wil make useful decorative plants for summer work later on. The best variegated suckers should be selected in preference to the greener ones, which often revert to the normal green type; besides they grow less vigorously and, therefore, remain longer of a useful size for decorative work.

Dracænas and Crotons.—The present is a suitable time for commencing the propagation of Dracænas, as the lengthening days and the greater amount of sunshine will favour the work of root formation. Raising cuttings from the underground tubers and stems is the best means of getting up a large stock quickly; but the tops of the plants taken off and rooted soon make specimens fit for use. The soft-wooded kinds are most suitable for this sort of treatment. D. Goldieana is very difficult to root unless the stem is ringed and has some moss put round it to encourage rooting before it is taken off. The tips of good sized shoots or of the strong leaders themselves of Crotons may be taken off at once and inserted singly in small pots, plunging them in bottom heat.

Gardenias.—The main batch of Gardenia cuttings may now be taken oft and inserted, to follow the first one made about the end of last year or the beginning of this. The cuttings will now root much more freely and with more certainty than they did when light was bad, and they will be ready to grow away rapidly when the warmer spring and early summer weather approaches.

Early Vinery.—During the prevalence of stormy weather the night temperature may with advantage be allowed to drop below the standard, say from 65° to 60°, in order to avoid making the atmosphere arid and ungenial for the young shoots and leaves. A good rise, however, may be allowed early in the day, more especially in bright weather, and the ventilators should be closed early in order to utilise sun heat as much as possible. Damp down all paths and borders, keeping the evaporating pans well filled with diluted manure water.

Strawberries in pots.—The change from mild to cold weather which occurred in the beginning of last week necessitated a greater amount of firing than previously. Greater attention will therefore have to be given the plants so that they do not get infested with red spider, owing to the aridity of the atmosphere. The leaves should be frequently well syringed with clean water, taking care that the under side gets thoroughly wetted. If the pots are plunged in a mixture of fermenting leaves and manure there will not be much danger, but should they be on shelves the liability to attack will be greater, especially if near a place in the wall where a flue goes up the interior. The same applies to plants near the hot water pipes.

Fruit Trees on Walls.—The pruning, nailing, and tying of all fruit trees should be completed as early as possible provided the weather keeps fairly open. The flower buds of Peach trees with a little warm weather will soon begin to swell up, and would be liable to get rubbed off if much handled after they have reached that stage.

Bedding Plants.—Active progress may now be made in the potting off of autumn-struck cuttings of Pelargoniums, Verbenas, Lobelias, and such like. The stock of anything likely to fall short, if placed in heat a short time ago, will now furnish plenty of cuttings, which may be dibbled in thickly in a hot-bed, or in boxes covered with squares of glass and placed in a warm position.

Obituary.

THERE passed away on the 14th inst. a very worthy old gardener in the person of MR. MONTGOMERY HENDERSON, for many years gardener to the late Sir George Beaumont, of Coleorton Hall, Leicestershire, and in his day a very noted Grape grower. Mr. Henderson, who had attained the age of 84 years, died at Ashby-de-la-Zouch, where he had for some years been living in retirement. Remarkable success attended the late Mr. Henderson's career as a horticulturist, and he possessed no less than twenty gold and silver medals won by him, nineteen of which he secured while in the late Sir George Beaumont's service for specimens of flowers and Grapes. Two of the massive medals of gold are each worth £20. One was from the Royal Horticultural Society in 1853, and the other from the Royal Botanical Society in 1844. His first success was obtained in 1839, and from then until some twenty years ago the prizes he won were innumerable. He was of a genial, kind-hearted disposition, and was esteemed by a large circle of friends and acquaintances.

QUESTIONS AND ANSWERS.

**** Correspondents are requested, in order to avoid delay, to address all communications to "THE EDITOR" or "THE PUBLISHER," and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa London."*

ENGLISH APPLE AND FRUIT COMPANY.—Can any reader of THE GARDENING WORLD tell me what has been done with reference to the winding up of this Company since its affairs were placed in the hands of the liquidator?—*A Shareholder.*

TITHYMALE, THORN APPLE, &c.—*Flos.*: The Tithymale is a native of Continental Europe, but has become naturalised in a few places in England. Being an escape from gardens it would occur in waste places not far from a garden. The Thorn Apple is an annual and flowers in July, earlier or later according to the time it has been sown, and whether the sowing has been made under glass or in the open air. The heat cannot go down the tubes or hollow stalks of Wheat unless an opening has been made or the tops of the stalks broken off; it would penetrate the stems at any point exposed to the sun. The leaves of the Water Hemlock (Cicuta virosa) are twice or thrice-pinnately divided, and the divisions would be more properly termed segments than folioles, because they are not truly pinnate or divided into leaflets as in a Rose or Ash. As far as we can remember the leaves are of a dull, dark green. The trees found in desert places may have thick or thin leaves or no leaves at all, but they must bear fruit in order to reproduce themselves or they would soon die out. The Welwitschia mirabilis has only two thick and leathery leaves in the course of its lifetime. Moringa edulis has thin leaves, but soon drops them when the dry weather sets in. The Cacti found in the dry deserts of Mexico have no leaves at all; but all the above bear fruit. We do not believe that any kind of Pine-tree emits flashes of light unless it be set on fire.

CHRYSANTHEMUM FRUTESCENS.—*Omega*: If the plants are pinched back now, they should have plenty of time to come into bloom by May; but it will depend upon the state of the plants just now, whether they are old or young, and what amount of shoots you cut off, as well as the amount of heat you give them during the time. If the plants are young, and the tips of the shoots merely are pinched out, then they will the sooner come into bloom. If much cut back into old and ripened wood, then you will have to subject them to a greater amount of heat in order to urge them forward.

NAMES OF PLANTS.—*W. J.*: 1, Zygopetalum crinitum; 2, not recognised, next week perhaps. *F. Hart*: 1, Helleborus colchicus; 2, Helleborus niger ruber; 3, Galanthus nivalis latifolius; 4, Arabis procurrens. *A. L. M.*: 1, Adiantum diaphanum; 2, Pteris quadriaurita argyreia; 3, Eriostemon buxifolius; 4, Sprekelia formosissima; 5, Begonia semperflorens; 6, Eupatorium Weinmannianum.

ORCHIDS FROM WESTMOUNT.—*Erratum*: In the paragraph at p. 392, second line from the top, for "Oncidium Rossii" read "Odontoglossum Rossii."

PITCH OF ROOF OF GREENHOUSE.—*Omega*: Water would run off a roof at a very low angle, say an angle of 5° or 10°; but there are several reasons why a roof should not be of that pitch. In the first place should the rain be blown by wind against the glass, much of the water would run into the interior through the laps; and secondly snow would accumulate during heavy storms and would require to be frequently cleared off to prevent its breaking the glass, causing a drip while melting. An angle of 30° or 40° would therefore be more advisable than keeping it lower for the reasons just stated. For plant growing, a roof at an angle of 30° should be lower and nearer the plants than where the angle is 40°; but in no case should it be higher than is necessary for the height of the plants to be grown.

TULIPS OVERDRAWN.—*J. B.*: You have kept them too long in the Coco-nut fibre before uncovering them, and the mild weather together with the shelter of the frame has caused an early growth, which might have been checked by the timely removal of the Coco-nut fibre. If you did not wish to introduce them to warmer quarters, with the view of forcing them on early, you could have taken out the pots, and after removing the Coco-nut fibre, replaced the pots again on a bottom of ashes, giving plenty of ventilation, or removing the sashes altogether in mild weather. This can be done now, but should bright sunshine occur before the leaves assume their normal green colour, a light shading may be given during the middle of the day. After the leaves are perfectly green, give them all the exposure possible, and abundance of ventilation, which may partly, but not wholly, remedy the mischief already done.

ONIONS FOR EXHIBITION.—*H. Warder*: You should make a sowing at once, in a box or boxes according to the quantity you require, and place them on a hot bed of fermenting manure covered with a frame, unless you have the convenience of a stove or propagating pit. In the latter case, take good care to place the boxes containing the seedlings as close to the glass as possible whenever they appear above ground so as to prevent drawing. They may be kept in heat for a time to encourage growth, but as soon as they present the appearance of getting drawn, have the boxes placed in a cooler house or cold frame where they can be given ventilation. With the aid of glass, but without any other heat than that derived from the sun, the seedlings may be hastened considerably, and in fact they will be much ahead of those sown even now in the open ground. As the weather gets warmer they should be gradually hardened off by giving them more air, and by finally placing them in the open air in a sheltered place, before planting them out in well-prepared ground intended for them.

COMMUNICATIONS RECEIVED.—H. K. W.—C. P.—H. M.—D. W. (many thanks—a palpable error).—M. C.—A. D.—H. W.—H. N. P.

TRADE CATALOGUES RECEIVED.

W. & J. BIRKENHEAD, Sale, Manchester.—Ferns and Selaginellas.

ERIC F. SUCH, Maidenhead, Berks.—Vegetable and Flower Seeds, Plants, &c.

BERNARD QUARITCH, 15, Piccadilly, W.—Books on Natural History.

LONDON SEED TRADE.

February 23rd, 1892.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a shorter supply of English Red Clover and Cowgrass, the finer grades of which readily sell at an advance. Trefoil dull. Foreign Red Clover, White, and Alsike steady.

COVENT GARDEN MARKET.

February 24th.

FRUIT.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.		s. d.	s. d.
Apples... per ½-sieve	1 0	5 0	Grapes .....per lb.	1 9	3 0
Canadian and Nova Scotian Apples per barrel	12 0	25 0	Pine apples. —St. Michael's, each	2 6	6 0
			Cobbs... per 100 lbs.		40 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
ArtichokesGlobe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Asparagus, Eng.bun.	10 0	13 0	Lettuces ...per dozen	1 6	2 0
Beans, French, perlb.	1 0	1 6	Mushrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers, Eng.dz.	3 0	6 0	Smallsalading,punnet	0 4	
Celery.....per bundle	2 6		Seakale ...per basket	2 0	3 0
Cucumbers .....each	1 0	1 6	Spinach, per strike ...	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	1 0
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	

POTATOES.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Azalea .....per doz.	30 0	42 0	Foliage Plaots, doz.	12 0	60 0
—Mollis.....per doz.	24 0	36 0	Genesta.....per doz.	10 0	12 0
Cyperus .....per doz.	4 0	12 0	Hyacintbs,...per doz.	6 0	9 0
Cineraria ...per doz.	8 0	12 0	Lily of the Valley, doz. pots	12 0	18 0
Daffodils ...per doz.	9 0	15 0	Marguerites, per doz.	9 0	12 0
Dracæna term., doz.	24 0	36 0	Palms in variety,each	2 6	21 0
Dracæna viridis,doz.	9 0	18 0	Primula Sinensis per doz.	4 0	6 0
Epiphyllum per doz.	9 0	12 0	—scarlet .....per doz.	4 0	6 0
Erica Hymalis, per	12 0	18 0	Solanums...per doz.	9 0	12 0
— gracilis, per doz.	9 0	12 0	Tulips.....per doz.	8 0	9 0
Evergreens,invar.doz	6 0	24 0			
Ferns, invar.,per doz.	4 0	18 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Acacia or Mimosa French per bunch	1 6	2 0	MaidenhairFern,12bs.	6 0	12 0
Arum Lilies, 12 blms.	3 0	6 0	Marguerites, 12 bun.	2 0	4 0
Bouvardias, per bun.	0 6	1 0	Mignonette... 12 bun.	1 6	3 0
Carnations, 12 blooms	2 0	3 0	Narciss, Paper White doz. sprays	0 9	1 0
Chrysanthemums, doz. bunches	4 0	6 0	Narciss, Freoch, doz. bunches	3 0	6 0
Daffodils, double, doz. bunches	4 0	6 0	Pelargoniums, 12 sps.	1 0	1 6
—Single, doz. bchs	6 0	9 0	—scarlet.....12 bchs.	6 0	9 0
Eucharis ...per doz.	3 0	6 0	Poinsettia, doz. blms.	4 0	9 0
Gardenias 12 blooms	4 0	9 0	Primula, double, bun.	0 9	1 0
Hellebore or Christmas Roses, doz. blooms	0 6	1 0	Primula siogle, doz. sprays	0 4	0 6
Heliotropes,12 sprays	0 6	1 0	Roses, yellow, dozen	3 0	6 0
Hyacinths, Roman, doz. sprays	0 6	0 9	— Red..... doz. blms.	6 0	8 0
Lilac, French, per bunch	5 0	6 6	— Saffrano...per doz.	2 0	3 0
Lilium Harrisii, doz. blooms	6 0	10 0	— Tea ..... per dozen	1 0	3 0
Liliumsvar.,doz.blms.	1 6	3 0	Tuberoses, per doz.	1 0	2 0
Lily of the Valley, doz. bunches	6 0	12 0	Violets, Parme, Frnch per bunch	2 6	3 0
			— Czar, French bch.	1 6	2 0
			— Dark, Freoch, doz. bunches	1 6	2 0
			— English,doz. bchs.	1 0	1 6

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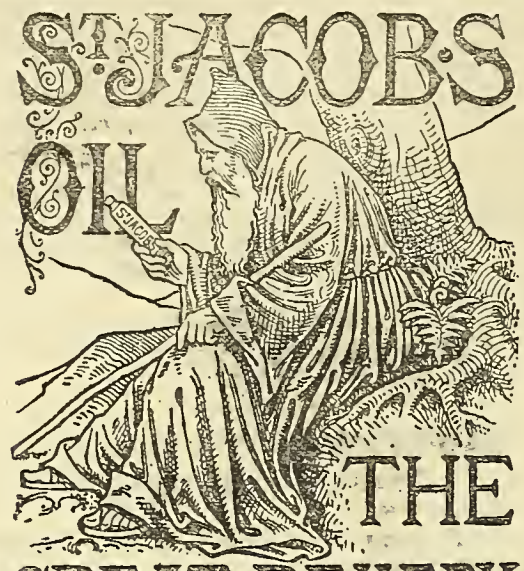

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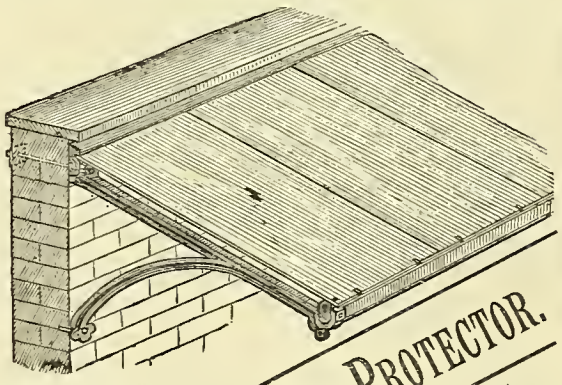

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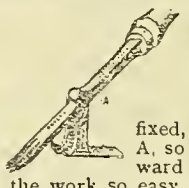

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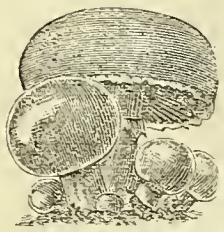

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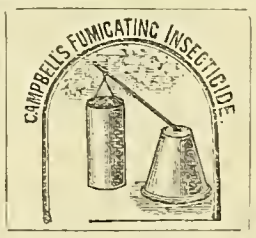

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The Gardening World.

ESTABLISHED 1884.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, March 7.—Sale of Hardy Perennials, Greenhouse Plants, &c., at Protheroe & Morris' Rooms.

TUESDAY, March 8.—Royal Horticultural Society: Committee Meetings at 12 o'clock.

WEDNESDAY, March 9.—Sale of Hardy Perennials, Greenhouse Plants &c., at Protheroe & Morris' Rooms.

FRIDAY, March 11.—Sale of Imported Orchids, at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, MARCH 5th, 1892.

GARDENERS' SITUATIONS.—Were the truly immense number of applications for new places found in the ordinary channels for advertising by gardeners to be as numerous all the year round as they are just now, we should have reason to fear that the gardening vocation was too greatly overcrowded, and that of these many applicants, hundreds must be disappointed. We venture to hope, however, that things are not so bad as they seem, but all the same may well ask that consideration be given to the question whether too many youths are not crowding into gardening, and that as a result too many must inevitably find their chances of obtaining a decent livelihood exceedingly remote.

Young men who determine to make gardening the occupation of their lives, should, bearing in mind the sort of competition they have to face, realise that the period of youth cannot be too zealously utilised for purposes of study and mental improvement. To young men the attractions of a very useless character are so many, that it is not a matter for surprise if some prefer the easy to the hard, the pleasant to the laborious. However, the time will come to all inevitably when those who have in youth devoted the greatest time to study will reap the highest rewards, whilst the negligent ones will find themselves to be still only hewers of wood and drawers of water. Old and life-long experienced men constantly bewail the apparent impossibility of putting old heads on young shoulders, and youth pleads that it is the period of enjoyment, and therefore should be so spent.

When the youths become aged they too learn to see the shortcomings of their juniors, and realise how much they have lost through not following the advice of their seniors. Whatever may be the case with other vocations it is evident that gardening will long be none other than a stout conflict with necessity. Possibly it will be affirmed that all other vocations present the same difficulty. All we wish to do is not to deter the able but to induce unthinking to take stock of the outlook.

PLANTS FOR HOUSE DECORATION.—The announcement that such a veteran decorator of houses with plants as Mr. John Wills is to read a paper upon the above theme, at the Drill Hall, on Tuesday next, should help to create more than usual interest in a subject which has in many directions more than ordinary importance. There can be no doubt but that the gardener's vocation has found of late years an important increase in the demand for plants and flowers for the floral decoration of dwelling houses, notwithstanding the fact that much of what is done in this direction is of the crudest kind, if sometimes it be also of an exorbitantly costly and splendid description.

What is hoped for from Mr. Wills is that he will be able to furnish ideas which of course will be the reverse of crude, but will not be too splendid, and well within the means and capacities of ordinary people. Without doubt we do add greatly to the comfort and beauty of our habitations when we decorate them with plants, whilst so far as flowers in a cut state are concerned there is room for the display of taste specially refined, and in relation to which most persons of ordinary means can share in. So far as house plants are referred to we hope considerable attention will be bestowed upon those which will thrive well in rooms for a long period, and in that respect are the best friends of amateur decorators, as of the poor who love their companionship but hardly regard decorative effects.

A good show of real house or room grown plants held in conjunction with Mr. Wills' appearance at the Drill Hall would be very helpful to a due appreciation of what plants are best for the purpose, whilst very much of interest would attach to them also.

MANURES.—It is one of the very valuable properties of artificial or chemically prepared manures, that they suffer little from exposure to air, provided they are kept from moisture. Animal manures, on the other hand, always suffer more or less from exposure, unless absolutely dried by some baking process, when they may be kept without further loss of manurial or fertilising properties for a long period. What may be termed natural manures, although often used only as mixtures—such as guanos, salt, nitrate of soda, &c.—are all classed as chemical or artificial manures, because they differ so much from all ordinary or moist animal manures.

It is rather amusing to learn that some chemists have recently discovered that animal manures lose force or fertilising power when permitted to ferment. We had imagined that if there was one elementary thing well known in relation to manures, as indeed all products permitted to ferment, it was loss of natural power in the process. We should never allow manure to heat at all if we would have it to expend all its fertilising properties in the feeding of the soil. In the making of bread by the fermenting process, there is considerable waste, and in manure there is relatively much greater.

A big mass of manure, such as is used to form a hotbed, is when made up worth as plant food three times as much as it is when entirely exhausted by heat and thoroughly decayed. We waste our natural or animal manures in this country enormously, indeed, as a rule, unless these manures be placed in the soil whilst fresh, we allow one half of their fertile properties to escape, either by fermentation or by washing out. If we would be but more careful with our manures, we might add enormously to the fertility of the soil.

Wall Trees.—It is an undoubted fact generally recognised that it is apparently much more difficult to obtain good crops of soft wall fruit on open walls now than it was some forty years since. The blame is usually laid on the weather, although records show that we have had periods when the weather has been quite as unfavourable for the production of Peaches and Nectarines on open walls as it is now. The question to be determined is, have our methods changed, or is every hing due to the weather? We have still at disposal for growth all the old sorts, many of which are as worthy of cultivation as are the newer ones.

We have still ample wall space, and there can hardly be any lack of cultural skill. Against these things we have the fact that the now very common practice of erecting houses for Peach and Nectarine culture, and the comparative facility with which good crops can be obtained under glass, have not only served to distract attention from outdoor culture, but has also diverted cultural skill into a diverse groove. It is very possible that our nurserymen now produce their trained trees more rapidly under what may be called high pressure culture than used to be the case, and doubtless chiefly to meet the undoubted large demand for house trees. Of course gross grown trees are in safer care under glass than outdoors.

In the former case they have protection from weather, and artificial ripening influences to aid them; in the latter the strong growths from the nursery fail to find that maturing help so much needed, whereas had that growth been less highly fed and harder and more fully matured the result might have been very different. Some few old gardeners can still grow stone fruits well on walls, too many do so very indifferently. We hope the old skill is not becoming gradually a decaying art.

The Horticultural Department of the Chicago Exposition is planning to have a magnificent Rose garden in which will be fully 50,000 plants, besides large groups in special areas. The garden will be of classic design with temples, arbors, archways, and trellises.

Remedy for Caterpillars.—The application of some insecticide to prevent the ravages of caterpillars, may be something that will either destroy them or render the foliage so distasteful to them that they either die of starvation or get poisoned by eating the leaves so treated. A correspondent of the *Illustrirte Gartenzeitung* recommends the employment of saltpetre in solution to the foliage. It is used at the rate of 100 grammes (a gramme is about 15½ grains troy) to 17½ pints of water. This is applied to the foliage of plants attacked by caterpillars, at two or three syringings given at intervals until the pests are completely destroyed.

The Eye (Suffolk) Horticultural Society will hold its annual summer show at Langton Grove on July 19th.

Preston and Fulwood Floral and Horticultural Society.—At the usual monthly meeting of the members of this society, to be held at the Legs of Man Hotel, Fishergate, Preston, this (Saturday) evening, Mr. William Troughton, of The Nurseries, Walton-le-dale, will read a paper on "The Culture of Hardy Fruits suitable for North Lancashire." The chair will be taken at 7.30, by his worship the Mayor, Councillor Humber.

Depressing Trade.—A London correspondent of a provincial paper says:—"There is no lifting yet of the heavy depression that has hung over the trade of London since influenza and Royal afflictions put society in mourning. A west-end florist the other day told a customer of his, who is a friend of mine, that for some time past his takings have been at the rate of a hundred a week below the average. This, of course, is a serious thing for the tradesman, and also for the persons he employs, for a good deal of the money paid for such luxuries as flowers goes in wages to young ladies for making bouquets and decorations." We are glad to be able to report that business in Covent Garden has shown an improving tendency during the last few days.

Two Interesting Plants.—In some notes on a visit to the Botanic Garden at Washington, communicated to the *American Florist* by Mr. W. Falconer of Glen Cove, the writer says of Arduina spinosa:—Now here is a little gem of a pot plant from the Cape of Good Hope. It was nine or ten inches high by nearly as much across, and a dense cushion of small box-like green leaves interspersed with many little spines and sweetly pretty fragrant white flowers. It will probably never become a popular pot plant with the florist, but many an amateur would rave over it. The other interesting subject mentioned is Calathea Leitzei, which Mr. Smith, the Curator, described as one of the best house plants he had for use in the same way as Aspidistras, and India Rubbers. "It is a glossy, deep, metallic green-leaved Maranta from Brazil, and seems to enjoy a place under the bench as much as on the stage."

Shropshire Horticultural Society.—The schedule for the 1892 Exhibition in August next, has just been issued and is remarkable for the extent of the classes and the large prizes offered. There are thirty-one classes for plants, with the sum of £260 allotted to them, including £20, £16, £14, and £12 for groups; £20, £15, £10 for 16 stove and greenhouse and ornamental plants; £12, £8, £5 for a group of not less than 20 Orchids. Thirty-six classes are devoted to cut flowers with £110 in prizes, collections of Dahlias, collections of Gladioli, hardy herbaceous flowers, bouquets and decorative dinner tables coming in for most liberal prizes. Twenty-three classes are devoted to fruit with £100 in prizes, with sums of £10, £6, and £3 respectively, for a collection of fruit, and six bunches of Black Grapes, and good prizes also for a smaller collection of 6 varieties of fruit. Liberal prizes are also offered for vegetables in addition to large special prizes from leading firms in the seed trade, and 50 classes with 230 prizes are devoted to cottagers.

The latest fashionable craze.—The *Pall Mall Gazette* says, it is quite safe to prophesy that the reign of the new "button-hole"—the fashionable green flower—will be neither a long nor a glorious one. To begin with, it is by no means a thing of beauty. On the contrary, it is produced by over-culture out of the creamy-white Carnation that was indeed one of the loveliest of midsummer garden flowers. The white background, as it were, is visible still, but all the dainty petals are thickly flecked and outlined by a hideous tint of verdigris. This is not even well distributed, but leaves here and there a patch of white. The contrast between the startling green of the flower and the beautiful, characteristic bluish-green of the Carnation foliage is the very opposite of harmonious. Then, the new flower is as expensive as the choicest Orchid. The ugliest and most stunted specimen is sold at two shillings, and twice that price is put on a fully-developed flower accompanied by an unhappy-looking bud. Hitherto the English grower has steered clear of the green Carnation, simply and solely because of its extreme lack of beauty. The specimens which are just beginning to attract crowds round the windows of the leading London florists have come over from France, where, like a great quantity of other flowers, they are grown in the environs of Paris.

"Flowers and their Guests" was the subject of a lecture recently delivered by Professor Denny at Walkley near Sheffield. The lecturer introduced his subject by explaining the origin and uses of the constituent parts of a flower. He then proceeded to demonstrate the fact that the majority of flowers could not fulfil their purpose in the economy of Nature, of perpetuating the race, without the assistance of certain members of the animal kingdom belonging chiefly to insect tribes. This dependency of many flowering plants upon their insect guests was first pointed out as long ago as 1793 by Sprengal, but it remained for our illustrious countryman, Darwin, to establish beyond all doubt, and for all time, the importance of this inter-relationship in effecting cross fertilisation, which is so essential for the production of healthy and vigorous offspring. Nature abhors perpetual self-fertilisation, which leads not only to degeneration of a race but eventually to extinction. A distinguished German naturalist, Fritz Müller, has shown that in certain cases the fertilising pollen, if placed upon the stigma of the same flower, has no more effect than so much inorganic dust, while in other cases the pollen acted on its own flower like poison. The absolute necessity of insect visitors for the existence of many plants (by carrying the pollen from one individual to another) accounts for the development of the varied attractive features of flowers which humanity long regarded as intended solely for its own gratification.

Ghent Quinquennial International Exhibition.—The thirteenth international horticultural exhibition of the Royal Agricultural and Botanical Society of Ghent, will be held during the last fifteen days of April, 1893, and the first draft of the schedule for the whole concourse is now before us. Amateurs, nurserymen, horticultural, and floricultural societies, as well as public botanical or horticultural establishments throughout the entire world will be eligible to take part in the exhibition; only collective lots belonging to several exhibitors and brought together by horticultural societies cannot be admitted to the exhibition. The awards will consist of diplomas of honour, works of art, gold medals, silver gilt medals framed, silver gilt, large silver and silver medals. To the arrangements of the last exhibition in 1888 will be added a series of special awards for the most beautiful examples in flower of various hardwooded plants and a few other kinds. The whole concourse is divided into twenty-seven sections in which the following subjects receive due prominence, namely, new plants, Orchids in flower, stove plants, Aroids, Palms, Cycads, Ferns, hardy forced shrubs, greenhouse soft-wooded subjects, greenhouse and hardy bulbous and tuberous plants, Azaleas, Camellias, and Rhodendrons, succulent plants, Conifers, horticultural art and industry, illustrated publications, &c. Intending exhibitors must communicate with the secretary of the Society, at Ghent, at least before the 1st April, 1893, giving a complete list of the kinds of plants and objects they intend bringing forward, and also stating the competitions in which they desire to take part.

Another name for Stachys tuberifera.—Several popular names have been given this plant both in Britain and upon the Continent. The botanical name has also been varied or altered to some extent. At first it passed muster under the name of Stachys affinis, but that soon got changed to S. tuberifera as proposed by M. Naudin in the *Bulletin de la Société d'Acclimitation*. According to the *Revue Horticole* it had been described for a long time previously by Miquel under the name of Stachys Sieboldi, and that name must be retained by right of priority. Whether that name will now be adopted in this country remains to be seen, for gardeners here, and probably all over the world, are very conservative in the matter of naming, and when once a plant has got into commerce under any particular name, it is a matter of the greatest difficulty to get them to change it, or even to reduce it to the status of a synonym.

SOILS FOR PLANTS.

THE season is at hand when considerable quantities of loam and peat will be used, either separately or in admixture in various proportions. Now that our most practical men have given up the old practice of sifting soils, it is not uncommon to use soils in what is termed a "slumpy" condition, without considering what it will be like in the course of a few months. If loam of a tenacious nature be free from sand, and none is added to it, or any other material such as broken flints, charcoal, crocks, &c., the frequent application of water soon reduces the whole into an unhealthy condition for root action, with the consequent result that the plants soon get into bad health.

In the case of sandy soils, these conditions are reversed, and the nature of the case is quite different. It is often stated that fibre will keep the whole right, and this is so, but only for a short time. How often do we see vine borders turned out—after having been made with the greatest care with turfy loam, which show the roots to be struggling for very existence—and replaced with loam, which in due time, if not speedily filled with roots, becomes as bad as that which was removed. But the same soil prepared with a mixture of open material and well chopped changes the situation entirely.

I do not object to the pet practice of some who build up all such borders like so many turf walls, but would decidedly trust to something more than the mere fibre in the loam to keep the soil open and sweet—not loose of course, but firm and porous as well. A number of cases occur to me, and some sad ones too, of the destruction of plants in pots, Camellias especially, through the fibrous loam becoming consolidated and water holding. Dropping of buds and decaying of roots followed naturally. Peat when not sandy should be well broken up to allow the sand to get well mixed with the fibre, and all woody matter should be removed to obviate mischief from fungi.—*Stirling.*

PACKING CUT-FLOWERS.

As we shall soon be in the midst of a plentiful supply of flowers, and as I am certain many of my readers would enjoy sending some to their friends who are not so highly favoured as themselves, I propose giving a few notes upon how to do, and how not to do this.

There are two ways of sending cut-flowers, by rail and by parcel post. If the distance is not far, I prefer to send per rail as an ordinary parcel. Several of the railway companies have special low rates for cut-flowers. The London and Brighton, for instance, only charge half the usual rate; what would be sixpence for an ordinary parcel is only threepence if it contains cut-flowers, and so on according to weight and distance. Where the parcel has to travel a long way, there is considerable saving by using the parcel post, and as this method of conveying them is almost as prompt (sometimes more so) as sending them direct by rail, it is a great boon to the public.

The flowers will require the same care in packing, &c., whether they go per rail or post.

The first requisite is a light, but strong box. Those that have contained scented soaps or any perfumes must be avoided. As a general rule empty boxes that are very suitable can be obtained from grocers and confectioners. Where large quantities are wanted, it is better and cheaper to buy a gross of mixed sizes from some box manufacturer.

Flowers must be packed firmly as possible without actually bruising them; this is a point that the inexperienced do not pay sufficient attention to. They are afraid of pressing in the flowers at all, and do not think that, unless they are firm enough not to shift easily, they will be very much bruised when they reach their destination.

I am sorry to have to record it, but it is absolutely useless to put "with care," "this side up," &c., to any such parcels.

The post office use large baskets, and if these are not full of parcels they naturally shift about a great deal with the various rough handlings they receive; and as to the railway porters, who ever saw them stop to read more than the bare address? No, you must pack your flowers firm without crushing, and be sure the box is full.

Do not place heavy flowers, such as Dahlias, &c., among light and delicate subjects. It is better to place these in another box, and tie the two together. Shallow boxes, and few layers of flowers, are also desirable.

Should you be sending during cold weather, always line the box with a couple of sheets of paper. It is astonishing how much of the cold air these keep out. During summer and spring, you must keep the flowers cool, and one of the best things for this are Spinach or Lettuce leaves; in fact, anything soft and easily procured.

Moss and cotton-wool I scarcely ever use, the former soils the more delicate flowers, and the latter sticks to them, and if dry, it absorbs so much of the moisture that would be of benefit to the flowers. The flowers should not be wet, but may be lightly spinkled, or have their ends dipped in water previous to packing them. It is also very much better when young and three parts expanded flower are chosen, and if possible, they should always be placed in water for an hour or so previous to sending them off.

A great deal depends too, upon how they are treated upon arrival. If placed in water just as they arrive, without having a small portion of the bottom of their stalk cut off afresh with a sharp knife, they will not absorb the water up their stems. The pores of the stems get dry and are partially, if not completely, closed; thus one will readily see how beneficial it is to cut them off afresh. If sending per post, always put the stamps on the direction label, and attach this to the side by a short piece of loose string. This will make it easy for the clerk to apply the cancelling stamp of the office, and if this has to be done to stamps affixed upon the box itself, the result will often be disastrous, especially if you have studied economy too closely and used a thin frail box.—*Experience.*

NOTES ON ROSES.

SOME may yet be contemplating the planting of Roses, and I have always planted dwarfs, especially those on their own roots, with great success at this period, and even later when the ground has been dry and friable. A great mistake too often committed is the planting of large collections instead of careful selections. In our own extensive collection there are a number of sorts which do not grow freely but flower abundantly; but it is well to have both good qualities, as we invariably find that varieties which grow freely are in every respect the most serviceable. One can always check gross growth by lifting, root pruning, and replanting when necessary.

I believe in good surface dressings of decayed manure, but never could tolerate the appearance of a quantity of littery manure exposed on surfaces, which should at all times be neat and orderly. Too much of this is seen, and I do not wonder at the complaints of proprietors who tell us they would rather dispense with their choice Roses than have litter lying exposed on their dressed grounds. To keep dwarf Roses safe from frost I have found nothing answer so well as planting below the junction of scion and stock, and when there is a likelihood of frost we put some loose soil round the collars of the plants. Evergreens stuck among them also afford good protection.

It is often during March and April when serious mischief is done, and then the real amount of injury is not known till May or June, when the plant requires much support from the roots, but cannot get it because of the bark being destroyed at the junction of bud or graft. After pruning late in March we then fork in a liberal quantity of decayed manure. I do not remember cutting Roses, half blown, in such quantity as during the past autumn. Dupy Jamin, and General Jacqueminot extra fine.—*Stirling.*

THE POTATO, THE BEET, AND THE TURNIP.

(*Concluded from p.* 407.)

The fly will sometimes have done their work of destruction before the young plants appear above ground. The soft soap mixture is a grand remedy, and will seldom have to be used a second time. If the ground is infested with wire-worm a little Mustard should be sown and trenched in the previous autumn. At the first thinning be very careful not to disturb or push on one side the plants you mean to leave, or imperfectly shaped roots may be expected. It is well to draw up a little earth round the young plants after the first thinning, in order that the wind may not blow them on one side. If moderately sized roots are required the plants may be left 8 in. apart at the final thinning, and if the leaves meet in the rows if will be all the better, for the ground will be kept moist and the roots shaded from the heat of the sun. Just before the plants begin to bulb put a good coating of vegetable ash over the whole bed. This will preserve the skin from the ravages of slugs. A model Turnip for exhibition should be as fair in the skin as an Apple, and without a single ring, spot, or inequality on its surface.

SIZE FOR EXHIBITION.

This is a matter which requires great reform, for at present no one seems to know what may take the particular fancy of the different judges from year to year. It would be well to fix a standard as to size, and if the judges would once and for ever ignore the gigantic specimens placed on the boards and award prizes only to specimens of the very highest quality and fair table size, a great object in the right direction would be gained and the beauty of our shows enhanced a thousand-fold. The general public visit our shows in order to inspect specimens of the highest excellence, and not such as they can grow and see in their own gardens any day.

MORE CARE WANTED IN SHOWING VEGETABLES.

Now it must be remembered that having grown our exhibition samples well we must be able to show them well. How sorry I have often felt when going the round of the exhibition tables to see really well-grown samples passed over by the judges, and all because they have been shown in a slovenly way. A highly respected old gardener gave me a bit of practical advice 20 years ago, which I shall never forget. It was this:—"Sir, remember that a good dish of vegetables well shown is equal to a prize half won."

KINDS TO GROW FOR EXHIBITION.

Exhibitors, as a rule, are a little shy about letting their fellow competitors know their special choice of varieties for exhibition; but, for my own part, I do not see why such a feeling should exist, as, after all, the best cultivator is sure to win, be the variety what it may. This can be plainly seen with regard to my Carrots, for since the first year I exhibited the Scarlet Model, every exhibitor has done his level best to beat me with this same Carrot, but has not succeeded up to now; and in some cases no one would know that the samples exhibited were any relation to the Model at all. Among Potatos, the following are good sorts to grow for the purpose of exhibition, and for crop and quality as well:—Kidneys—Enterprise, Edgcote Purple, Reading Giant, Worsley Pride, The Cobbler, and Stourbridge Glory. Round Potatos—Veitch's Prodigious (rightly named, and, in my opinion, one of the very best for cropping and table use; free from disease), The Dean, Early Puritan, Triumph, Windsor Castle, Renown, and Purple Perfection. In Beets, I would recommend Pragnell's Exhibition, Dobbie's Dark Red (or Purple), and the Extra fine Dark. In Turnips—Veitch's Red Garden Globe, Golden Ball, and Snowball.

An interesting discussion followed the reading of the paper, the opinion being freely expressed that at exhibitions judges should attach greater importance to quality and not so much to size as they did at present. The best time for planting Potatos was freely discussed, and with the majority the middle of April found the most favour, regard, of course, being had to the earliness or lateness of particular districts.

ORCHIDS AT ASHFORD.

DR. WILKES, a much respected resident at Ashford, Kent, has formed a nice collecion of Orchids within the last few years, from which he derives much pleasure during his leisure hours. Although the collection does not contain such gigantic specimens as we often see, the plants are now getting into a nice useful flowering size. There is, however, a magnificent Vanda tricolor which has 17 spikes and in all 118 flowers, a grand healthy well-grown specimen, clothed with foliage down to the pot. Such a specimen is not often met with now.

Some seventy good species and varieties were in bloom at the time of a recent visit, and being tastefully grouped with various other flowering and fine-leaved plants, made an exceedingly pleasing and interesting display. Under the care of Mr. Taber, the gardener, the collection is being steadily developed and improved, as one would expect from one who does everything well that he takes in hand. *Rusticus.*

PRIMULAS AT FOREST HILL.

THE Chinese Primulas in the nursery of Messrs. J. Carter & Co., at Forest Hill, were in full bloom when we saw them at the end of last week. They are arranged in several span-roofed houses, where of course they can get a maximum of light, and are seen to the best advantage. There are 6,000 of them, all in 48-size pots, while the quantity of bloom and vigour of the plants are wonderful. There is a considerable variation in this respect amongst the sorts themselves, some being quite robust, while others are less vigorous, although none of the under-mentioned may be considered weak growers. On the contrary, when sown early and potted on into large sizes so as to keep them growing, they attain great size, producing pyramidal or flat-topped masses of bloom according to the kind.

PALM-LEAVED TYPES.

The term palm-leaved is applied to varieties with foliage of the ordinary lobed type, in order to distinguish them from the fern-leaved varieties. A grand new sort named Porcelain, and a cross from the Queen race, is certainly the best of the single blues, far excelling the old Holborn Blue, which has itself been more or less improved from time to time. The flowers are of great size, and of a light blue, with a deeper edge, and have a golden yellow eye surrounded by a paler blue tint. The segments are much imbricated, wavy and of great substance compared with Holborn Blue. The robust leaves have red petioles. It seems destined to take the place of the old variety, when it gets more plentiful and better known. The flowers of Magenta are of a rich magenta, with a deeper tint at the margin, and the five-lobed eye is greenish-yellow. There is a large batch of the variety named Rose, having pleasing rosy pink flowers and a greenish yellow eye surrounded by a white line changing to crimson when old. The flowers of the sort named Vermillion offer a strong contrast to either of the above and appear to better advantage even when viewed from a little distance, for they then seem to be of a warm vermillion red. No doubt they would show up well by artificial light, which would render the red more brilliant. The leaves of this variety are rather deeply divided and very distinct.

The leaves of Carmine are broad, sharply toothed, and indicative of great vigour. The variety is very popular with the market growers on account of its floriferous character. The carmine-rose flowers are developed in bold trusses just above the foliage, so that even in 48-size pots it has quite an attractive appearance. One of the richest hues is met with in the sort named Salmon, the colour of which for want of a better definition we shall term deep rosy-salmon; but that hardly defines its hue. The five-lobed yellow eye is surrounded by a crimson line. There are two varieties named Elaine, differing in the form of the leaves, which are robust with deep red petioles and pure white flowers. A striking peculiarity we note is that those varieties having light green leaves and petioles have coloured flowers. Holborn Blush was an instance of this. Notwithstanding the light hue of the foliage all parts of the plant are very robust, and the large flowers are of a beautiful soft pink. The variety, like Porcelain, is another of the Queen race. Those who like a mottled flower will find it in Venus, the ground colour of which is white mottled with purple, and often flaked with that hue.

FERN-LEAVED VARIETIES.

The varieties with elongated and cut leaves are by no means so numerous as those above mentioned, but considering their ornamental character one would imagine that an endeavour would be made to get all the leading colours upon those having the so-called fern-leaved foliage. One of the finest of this group is Elaine, having dark red petioles to the leaves, and the lamina more or less tinted with the same hue. The flowers, like those of the palm-leaved variety of the same name, are pure white. The golden-yellow eye is five-angled, contrary to that of those varieties having palm-leaved foliage, for in those cases the eye is five-lobed. Being a popular and highly ornamental variety a large batch of it is grown. Holborn Queen, on the contrary, has light green foliage, both blade and petiole, yet the flowers are not pure white as we should expect, but are tinted with blush, especially when the flowers attain their ultimate development. A curious sort is Ruby, as the large red flowers are marked by a white speck at the base of every two segments. The greenish-yellow angled eye is surrounded by a white line changing to crimson.

SEMI-DOUBLE VARIETIES.

A tuft of segments occupies the centre of each flower in the under-mentioned varieties, which differ from true doubles in producing good seeds by which they may be perpetuated with as much facility as the single kinds. Besides this recommendation, it may be stated that the flowers last longer both in the cut and uncut state, which is a very valuable property. The semi-double Blue Rosette has darker flowers than any of the other blue kinds. The flowers of Lilac Queen are deep lilac shaded with purple, and are borne well above the foliage in great profusion. Those of Prince of Wales are of a rich carmine tinted with salmon, and are very freely produced. Carmine Empress is of dwarf habit with very rich carmine flowers. The leaves as well as the petioles of Snowflake are of a light green, while the flowers are white tinted with blush, thus furnishing another instance of contrast between foliage and flowers, although one would naturally expect the contrary. The large trusses are borne well above the foliage. Princess of Wales in the semi-double group corresponds with Venus amongst the palm-leaved types by having white flowers mottled and sometimes flaked with purple, and differing only in being semi-double. The above are reckoned the standard types, but there are numerous others under experiment for improvement, while a few of the good kinds are not yet plentiful enough to be put into commerce.

PRUNING ROSES.

WHEN shall I prune my Roses? is a question frequently put by those who are on the lowest form in the school of gardening—those who may be said to be only just mastering the alphabet of the practice; and if this question is answered, there immediately follows another, How shall I do it? And as the great army of amateur gardeners is constantly growing, and recruits joining hourly, there are of necessity some who desire to master the most rudimentary details as helpful in gaining knowledge and experience. It is for these I pen the following remarks.

In his chatty book on "Practical Rose Growing"—cheap, reliable, and pleasant to read—Mr. John Harkness, of Bedale, points out with much truth that the time for pruning varies a little according to locality and variety; and he states as a general direction that for such growers as reside in the south and in localities where Roses bloom fairly early, "the first fortnight in March will be found a suitable time for pruning hybrid perpetuals, Bourbon, French Moss, Alba, Provence and Damask Roses, whilst the latter part of March will answer best for growers in the north, and in cold or late districts." I may content myself with the hybrid perpetuals of all the foregoing sections as that which the amateur wishes to grow. As a matter of course they who commence to grow and prune Roses are at a disadvantage for lack of some knowledge of the variety, but that is gained only by experience, and experience is one of the best teachers in reference to gardening matters. In relation to the hybrid perpetuals great differences of habit exist: some are more excitable than others, and begin to push earlier into growth. As illustrations one can name such familiar varieties as A. K. Williams, Pierre Notting, Charles Darwin, and others. There may be then a little delay in pruning such, and those which are later in breaking into growth may be pruned first.

It is generally recommended by experienced Rose growers that shy and moderate growers should be cut back to two or three eyes to each shoot, and the weak growths entirely cut away; but in the case of the more vigorous growing varieties three to six eyes can be left to the shoots. We thus start with the general principle that weakly growing Roses can have their main shoots cut back pretty close, and vigorous growing varieties left with rather more buds. But the pruner should always take care to leave the extra plump buds because they invariably produce the finest flowers; and he should always keep in view another important point, that of leaving buds that show a tendency to grow outwards rather than towards the centre of the plant, so as to avoid undue crowding within. But whatever section of the above mentioned Roses he may prune let him carefully bear in mind both the foregoing recommendations.

The valuable Tea-scented varieties, together with the Noisettes, and the useful and free autumn-flowering Chinas, can be pruned from ten to fourteen days later than the time recommended for the hybrid perpetuals, and in regard to these sections they may be cut pretty close back. It is well known to successful Rose cultivators that all Roses make, or shall I say have, two periods of growth in the year, first in the spring, and again in the autumn, soon after they have flowered; and it becomes an important question which of these growths may be considered the better calculated to produce the choicest blooms. It is generally considered the wood made at the first period of growth, that of the summer, produces the finest flowers, and for the reason that the growth is more rapid and the shoots more matured, thereby less likely to be injured by frost; the buds are generally, moreover, well furnished with the juices required to supply nourishment and promote growth. It is usually believed that the eyes near the base, especially in the case of autumnal Roses of those kinds which form short shoots, produce the best flowers, but in the more vigorous and robust growers those about the middle or near the top, if the wood be well ripened. Still, the latter statement may be open to question.—*R. D.*

THE GARDENERS' ORPHAN FUND.

THE committee met on the 26th ult. for the first time since the annual meeting, and unanimously re-elected Mr. W. Marshall to the office of chairman. The following gentlemen were elected local secretaries for the ensuing year, viz:—R. Bell, Esq., Tyrone, for Ulster; Mr. George Cooper, Kirkstall, for Leeds and district; Mr. F. Collyer, for Ilkley, Yorks; Mr. Malcolm Dunn and Mr. Matthew Todd, for Edinburgh; Mr. Fairgrieve, for Dunkeld; Mr. Goldsmith, High Trees, for Redhill, Surrey; Mr. Hussey, Clive House, for Esher, Surrey; Mr. J. B. Stevenson, for Bournemouth; Mr. J. Lyne, for Chislehurst, Kent; and Mr. Upjohn, Worsley Hall, for Manchester. The following gentlemen who retire were accorded a hearty vote of thanks for their past services:—Mr. Furze, Mr. Ellicott, Mr. Frankland, Mr. Lumsden, Mr. F. Ross, and Mr. L. Castle. The following special receipts were announced as having been received during the month:—Manchester Gardeners, Improvement Society, £5; Reading Gardeners' Improvement Society, £2 2s.; Mr. J. Thomson, Hawkhurst, £1 1s.; and Mr. M. Dunn, £1 1s. The sum of £1,000 was authorised to be invested; and guardians were appointed for the eleven children who were elected at the annual meeting.

Mr. A. Dean writes:—I am pleased to be able to say that something is about to be done here in Kingston if possible to remove from the many gardeners of this prosperous district the stain of being so generally indifferent to the Orphan Fund. The last list of subscribers issued shows, first, that Kingston has no local secretary; and, second, that only four *bona fide* gardeners over all this immense parish are subscribers. Mr. Jeal, Fircroft, Surbiton, recently wrote a letter to the *Kingston Express* inviting local gardeners to try and organize a concert in aid of the Fund. I followed with a farther and somewhat pleading letter the following week, and since have seen Mr. Jeal and some other gardeners, with the result that a large number of circulars are being sent out by us this week, inviting the local gardeners to meet in the Albany Hall, Kingston, on Saturday evening next, March 5th, for the purpose of determining what shall be done to assist the Orphan Fund. I hope some good will result. It is to be deplored that relatively so many gardeners still abstain from subscribing. There are hundreds who could do so if they would, and that so much indifference should be shown in relation to so good an object as is the Orphan Fund, astonishes me. Let gardeners learn to feel that not to be a subscriber is a degradation.

PLANT HUNTING ON RORAIMA.

(Concluded from page 405.)

AFTER the first astonishment and a look around from our position, 8,600 ft. high, the next thing was to select, with the help of the men, a place where to spend the night, and soon we found one underneath a big, overhanging rock near the ledge. Then we began to gather a good quantity of a certain scarlet-flowering Utricularia, which grows in swamps and between the rocks all over the place. Our Indians

felt the cold and the breeze intensely the temperature being 58° F.—so that an hour afterwards we had to send them back with the plants, with the injunction to come up again the next day to fetch us down.

The two of us then had a good stroll, after having first made a hearty lunch, and we went first to the south, admiring those gigantic and marvellously-shaped rocks, or rather mountains, many of immense size, forming majestic palaces, churches and fortresses. One of the rocks I called the Roman forum; other smaller ones resembled the form of pyramids, umbrellas, beetles, and all sorts of objects; one even looked exactly like the statue of a man. Between these grotesque big masses of rock were innumerable lochs, many joining one another by canals of large and smaller sizes, some of the depth of 6 ft., but most of them so shallow that we could walk across. We started to have a walk round and to reach our camping-place from the other side, hoping to reach there before dark, but the sun dropped, and we came out quite on another side. Then we began to feel anxious; the scenery grew wilder, and became of a more gigantic character, water being more plentiful, even forming creeks with big falls. Not considering the danger of climbing in all haste up rocks and springing down, we went on without any certain knowledge of our direction until it became quite dark, when we reached the side opposite the Kukenaam, north from the ledge of ascent. Our eyes got used to the darkness, and at last we found the camp: it was 8 o'clock. Then only we realised the danger we had run. We had done a distance of sometenmiles over rocks, and shrubs, and water. We sat down cheerfully to a hearty meal, and afterwards fell into a sound sleep, happily not too much disturbed by cold. The temperature at 1 a.m. was 48° F. Next morning we were up early, took photographic views of the most interesting-looking formations, and made another collection of many species of Orchids and plants, which all seemed new to me, for I never saw them anywhere else, not even in the swamps below.

Of animal life, the upper top of Roraima is almost as good as bare. I noticed one black butterfly, a few spiders, some small frogs, some small lizards, and most extraordinary of all, a small dark-coloured mammal, almost certainly a species of kibihee, which on our approach gave a sound like a whistle, and swiftly crept into a hiding place between the rocks. The lakes, which cover a considerable area (one I measured was 150 yards in width) are animated by a certain kind of black-beetle.

While I was photographing and my companion was collecting, our Indians appeared suddenly at 10 o'clock, staring at us with the most astonished eyes I ever beheld: they did not find us in the camp, and thought we were lost. We hastened to complete our collections, and began our descent to the valley, which we did mostly in a sliding position. The inhabitants regarded us with wondering eyes; they could not realise that we would return safe and sound; for ourselves, we felt as if we had gained a great victory, being the first human beings who had spent a night on the top of Roraima. The next day Mr. Seyler started with a part of the men on the way home, while I followed two days afterwards. The privations we suffered on the homeward journey, the serious misfortunes met with, and the difficulty of obtaining Indians were numerous, but the worst of all was the continual rain which lasted from the 1st of December to the 25th, without ceasing for more than a few hours. The Savannahs became lakes, and the creeks became streams. We left our old landing-place on Curabung on Christmas day, called on the way at Mr. Barnard's place for provisions, which he most kindly gave us, and we reached Bartika Grove on the 1st of January. The whole expedition took us 106 days.—*E. Kromer, in the Demerara Argosy.*

AMYGDALUS DAVIDIANA ALBA.

The beauty of the common Almond in spring is well known, but even under favourable conditions as to weather it does not come into bloom till March, and in cold springs it may be April before it attains perfection. The advantage of the new plant under notice is that it comes into bloom during the early part of February, even in the open ground in winters like what the present has been. Some small plants of it in full bloom were exhibited at the last meeting of the Royal Horticultural Society, on the 9th inst., by Messrs. J. Veitch & Sons, Chelsea. The flowers are of large size, pure white, and freely produced along the wood of last year's growth. There is a pale rose variety, under the name of A. Davidiana rubra, which flowers at the same time as the white one, and differs in no other particular except colour. The plants were taken from the open ground, thus affording evidence of their hardiness, and early, free-flowering habit. Our illustration accompanying this will serve to give an idea of its appearance in mid-winter. Those who grow collections of the flowering Almonds will find in this new variety a valuable addition to the same; and those who have not an Almond in their grounds will be delighted with it as a hardy and ornamental winter-flowering shrub.

Amygdalus Davidiana Alba.

THE FOOD OF PLANTS.

In a lecture recently delivered at Slough, under the auspices of the local technical education committee, Mr. Bernard Dyer, the eminent analytical chemist, said that plants, like stock, only grew in virtue of the food supplied to them either by nature or by art. The food on which plants subsisted was made up of a variety of substances, and these again were derived from various sources. Some of the most important were supplied freely by nature, such as water, the constituents of which built up a large proportion of the solid matter of plants, and such as carbonic acid, which was existent in the atmosphere, and which was taken into the plants by means of their leaves, and contributed, like water, very largely to the building up of their solid matter. Such constituents as these were supplied quite freely by nature, but there were other constituents which were derived wholly or mainly from the soil, such as mineral substances and nitrogen, and it was to the husbanding and to the supplementing of the natural supplies of these that a great deal of our efforts in farming were consciously or unconsciously directed. Nitrogen was the most valuable constituent in many senses that plants derived through their roots from the soil, and the quantity of available nitrogen naturally existing in soils was, as a rule, meagre. The nitrogen in soils was contained in the form mainly of decayed organic matter, and generally the quantity of this was not large. It decayed slowly, and was slowly converted into nitrates by means of microscopically minute organisms which worked in the soil, and gradually supplied the nitrates yielded.

In any soil there was the greatest fertility where the nitrates were greatest, and if they were to take a virgin soil, such as that to be found in many of our colonies, the quantity of nitrates formed in the soil was so great that they might be able to obtain maximum crops without the introduction of any artificial fertilisers. But in the case of land which had been under cultivation for generations, as in England, the nitrogen was naturally insufficient, and we had to supplement it. They knew now — they had learned during the last few years — that there was an outside source from which the soil nitrogen was gradually recruited. Most of them knew that free nitrogen existed in large quantities in the air, and that plants as a rule had no power to make use of this. They had, however, learnt during the last few years that leguminous crops, such as Clover, Beans, Peas, through the agency of microscopic organisms which were found in the little warts or nodules to be found at their roots, made use of this atmospheric nitrogen and converted it into plant substance, and so gradually supplied the farm with nitrogen. Then there were mineral substances—phosphate, potash, lime, and other substances—which a plant had to take from the soil, and unless they put these back in some form or other it was clear the resources of the soil in them would be in course of time exhausted, because they were not renewed by natural means.

The Carnation: its History, Properties, and Management with a descriptive list of the best varieties in cultivation. By E. S. Dodwell. Third edition, with supplementary chapter on the yellow ground. London: Gardening World office, 1, Clement's Inn, Strand, W.C. 1s. 6d.; post free, 1s. 7d.—[Advt.]

SOME OLD GARDENS.

By J. A. Sparvel-Bayly, B.A.

Gardening was, as we all know, one of the first arts acquired by man. Culinary and afterwards medicinal herbs were matters of importance to the head of every family, and it soon dawned upon primeval man that it would be more convenient to have them within reach without the trouble of seeking them at random in woods, in meadows, and on mountains as they were wanted. When the earth ceased to furnish spontaneously all those primitive luxuries, and culture became requisite, separate enclosures for rearing herbs and fruits grew expedient. Those most in use, and those demanding the greatest care and the closest attention, probably entered first and gradually extended the domestic enclosure. That good man, Noah, we are told, planted a vineyard, and drank the wine of his own making. Thus were acquired kitchen gardens, orchards, and vineyards. No doubt the prototype of all these was the garden of Eden, but as that Paradise was a good deal larger than any we read of afterwards, being enclosed by the four rivers, Pison, Gihon, Hiddekel, and Euphrates, and as every tree that was pleasant to the sight and good for food grew in it, and as two other trees were also found there of which not a slip or sucker now remains, it does not enter within the scope of the present article.

After the Fall no living man was permitted to enter that garden, and the urgent necessities of our first ancestors hardly allowed them time to make improvements on their new estate in imitation of it. A cavern and a slip of ground such as we now see by the side of a common were in all probability the earliest mansions and gardens. A well and a crock succeeded the Pison and the Euphrates. As settlements increased the orchard and vineyard followed, and the earliest princes of tribes possessed just the necessaries of a small farmer. The garden of Alcinous, in the Odyssey, is the most celebrated in the heroic times. Is there an admirer of Homer who can read his description without rapture, or who does not form to his imagination a scene of delight more picturesque than the landscapes of Titian? Yet what was that boasted paradise which—

. . . . the gods ordain'd
To grace Alcinous and his happy land.

Why, divested of harmonious Greek and bewitching poetry, it was a small orchard and vineyard, with some beds of herbs and two springs that watered them, enclosed with a quickset hedge. The whole compass of this much-vaunted garden comprised just four acres:—

Four acres was th' allotted space of ground,
Fenc'd with a green enclosure all around.

Its trees were Apples, Figs, Pomegranates, Pears, Olives, and Vines. And

Beds of all various herbs for ever green,
In beauteous order terminate the scene.

This garden of Alcinous planted by the poet, was enriched by him with the fairy gift of eternal summer, and no doubt was an effort of imagination surpassing anything Homer had ever seen. As he has bestowed on the same happy prince a palace with brazen walls and columns of silver, he certainly intended that the garden should be proportionately magnificent. We are sure, therefore, that as late as Homer's time, an enclosure of four acres, comprehending orchard, vineyard, and kitchen garden, was a stretch of luxury the world of the poet had never beheld. Previous to this, however, we have in the sacred writings hints of a garden still more luxuriously furnished; we allude to the Song of Solomon, part of the scene of which is undoubtedly laid in a garden. Flowers and fruits are particularly spoken of as the ornament and the produce of it, and besides these aromatic plants formed a considerable portion of the pleasure it afforded. The Camphor and the Cinnamon tree with frankincense and all the chief spices flourished there. Solomon tells us in another place that he made him great works—gardens and orchards—and planted in them trees of every kind. Indeed, we must suppose his gardens to have been both amply and curiously furnished, seeing the kinds, nature, and properties of the vegetable tribes appear to have been a favourite study with the royal philosopher, for we are told that he wrote of plants from the great Cedar of Lebanon down to the Hyssop of the wall.

Fountains and streams of water so requisite in a warm climate appear to have had a share in Solomon's gardening arrangements, and were probably designed for ornament as well as use. The hanging gardens of Babylon were a still greater wonder, but as they are supposed to have been formed on terraces and the walls of the palaces of that marvellous city, whither soil was conveyed for the purpose—labour and life being but lightly esteemed—we may dismiss them by presuming that they were what sumptuous and expensive gardens have been in all ages until this present day, enriched by artistic works, statues, balustrades, arbours and the like. Altogether unnatural and far from rural, though formed with judgment, and well adapted to the situation and circumstances. Thus, we find King Ahasuerus goes immediately from his banquet of wine to walk in the garden of the palace. The garden of Cyrus at Sardis, mentioned by Xenophon was probably like the hanging gardens at Babylon, not merely adjacent to the palace but actually a part of the edifice, since several of the royal apartments were absolutely under the garden. It is not quite clear what the taste for gardening was among the Greeks. The Academus was we know a wooded shady place, and the trees appear to have been of the Olive species. It was situated beyond the limits of the walls and adjacent to the tombs of the heroes, and though we are nowhere told the particular manner in which this grove or garden was laid out, it may be gathered from Pausanias that it was a pretty place highly adapted by art as well as by Nature to philosophic reflection and contemplation.

We are told by Plutarch that before the time of Kimon the Academus was a rude and uncultivated spot, but that it was planted by that general, and had water conveyed to it. Whether this water was brought merely for use to refresh the trees, or for ornament, does not appear. The trees are said to have flourished well, until destroyed by Sylla when he besieged Athens. Among the Romans a taste for gardening any otherwise than as a matter of utility seems not to have prevailed until a very late period. Cato, Varro, and Palladius make no mention of a garden as an object of pleasure, but solely with respect to its production of herbs and fruits. The Lucullan gardens are the first we find mentioned of remarkable magnificence, though probably as these were so remarkable, they were by no means the first beautiful pleasure gardens. Plutarch speaks of them as being incredibly expensive and equal to the magnificence of kings. They contained artificial elevations of ground to a most surprising extent; buildings projected into the sea, and large sheets of water were made inland. It is not improbable from the description and from the fact of Lucullus having spent much time in Asia, where he had an opportunity of studying the most splendid constructions of this nature, that his gardens were laid out in the Asiatic style. We know that he acquired the appellation of the Roman Xerxes. Perhaps his gardens bore some resemblance in their arrangements and style to the Babylonian gardens, and then the name would be applicable to the taste as well as to the size and cost of his works.

The Tusculan Villa of Cicero, though often mentioned, is not anywhere so described in his works as to afford an adequate idea of the style in which his grounds or gardens were laid out. There is little to be traced in Virgil. Pines were probably a favourite ornament, and flowers, especially Roses, were highly esteemed. The Pæstan Roses were chiefly valued for their excellent odour, perfumes having been always highly valued in warm climates. There appears also to have prevailed among the Romans a piece of luxury which is equally prevalent among ourselves, namely, the forcing of flowers at seasons of the year not suited for their natural bloom; and Roses were then the principal flowers upon which, we gather from Martial, these experiments were made. Pliny tells us that the place of exercise which surrounded his Laureutine villa, used by him as a winter retreat, was bounded by a hedge of Box, repaired when necessary with Rosemary, that there was a Vine walk, and that most of the trees were Fig and Mulberry. Of his Tuscan villa the garden forms a very considerable part of the description, and in that description what beauty is most lauded? Why, exactly that which was the admiration of this England of ours about two centuries ago. Box trees cut into various shapes, monsters, animals, birds, letters, and even the names of owner and artificer. Thus we see that in an age when architecture displayed all its grandeur, all its purity, and all its taste, when arose Vespasian's amphitheatre, the Temple of Peace, Trajan's forum, Domitian's baths, and Adrian's villa, the ruins and vestiges of which still excite our astonishment and admiration, a Roman consul, a Polish emperor's friend, and a man of taste delighted in what the English parvenu of to-day would scarcely deign to give a second glance.

All the circumstances of Pliny's summer garden correspond exactly with those formerly laid out in England, on Dutch principles. He tells us of slopes, terraces, a wilderness, shrubs methodically trimmed, a marble basin, pipes spouting water, a cascade falling into the basin, Bay trees planted alternately with Planes, and a straight walk from whence issued others parted off by hedges of Box and Apple trees, with busts and obelisks placed between every two. There wants nothing but the fringe of a pasture to make a garden of the time of Trajan, serve as a description of one in the reign of our third William. In the paintings found at Herculaneum and Pompeii are a few traces of gardens. They exhibit small square enclosures formed by trellis work and espaliers, and decorated with vases, flowers and figures, altogether reminding us of the gardens of the suburban London of to-day. When the custom of making square or oblong gardens enclosed with walls was established, to the exclusion of nature and prospect, pomp and solitude combined to call for something that might enrich and enliven the insipid and unanimated enclosure.

Fountains, first invented for use, which grandeur loves to disguise, received embellishment from costly marbles, and at last, to contradict utility, tossed their waste of waters into the air in spouting columns. Art, in the hands of uncultured man, assisted nature, but in the hands of ostentatious wealth it became the means of opposing nature, and the more it succeeded the more the wealthy of that period thought its power was demonstrated. Canals measured by the line were introduced into gardens in lieu of meandering streams, and terraces were raised aloft in opposition to the facile slopes that in nature imperceptibly unite the valley to the plain. Balustrades defended these precipitate and dangerous elevations, and flights of steps rejoined them to the flat from which the terrace had been dug. Vases and sculptures were added to these unnecessary balconies, and statues furnished the lifeless spot with mimic representations of the excluded sons of man. Thus difficulty and expense were the constituent parts of the sumptuous and selfish solitudes termed gardens two centuries ago. Every improvement that was then made was but a step further from nature. The tricks of waterworks to wet the unwary, and parterres embroidered in patterns like a lady's petticoat of the period, were but the childish endeavours of fashion and novelty to reconcile greatness to what it had surfeited on. To crown these displays of false taste, the shears were freely applied to the lovely wildness of form, with which nature has distinguished each variety of tree and shrub. The venerable Oak, the romantic Beech, the useful Elm, even the aspiring circuit of the Lime, the regular round of the Chestnut, and the almost moulded Orange tree, were corrected and improved by such fantastic admirers of symmetry. The compass and square became of far more use in plantations than the spade and rake. The measured and trim walks imposed an unsatisfactory sameness on every royal and noble garden in England. Marble seats, arbours and summerhouses terminated every vista; and symetry even where the space was too large to permit its being remarked at one view, was deemed so essential that the poet Pope observed—

Each alley has a brother,
And half the garden just reflects the other.

There was a little of affected modesty in Pope's remark, when he said, that of all his works he was most proud of his garden. Still his was a remarkable effort of art and taste, to impress so much variety and scenery on that little spot of five acres, at Twickenham. The passing through the gloom, from the grotto to the opening day, the retiring and again assembling shades, so beautifully described. the dusky groves, the larger lawn, and the solemnity of the termination at the Cypresses that led to his mother's monument were managed, we must believe with great judgment: ; and though Lord Peterborough assisted him

To form his quincunx and to rank his vines,

those could not have been the most pleasing features of his little estate. The old garden of the Palace of the Luxembourg, built for that graceless dame, Marie de Medici, must have possessed a certain charm of its own, the festooning of vines from point to point forming a distinctive feature. In all other respects, its straight paths, grottoes, and avenues dotted with figures of nymphs and ogres conformed to what was fashionable in other old gardens.

FLORICULTURE.

The Florists' Laced Pink.

THE winter we have just passed through has had anything but a favourable effect upon Pinks planted in beds last autumn, and the great variation in the weather in this part of the country during the last two months has proved most prejudicial to all outdoor florists' varieties of plants, and the unusual wet state the ground has been in for so many weeks, has found full employment for the worms! In my Pink beds nearly every plant has been raised three parts out of the ground, and scores of strong plants broken clean off through the stems! No time should now be lost in going carefully over the beds, and the plants which have been disturbed or raised from the ground by the frost and worms should be replaced and pressed firmly in the ground, and the surface of the soil between the plants should be turned over 2 in. or 3 in. deep with a small fine-pronged border fork. The plants should then be top-dressed with some old horse or cow manure to the extent of from 1 in. to 2 in. deep according to its strength or richness, care being taken to place the manure as closely to the stems of the plants as possible, which will prevent them being further disturbed or injured by the usual March winds.

Many growers prefer top-dressing with liquid manures or soot water during the months of March and April; it is, however, necessary to exercise great caution in the use of liquid manures for such purposes, especially soot-water, or the plants will suffer by the applications being too strong and which effect will show itself by the points of the foliage or grass appearing burnt or withered up. The object of the top-dressing is to stimulate the growth and produce high colouring and perfect lacing. Immediately the plants begin to throw up their blooming stems, suitable sticks should be applied to each stem, to which they should be neatly tied as the stems increase in growth, but not tied too tightly, or the stems will grow crookedly. Regular watering in dry weather is very essential.

Perhaps these few remarks may be appreciated by amateurs who have not had great experience in the cultivation of the Florists' Laced Pinks.—*James Thurstan, Cardiff, Feb. 27, 1892.*

The Carnation.

As the season advances, so does the interest in the Carnation appear to revive. The receipt of the National Carnation and Picotee Societys' appeal also seemed to give one the order to advance, not that the advances made by the society or its managers show any great amount of originality. If imitation is the sincerest form of flattery, truly must our old leader feel flattered over this appeal. If I remember rightly Mr. Dodwell offered on the formation of the southern section of "the National" to give the subscribers some portion of his stock of seed, in order to encourage amateurs to cultivate seedlings, and subscribe to the society. When he established the Carnation Union he offered to subscribers the value of their subscriptions in plants from his surplus stock; and subsequently he issued his invaluable work, *The Carnation and Picotee.* Thus we have a precedent for the movement now made by "the National," but whether the bait will prove as attractive in drawing increased subscriptions remains to be seen.

I do not agree with the objection raised by "A Midland Florist" in your last as regards the publication of another calendar or cultivators' guide. I think there may still be something to be said on the subject, and if it may be true in most cases that in the multitude of counsellors there is wisdom, so it may prove with regard to directions for cultivating the Carnation. I may be perfectly satisfied with what I find in Hogg or Dodwell, but others may not, and in any case we cannot have too much of the experience of skilled growers. What, however, we amateurs want more than the details which may lead to success, is a good paper on failures. It would be more valuable than a dozen articles by professors of perfection, if some one who has failures —how few acknowledge them?—would tell us how they failed. I have been a cultivator of Carnations and other things for many years, and annually raise an immense number of seedlings, but still failures are abundant with me. Why—ED.] However, I go on sowing and reaping a rich harvest of flowers every year.

There is a point in the management of the "The National" that greatly wants amendment; and that is the date of its exhibitions which have hitherto been fixed so early in the season that the prize list is virtually closed against all but those who have means to shelter their plants in a late season. Unless the Society can fix a date according to the season and the conveniences of ordinary growers I do not see how a serious competition can at any time be expected.

The schedule of the Midland Society is a revelation to us. A year ago this Society was but a dream, now it is a practical reality of the most gratifying kind, and shows what really can be accomplished in a short time with pluck and enterprise. The Birmingham schedule is far ahead of anything of the kind sent out before, and I hope will never again look back for the want of a forward policy.—*William Wardill, Luton.*

CULTURE OF THE VIOLET.*

THE secret of success in the culture of Violets is mainly to be found in the treatment they receive during the summer months; for, to allow them to grow in thick masses in beds, or in shady, secluded positions, will not produce the desired results. They may make free growth, and produce an abundance of leaves, which will only end in disappointment, but to get the best results each individual crown must be sufficiently exposed to light, sun, and air, to allow it to become plump and thoroughly matured by the autumn. The best of all positions I have found to grow them in, is undoubtedly a piece of ground, fully exposed, in the centre of the kitchen garden. A great point is to make a good start, and it is important also to prepare the ground properly and suitably for their reception. Whether the plants are to be left to bloom where they are grown, or be lifted and transferred to frames, pots, or other structures, it is necessary that they should have a moderately light, free, open soil, made firm before planting. I have invariably found that the greatest number of flowers are produced by plants grown on rather poor soil. Those grown on rich and deeply-dug loose soils make much larger foliage, and finer, but fewer flowers. Therefore to make a light soil suitable for Violet culture, I would add lime and soot, and some decayed turfy soil, from an old pasture; or, failing this, roadside parings, which contain gritty material. Heavy, tenacious soils should have a light application of leaf soil, roadside parings, old potting soil, lime and soot, or indeed anything containing gritty material, to keep the soil porous. These ingredients should be forked into the soil, and be well incorporated, to the depth of from 4 in. to 6 in., as Violets are surface rooters, and do not descend deeply into the soil.

I have found that the most suitable season for planting is during the latter part of March and April. I prefer the former month if plenty of bloom is required by the first week in August, inasmuch as Violets acutely feel the effects of dry, parching weather later on, and it is, therefore, absolutely necessary that the plants get thoroughly established, and have good roothold, by the time they are liable to be subjected to a hot sun and a dry, parching atmosphere. Having chosen the position, the ground must be marked off for the reception of the plants, the large single and double varieties 12 in. from row to row, and 9 in. from plant to plant in the rows, for the large single and double varieties; and for the early Russian varieties, 9 in. each way in the rows will suffice. The plants are chosen from the strongest runners, and inserted in the rows with the help of a dibber. The most suitable time to perform the operation of planting is when the weather is dull and showery, as then the plants quickly take hold of the soil in their new quarters. It is also a good plan, to get a start with young plants, to peg the runners down on the soil in the frames, so as to get them nicely rooted by the time the plants go out of flower, as they then grow away freely when planted out.

Violets may also be raised from seed by carefully saving well-ripened seed-pods, but this method is not generally practised, except for raising new varieties. As the work of planting proceeds, the plants must receive a good watering to settle the soil round the roots. As soon as the work of planting is finished a top dressing of partly decomposed leaves, or hot-bed manure, or spent mushroom bed manure, is very beneficial to the plants, as it arrests evaporation and keeps the ground cool about them. Not only is the top dressing beneficial in the way referred to, but it prevents the washing of the soil from subsequent waterings, which must be frequent during dry weather; it also keeps the plants clean during heavy rains, and it also prevents, in a measure, the attacks of red spider, the worst enemy the Violet has to contend with. Only a few days' dryness at the roots, with a fierce burning sun, will suffice to bring on an attack of spider, and then it is questionable if it can be got rid of again that season. This is shown by yellow patches in the leaves, but the great point is to try and prevent its appearance, and this may be done, in a general way, by keeping the plants free from weeds, frequently stirring the surface of the soil, and a daily routine of sprinkling and thoroughly watering the plants during dry weather. The Violet revels in an abundance of water during growth, with a frequent application of weak manure water to keep the plants growing. Most varieties produce runners during growth, and the plants must be carefully denuded of these from time to time as they show themselves. There is not a doubt that growing Violets inside enclosed garden walls is attended with much more difficulty than where they can be more freely exposed, as in field culture, for then the plants can enjoy a far greater amount of air and the fresh summer breezes than those cultivated within the confined precincts of a walled enclosure.

Growing Violets at the foot of walls is attended with more or less uncertainty according to the seasons. Generally, if Violets are planted at the foot of sunny walls (which is the best position for them during autumn and winter), and remain there the whole year round, they will be rendered useless by the attacks of red spider. I would much rather grow the plants in an exposed position, and transfer them to the foot of walls during the latter part of August, and shelter them during inclement weather with reed or straw mats, which would amply repay the grower.

Wherever choice double Violets are grown, and these are the only varieties we grow in frames, it is of the highest importance that the position of the frames should be such as to secure every ray of sunshine during early autumn and winter, and as these double varieties show unmistakably indifferent culture, the blooms will lack that beautiful symmetry and doubleness that they otherwise possess. Moreover, it is very easy to produce an abundance of bloom during the spring months, which is the Violet season, but it is from August to February that Violets are so highly esteemed. It then requires tact, and ability, and energy on the part of the grower to produce them. In mild winters, double Violets will give a few pickings if garden frames are placed over them where they are grown, and the frames surrounded with hot manure and leaves about two feet wide, and be carefully ventilated.

If cultivated on hot-beds, the beds are best made up by the first week in September, as then it gives the plants time to get re-established before cold nights approach. The hot-bed is best made up of prepared manure and leaves, about half of each sort, the leaves being a great help in retaining the heat in the bed, which can be made up to any desired height. Linings will have to be frequently resorted to from time to time to keep up the necessary temperature. Although this is a very old practice still some of the finest blooms of double Violets may be obtained by this method, the blooms being bright and well coloured, but not the large quantity of bloom can be gathered as by forcing them under more natural conditions in a pit properly heated.

The following are the varieties I have grown, viz. Single varieties:—The Blue and White Russian; these are early and very sweet scented, but unfortunately produce very short stems to the flowers, which is not desirable. Wellsiana, large blue; this I consider to be the best variety for all purposes, being a most profuse bloomer, and not so strong a grower as the Giant or the Czar, but far superior for private or market use. Double varieties:—Neapolitan, colour pale lavender; a very fine old variety still one of the very best; very sweet and delicately scented, but rather a tender variety, and requires a lighter soil than the other doubles; it is very susceptible to damp. Comte de Brazza, double white; the best white in this class; it requires good culture, other-

*Abstracted from a paper read by MR. EBBUTT, gardener to the Rev. A. W. Hamilton-Gell, Winslade, at the meeting of the Devon and Exeter Gardeners' Association on February 17th.

wise the flowers produce a green eye and come deformed. Marie Louise, deep blue; the best and finest variety of this class, being a good grower and a great favourite with private and market growers. De Parma, a beautiful lavender colour; an extremely free flowering and very compact grower; it does not produce runners like the other double varieties; the very best for pot culture, and the finest of all for frame culture and for market; it produces more bloom in a given space than any other variety I am acquainted with.

DEUTZIA.

YEARS ago a good stock of Deutzia gracilis to supply white flowers from Christmas onwards was in most English gardens considered indespensible, and a goodly supply of well-prepared plants finely grown and well reflexed during early autumn is still valued as an adjunct of no mean order for decorative purposes during the festive season and onward in to spring. But plants which have been grown strong and ripened early are not easily purchased. We can, however, by very simple means raise a stock ourselves, and grow them on from cuttings.

We have some three or four successions. The first flowers, just as they were opening, were forced in an early vinery, and the second in a Peach house, started in December which are just turning in for use—others (all prepared in pots plunged in soil to curtail root growth) are in mild heat, while a fourth lot (previously forced) are in the open ground and will be lifted and potted firmly into sandy loam. An evil attending the use of these flowers is allowing them to fully develope in a warm moist atmosphere so that when cut they soon droop and become useless. The same may be said of Dielytras, Azaleas, Spiræas, and many other things. They should be allowed to open in an airy greenhouse, and be cut for transit or home use before they are quite fully open.

Reverting to Deutzias, gracilis, or scabia, a practice of growing them which I have often practised satisfactorily is to grow them to a height of 15 in. to 18 in. in pots of sandy loam and stopping each shoot, say in June, which is followed by a bunch of bushy growths. These ripen and prepare for flowering early and are excellent for decorative purposes, especially for cutting. This method of growing them I learned in a London nursery many years ago.—*Stirling.*

GARDENING MISCELLANY.

CENTROPOGON LUCIANUS.

THIS plant, which is a decided acquisition for winter flowering, is not nearly so largely grown as it deserves to be, its beautiful bright red flowers being quite a charm in the long dull months of winter. Cuttings taken in early spring will soon root if plunged in a sharp bottom heat. When rooted, they should be potted on in a compost of three parts loam and one of peat, with a sufficient sprinkling of sand to keep the soil porous. 6 in. and 8-in. pots are quite large enough for the final potting, and given a cool greenhouse treatment during the summer months they will make luxuriant growths. They are gross rooting plants and in the autumn should be given frequent waterings with liquid manure. About October the plants, should be removed to a warm greenhouse, where they will soon display their bright red flowers and form a pleasing feature when grouped with other plants in the conservatory. They last also in a cut state for two or three days, and the flowers being borne on the points of long shoots, they are very effective when mixed with cut flowers of Chrysanthemums in large vases.—*H. W.*

HARDY ANNUALS FOR CUT FLOWERS.

AN amateur asks us for a list of about two dozen of the most showy border annuals suitable for cut flowers, omitting those such as Stocks and Asters which are known to everyone. The undermentioned species include those which we should certainly grow for the purpose, and we may state that of some of them there are numerous fine varieties, which need not be named separately, but which add greatly to the interest of a collection. For instance, there are many fine varieties of Chrysanthemum carinatum, C. coronarium, Clarkia elegans, C. pulchella, Helichrysum bracteatum, Lathyrus odoratus (Sweet Pea), a very choice subject, Œnothera Whitneyi, Scabiosa atropurpurea, Centaurea Cyanus, Schizanthus pinnatus, Convolvulus tricolor, Lychnis or Agrostemma cœli-rosa, usually called Viscaria in gardens, also Tagetes patula (French Marigold) Tropæolum majus, T. minus, Delphinium Ajacis (Larkspur), Iberis umbellata, and others. For cut flowers the following are also suitable, namely, Malope trifida grandiflora, Centaurea suaveolens (Yellow Sultan), Coreopsis Drummondi, Lavatera trimestris, Erysimum Perofskianum, Statice Suworowi, and Ursinia speciosa. There are also many other beautiful and ornamental kinds, but which we are afraid would give less satisfaction for cut flower purposes.

A DOUBLE AMARYLLIS.

WE have been favoured with a double flewer of a Hippeastrum, popularly known as Amaryllis, from Mr. E. Chadwick, gardener to E. M. Nelson, Esq., Hanger Hill House, Ealing. From what we can learn it is not entirely new, and is said to have been brought from the Cape, but does not readily take the public fancy, as few double flowers belonging to the same natural order do. An idea seems to be prevalent that the flowers do not always come quite full. That which we received was certainly quite double, with numerous segments filling up the centre of the flower, without being at all crowded. The central ones were certainly narrower than the outside and true ones, but they were for the most part regularly formed and more or less crisped or wavy at the margin. Only one stamen was perfect and contained pollen; two or three others were present in a more or less imperfect condition, while the rest were enlarged, flattened, and transformed into segments. All the inner ones were of a clear orange-red, and white at the base, while the outer ones were paler in hue. On the whole, the colours of the flower reminded us very much of those seen in a Clivia. The flower itself might be compared to that of a Cereus or Phyllocactus without the great brush of stamens in the centre. Those who like double flowers would certainly find in this a beautiful and interesting subject if it remains true to character.

PRODIGIOUS.

A CLERGYMAN sends the following tall story to a contemporary:—"A lady of my acquaintance, who plays the instrument in church, always takes with her a hot Potato in her muff, in order to keep some feeling in the tips of her fingers during the service on cold winter Sundays. As spring came on she put away her muff, and with it the baked tuber (forgetting to remove it), until the next winter. Imagine her surprise to find the muff full of Potatos. The baked parent had produced a family of seventeen little ones!" What a singular circumstance it is there was not a crop of young muffs also. Were the seventeen little ones planted, and what did they produce! We really ought to know this. The progeny should have been baked when dug. We must see to this matter; it is worthy the attention of the authorities at Kew, or the Scientific Committee. —*Little Faith.*

SCARLET LOBELIAS.

As the working up of stock for flower garden work is now in full swing, I wish to draw attention to this beautiful out-door decorative plant, which I have seen extensively used in a large flower garden in various ways. Mixed with the Silver-leaved Centauria, or Silver variegated Pelargoniums, or dwarf Ageratum, or rising out of a carpet of white, pale yellow, or other light-coloured Violas, the effect is both striking and most pleasing, but it does best in a generous soil and when moisture can be given. The dark foliage alone is a feature, and when in bloom, with its rich deep, bright crimson flowers, it is a most valuable object in flower gardens. The wintering of the roots and propagation is easy enough. The old plants keep well in a cold frame with protection in severe weather, but not too wet, and are readily divided in March and potted or planted in a frame to make strong plants for planting out in May or June, and young plants are not expensive to start with.—*W. D.*

GROWING TURNIPS FOR EXHIBITION.

I HAVE read with great interest the observations on the growing and showing of Turnips by Mr. Cuthberston, at p. 388. They are certainly the most complete of the kind I have ever read. It is quite evident that the writer is one of those who draw their inspiration from the pages of experience, and these are the men who can reveal the secret of how to attain success if they could only be induced oftener to put pen to paper. But how few are inclined to do so. Some prefer to selfishly keep to themselves the results of their patient experiments, while others of the competing class, as far as literary inclinations is concerned, are not "built that way," they would rather walk a five-mile journey than sit down to the writing desk. I admire the minuteness of detail into which your correspondent entered—it is just what is wanted, and I hope we may have more such articles.—*A. Life Gardener.*

TABLE PLANTS.

THE present time is a very suitable one for getting up a young stock of plants for table decoration, and all who have much work of this kind should grow plants of a hardy nature, and such as do not suffer readily from the effects of gas or cold. Associated with Palms, winter-flowering Heaths, dwarf double Azaleas, we use largely Ficus elastica (especially the variegated variety). At present we take off the tops and stick them in small pots of sand in a warm house or frame and they root very quickly. All the wood which can be spared is cut up into pieces with a joint to each and placed in sand on strong heat, and always kept moist; growth and roots are soon formed, and in the course of a few months neat bushy plants are plentiful. Aspidistras when distinctly variegated are of much value; they are divided and grown in sandy loam. Greenhouse Dracænas are increased rapidly from eyes, and when a fine stock of these are secured the leaves may be thinned out to send in with cut flowers. Variegated Euryias are very handsome and also stand much rough treatmeant.—*Stirling.*

ACACIA OVATA.

MORE use might be made of several of the numerous species of Acacia than is at present the case, especially those of which flower in pots while still in a small state. A. ovata is both dwarf, freely flowered and highly ornamental. Some specimens about 18 in. high are now very ornamental in one of the cool houses at Falkland Park, South Norwood Hill. The branches are closely arranged, and arch beautifully, while they are closely covered with small, oval, apiculated, dark green phyllodia, popularly termed leaves. The specific name would indicate that the leaves were ovate, but it is to some extent impressive, as few if any other species of this genus have phyllodia at all approaching this one, which is therefore very distinct. The flowers are golden yellow, and are produced in small globular heads that arise singly from the axils of the leaves, but are nevertheless produced in great abundance. The plant may be flowered in quite a small state, say from 9 in. to 12 in. high, and a few specimens stood about a house amongst other hard-wooded plants is productive of a striking effect. As yet the plant is by no means common either in public or private establishments.

SOLANUM JASMINOIDES.

So nearly hardy is this species that it may be grown in warm sheltered places in front of a wall even in the far north. Exceptionally severe winters however destroy it. Could it be induced to become deciduous and ripen its wood, we could then rank it amongst hardy wall climbers. The long trailing or twining stems keep on growing and producing flowers so long as the weather remains fine. The flowers are white or have the faintest tint of blue in them, and they bear considerable resemblance to those of a Jasmine as indicated by the specific name. The leaves likewise may be compared to those of some species of Jasmine, and are narrowly heart-shaped or scolloped at the base, or in the larger ones cut down into segments, according to their size. People who are fond of making experiments might well try this species out of doors to test its hardiness in this part of the country. A large plant of it on the back wall of a corridor connecting the hot-houses at Falkland Park, South Norwood Hill, has been kept growing all the winter by the shelter afforded, and is still in bloom.

PITTOSPORUM TOBIRA.

THE fragrant white flowers of the species are produced in clusters nestling amongst the obovate, dark shining green and leathery leaves. The plant is half hardy in this country, but when treated as a greenhouse plant in winter it gives greater satisfaction, comes into bloom during March, and if large size keeps blooming on all through the summer months. It is hardy in the Channel Islands, and may be seen flowering there in the open air during October. Like other hard-wooded plants it may be stood in the open air during summer to make fresh growth and ripen its wood. We noted it in dwarf and bushy condition in one of the houses at Falkland Park, South Norwood Hill.

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.

CALANTHES (Veitchii and vestita varieties) will now require repotting. The compost in which they do best is two parts of loam, one part of peat, some chopped sphagnum moss, and silver sand, to which may be added some cow dung. The latter, before mixing with the above compost, should be dried and rubbed through a coarse sieve. The compost must not be too wet when used. This important point can be easily determined by taking up a handful and pressing it; should it bind together it will not be in a fit state to use, being of course too wet. The size of the pots used will greatly depend on the size of the bulbs and the quantity to be placed in each pot. The 6-in. pot is a very convenient size; fill them half full of crocks, over these place some sphagnum moss, then place about an inch of the compost, which should be firmly rammed down, and on this again place three or four bulbs according to size. I find it much the best plan to put in one bulb at a time, pressing the soil firmly about it to keep it in position, and so on till the pot is finished. The soil then will be about an inch below the rim, which will allow of a good supply of water being given in due course. No water, however, must be given for some time, say three weeks after potting, or spotting of the foliage will result. There is no better place for these most useful of all winter-flowering Orchids than a plant stove. They should be so placed that when the other occupants are syringed it does not extend to these, at least for another month unless it is very hot, when a slight dewing may do no harm.

CŒLOGYNE CRISTATA and its varieties will soon require attention. It is not a good plan to repot the whole batch every year, as they do not flower freely the first season after being disturbed. By potting half this season and leaving the other half intact a good quantity of bloom can be secured every year. Pans or baskets of various sizes may be used for Cœlogynes, a pan a foot across will hold from nine to twelve leading growths, which when in flower will form a very desirable plant for the decoration of the drawing-room, for which (and if properly prepared beforehand by being removed to a cooler and more airy house they will take no harm) they are admirably adapted. The potting compost should consist of two parts rough fibrous peat, and one part sphagnum moss, with a little silver sand; the pans should be three parts filled with potsherds, over which place a layer of moss; we then commence by placing some compost firmly against the inside of the pan farthest away, against which is placed the first piece or plant, which is firmly held in position with the left hand, some more compost is added, another plant, and so on until the pan is finished. Some pegs made of wood may be necessary to keep them in their place, but I rarely use them or stakes either when potting, unless it is for tall-bulbed plants like Lælia purpurata.

THE NEXT MONTH will be an anxious one for Orchid growers. Giving air, shading, watering, etc., will require great care and forethought. Continue to keep a sharp look-out for thrips, yellow aphis, etc., which if not destroyed at once will do a lot of damage to the young growths. The best and safest insecticide to use is made by pouring boiling water over a pound of the best tobacco paper, add a piece of soft soap about the size of a walnut; when cool, strain off, add four gallons of soft water, and you have an effectual and safe insecticide.

TEMPERATURES.—East India house, 65° at night, 70° by day; Cattleya house, 58° at night, 65° by day; cool house, 48° at night, 55° by day, with a rise of 5° with sun heat.—*C.*

Cattleya Percivaliana.

SOME flowers of this pretty Cattleya have been sent us from Ireland by Captain Twiss, of Birdhill House, Birdhill, Limerick. It is seldom seen in its best condition when grown in the vicinity of smoky towns, more especially in winter, when much fog prevails. The reason, or one of the reasons, for this is that the Cattleya in question comes into bloom at a very early period of the year when the light is at its worst, and should fog prevail at the time the flowers are almost certain to get destroyed, or the segments become limp making the flower appear as if fading from age. Even when at their best the flowers of C. Percivaliana are small compared with those of a good C. Trianæ or C. Mossiæ, but the rich colouring of the lip makes amends for this deficiency. One of the flowers sent was unusually highly coloured, the rich crimson-purple lip being shaded with maroon and in the throat with orange, while the margin was lilac. The petals were relatively broad, and like the sepals of a soft rosy lilac. Accompanying the above was a spray of Odontoglossum Edwardi, with rich purple almost violet flowers. Our correspondent speaks of sending some of his other Cattleyas, which we should be pleased to see.

Orchids from Glasgow.

A CORRESPONDENT from the suburbs of Glasgow, and who signs himself "Anagram," sends us a box of blooms of various interesting kinds, which go to make up a good collection. For instance there were two very choice forms of Odontoglossum crispum, one of them being O. c. flaveolum with primrose yellow sepals and petals, with one or two circular red blotches on the lateral sepals. The lip was a shade darker yellow, with two circular red blotches in front of the crest. The other variety was O. c. guttatum, having all the segments beautifully crisped, the petals deeply toothed, and all beautifully blotched with a number of reddish-brown blotches on the centre of each on a pure white ground. Amongst them were two varieties of O. odoratum, deliciously fragrant and freely spotted with reddish-brown on a pale yellow ground. They belong to the type usually called O. o. hebraicum in gardens. There were also two fine varieties of Masdevallia ignea, one of which was of a fine cinnabar red, tinted with crimson along the nerves, and round the edges. The other was of a darker hue and richly shaded with mauve-purple, the veins being the darkest. Accompanying the above was a flower which, in the absence of pseudo-bulbs, we could not separate from Dendrobium nobile. The chief feature of the flower was its very small size for that species, its neat form and rich colouring, the upper half of the sepals and petals being of a rich purple. If this character is permanent, the variety would be worthy of a distinct name, for which we should suggest D. n. parviflorum.

Calanthe Sandhurstiana.

THIS superb Calanthe was raised by the late Mr. P. H. Gosse, at Sandhurst, Torquay. The individual flowers are about the same size as those of Calanthe Veitchii, but the colour is many shades darker, and becomes intensified right into the eye or throat, unlike Calanthe Veitchii in that respect, which has a white eye. The flowers are set closely along the scape, and last a long time in perfection, without the slightest diminution in colour. Mrs. Gosse takes a great interest in her Orchids, which are ably grown by her gardener, Mr. Chudleigh.—*J. McNab.*

Cœlogyne cristata Chatsworth variety.

THIS grand winter blooming Orchid still maintains its popularity, and when well cultivated, there are, indeed, few subject more beautiful or more deserving of cultivation. In the collection of J. Saunders, Esq., Sutton House, Clifton, Bristol, it is grown to perfection. I counted recently upwards of sixty flower scapes on a small pan, and on many of the scapes there were eight individual blooms of good size and substance. Phalænopsis, Calanthes, Cymbidiums and Cypripediums are splendidly grown at Sutton House. Mr. Saunders, who is a veteran grower, is devotedly fond of his plants.—*J. McNab.*

Dendrobium Wardianum.

A FINE flower of the above has been sent us from the collection of M. Wells, Esq., Sale, near Manchester. It was one of six on a pseudo-bulb or stem only 12 in. long, and measured 4½ in. cross the petals, 1½ in. across the widest part of the lip, and the petals were more than 1¼ in. in diameter. The tips of both sepals and petals were marked with a deep purple as in the variety D. W. Lowii. The orange blotch in the throat was also very fine as might be expected from the great size of the lip. Accompanying the above was a flower of Cattleya Trianæ alba of greater purity than usual. Not only were the sepals and petals white, but the lip likewise. Many of the individuals of this variety have a rosy purple or pale lilac blotch in front of the disc, but in this instance only a faint blush tint, hardly perceptible, pervaded the lamina. The large blotch in the throat was of a pale orange yellow.

Cypripedium Juno.

THIS hybrid was raised between C. Fairieanum and C. callosum; and was exhibited by Drewett O. Drewett, Esq., Riding Mill-on-Tyne, who was accorded a First-class Certificate for it. The leaves are oblong and deep green marbled with grey. The scape is one flowered, and only about 6 in. high. The upper sepal is very broad, and heavily suffused with purple, the veins being darker, the edges white, and the very base greenish. The petals are green along the centre, with dark veins and purple all round the edges, which are ciliate with black hairs. The lip is of a deep dull purple in front and paler on the lower side. The dwarf and neat habit of the plant, as well as the size and beauty of the flowers are sufficient to recommend it to the Orchid lover.

Orchids at Banksian Villa, Leek, Staffordshire.

MR. H. W. NIXON commenced the culture of Orchids early in the spring of 1888, and since that time has been a most assiduous collector, grower and exhibitor. Mr. Nixon is well known throughout the Leek district, as an enthusiastic florist. For many years he grew the Auricula successfully, and attained fame as a grower and exhibitor; then he turned his attention to growing and exhibiting Roses, for which he received many awards. Like all lovers of plants with whom I am acquainted, Mr. Nixon takes great pride in showing his favourites and describing their merits. I have spent many pleasant hours listening to his intelligent remarks. At the time of my visit recently the display of Odontoglossum in bloom was a very formidable one. The first plant calling for special attention was a fine piece of Odontoglossum maculatum in a 5-in. pot with four fine flower scapes, and having an aggregate of twenty-seven expanded blooms, a very superior variety. Standing side by side were O. blandum, O. Andersonianum, O. Pescatorei, O. nebulosum, O. Alexandræ, O. Rossii majus, O. Cervantesii roseum, O. Edwardii with grand spikes. On passing into the warm house I found the following plants in bloom;—Cœlogyne cristata, C. Chatsworth variety, C. borbata, C. fuscescens, Cymbidium eburneum, C. Lowii, Dendrobium Wardianum, D. Pierardi, D. primulinum, D. nobile, D. Findleyanum, Vanda Amesiana, Phajus grandifolius Miltonia candida, M. cuneata, Calanthe Veitchii, Cattleya labiata autumnalis, Epidendrum vitellinum majus, Masdevallia Chimera &c., a very creditable display indeed, considering the amount of space that is devoted to them.—*J. McNab.*

Stanhopea Wardii venusta.

THERE are several very distinct varieties of Stanhopea Wardii in cultivation, and all of them are very beautiful. The more typical forms are notable for the bold character of the rosy purple ring-like spots which ornament the sepals and petals, the ground colour of which is yellow. The lip is also variously marked, and has two blackish-purple eye-like spots at the base of the lip on the sides of the claw. The variety S. W. aurea is devoid of the rosy-purple spotting on the sepals and petals, but preserves the eye-like spots at the base. That under notice differs in the absence of the spotting and the large blotches at the base, so that sepals, petals and lip are of a deep orange hue. The column contrasts strikingly in being white, dotted over the back with purple markings. There is a coloured illustration of it in the *Lindenia*, Pl. 315.

WHAT TO DO IN THE GARDEN.

Vinca rosea.—Plants of this class, whether young or old, should now be pruned pretty hard back in order to render them bushy. As the young shoots develop two or three joints the points should be pinched out repeatedly until the plants assume a close and bushy habit.

Allamandas and Bougainvilleas in Pots.—Plants of this class, which were re-potted and placed in heat with a view to get them started early into growth, should now be progressing rapidly. In order to keep the wood sturdy and short jointed, the pots should be stood in positions as near the glass as possible, and unless the house is a span-roofed one, the pots should occasionally be turned round to the light, so that growth may be equalized as well as possible.

Seed Sowing.—Plants of the annual stove-flowering Torenias such as T. Fournieri and T. Bailloni are very handsome objects for basket work towards the end of summer and in autumn. At that time they can be transferred to the greenhouse or conservatory, where their brightly-coloured flowers will be much appreciated. Seeds should be sown now with that end in view.

Epacris.—Those who desire their plants or some of them to come into bloom during the autumn months, should cut the young shoots well back as soon as the flowers fade, and place the plants in a warm and genial atmosphere to induce them to start into vigorous and early growth. A vinery just started, or a house with a similar temperature, will meet their requirements for a time, till the vines get too densely furnished with foliage, after which they may be removed to a cooler and better-ventilated house.

Hard wooded Plants.—Many of these are now in bloom, including Boronias, Pimeleas, Chorozemas, Polygalas, Kennedyas, Darwinias, and others; or if they have been retarded in a cool house, they will commence blooming shortly. Plenty of ventilation should be given on all favourable occasions so as to keep them sturdy and healthy and prolong the flowering season. Avoid cold draughts as much as possible, particularly during the prevalence of cold east winds.

Peaches.—The fruit in the early house should now have reached the stoning period, or will soon be. No attempt should be made at hard forcing until that stage is over, or many of the fruits will drop. A temperature of 55° to 60° will be quite sufficient at night, until stoning is completed, after which, if it is desired to hasten the growth and maturity of the crop, a greater amount of artificial heat may be given.

Melons.—After the young plants have attained the desired height and have been stopped, attention will have to be given to the laterals. Thin out all superfluous ones, and after those have attained a length of 18 in. or 20 in. they should be stopped to encourage the production of flowering shoots. Maintain a rather dry atmosphere till the fruits are set, and the fertilisation of the flowers should be effected in the early part of the day, when the atmosphere of the house is in a light and airy condition.

Cucumbers—Plants in bearing should be more liberally supplied with liquid manure than previously, because the lengthening days and the greater sun power is now giving greater impetus to growth. The night temperature may be kept up to 65° or 70°, with a rise of 10° or 15° by day, or even more than this at closing time from sun heat. Plenty of moisture must of course be maintained in the atmosphere by syringing and damping down.

Forced Potatos.—Plenty of ventilation should be given to frames containing Potatos, Radishes, Carrots and such things as are being forced by means of fermenting manure. If kept too close the stems and leaves will get drawn, which is altogether contrary to good cultivation, and inimical to the production of good crops. When the crops are in an advanced state the sashes may be entirely drawn off in mild weather.

Obituary.

We greatly regret to record the death, at Cairo, on the 22nd ult., aged fifty-nine years, of that well-known patron of horticulture, E. G. Wrigley, Esq., of Howick House, Preston. He was the senior partner of the well-known firm of Messrs. James Wrigley & Sons, paper makers, of Bridge Hall, Bury, having entered the firm at the age of seventeen years, and mainly by his exertions has the firm been raised to its present high position. For upwards of half a century the firm has supplied *The Times* with the paper used in the printing of that journal. For many years past he had devoted most of his leisure, and no inconsiderable portion of his vast wealth, to horticulture, and possessed one of the finest collections of Orchids in the country, and the only collection of any note in the neighbourhood of Preston. For some time Mr. Wrigley had been ailing in health, and in October last he left England to winter at his villa in Algiers. Three weeks ago he proceeded to Cairo, whence came the news of his somewhat unexpected demise from the malady from which he has long suffered.

Another great patron of horticulture also passed away on the 23rd ult., in the person of Mr. R. S. Holford, whose collection of pictures at Dorchester House, Hyde Park, was of world-wide reputation, and whose collection of trees, shrubs, and plants at Westonbirt, in Gloucestershire, was one of the most remarkable in the country. For many years the gardens at Westonbirt have been the Mecca of horticulturists in the west of England, and nothing more enjoyable to the true lover of plants or of landscape beauty could be found than a visit to that delightful and princely place.

Questions and Answers.

Propagating Vinca rosea.—*R. I. K.*: This may best be done in early summer, soon after the new growth commences and when young shoots of sufficient length can be obtained. Young shoots about 2 in. or 2½ in. may be taken off at a joint, and inserted in pots of light sandy soil containing a good proportion of sifted leaf soil. The p ts should be placed under bell-glasses or hand-lights, in the absence of a properly constructed propagating frame, and kept in a warm place till roots are developed. The lights or bell-glasses may be taken off for ten or fifteen minutes in the morning to change and dry the atmosphere about them. When the cuttings are rooted, pot them off singly, and return them to heat, and when they recommence growing, pinch out the points to make the young plants bushy.

Names of Plants.—*E. W. M.*: 1, Selaginella Kraussiana (if the tips are yellow in spring it is the variety S. K. aurea); 2, S. apus; 3, S. Martensii variegata; 4, S uncinata (often called S. cæsia in gardens); 5, S. Kraussiana Brownii aparently but too much crushed and dried up to be sure; 6, S. Braunii, often but erroneously called S. Willdenovii in gardens. Please send in a box next time as the specimens were crushed flat, withered up, and very difficult to recognise. *A. W.*: 1, Streptosolen Jamesoni; 2, Sempervivum tortuosum variegatum; 3, Herniaria glabra; 4, Stachys lanata; 5, Sedum sarmentosum variegatum; 6, Selaginella Kraussiana. *A. J. R.*: 1, Ansellia africana; 2, Dendrobium crassinodi; 3, Cypripedium barbatum; 4, Odontoglossum triumphans. *H. Catto*: Clivia miniata var.; 2, Clivia nobilis,

Pine woods, Waltnut, trees, &c.—*Flos.*: The glowing lines or circles of light of which you speak, as occuring in dark Pine woods, might probably be what our forefathers used to call *ignis fatuus* or Will-o'-the-Wisp, due to the burning or glowing of phosphorus in the wet soil. It might and does also occur in other places than Pine woods, such for instance as in marshes, on moors and other badly drained places which used to be more common than they are at present. We doubt if Pine trees would thrive any better for being infested with tree-hoppers, particularly if the latter feed upon the trees by extracting their juices or otherwise. The wheat may blacken upon the soil in the heat of summer if badly attacked with disease, such as is caused by some fungi; but that would not be due to the heat directly. Walnut trees are less frequently cut down in this country than other kinds, for the simple reason that there are very few to cut down.

Market Gardening. *F. C.* writes:—Being desirous of starting a market garden and wishing to make an estimate of cash and probable return, I should be glad if you would favour me with answers to the following questions. (1) When is the best time of the year to commence? (2) What kind of soil is most suitable, and in what neighbourhood within about fourteen miles of London is that soil to be found? (3) What book (price and publishers), would give me calculated results, rotation of crops of vegetables, &c. (4) If any book is published showing what profit can be made by growing vegetables for market? (5) What acreage could one man (with the help of two women) cultivate? (6) What would be about the cost of legal business, surveyor's fees, &c., connected with the purchase of say about fifty acres with house?

[We can only advise our correspondent to let market gardening alone; he evidently knows nothing about it, and would only lose his money; but perhaps some of our readers may be able to help him to the information he requires. Ed.]

Communications Received.—E. P.—W. P. R. (many thanks).—J. Duncan.—C. L. Allen.—W. F.—W. N.—H. E. M.—M. C.—J. B. W.—Omega.—T. O.—W. R. S.—Hortus.

TRADE CATALOGUES RECEIVED.

Reid & Bornemaun, Trewsbury Road, Sydenham, S. E.—Chrysanthemums and other florists, flowers.

E. H. Krelage & Son, Haarlem, Holland.—Bulbs for spring planting.

J. Peed & Sons, Roupell Park Nurseries, Norwood Road, S. E.—Dahlias and Gloxinias.

LONDON SEED TRADE.

March 1st, 1892.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a brisk demand for Foreign Red Clover at an advance of 2s. per cwt. Supplies of English Red and Cowgrass short, and meet a ready sale.

COVENT GARDEN MARKET.

March 2nd.

Fruit.—Average Wholesale Prices

	s. d.	s. d.		s. d.	s. d.
Apples... per ½-sieve	1 0	5 0	Grapes .....per lb.	1 9	3 0
Canadian and Nova Scotian Apples per barrel	12 0	25 0	Pine apples. —St. Michael's, each	2 6	6 0
			Cobbs... per 100 lbs		40 0

Vegetables.—Average Retail Prices.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Asparagus, Eng. bun.	10 0	13 0	Lettuces ...per dozen	1 6	2 0
Beans, French, per lb.	1 0	1 6	Mushrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes...per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	6 0	Small salading, punnet	0 4	
Celery.....per bundle	2 6		Seakale ...per basket	2 0	3 0
Cucumbers .....each	1 0	1 6	Spinach, per strike ...	1 0	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	1 0
Herbs .....per bunch	0 2	0 6	Turnips ... ..per bun.	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Azalea .....per doz.	30 0	42 0	Foliage Plants, doz.	12 0	60 0
—Mollis.....per doz.	24 0	36 0	Genista .....per doz.	10 0	12 0
Cyperus .....per doz.	4 0	12 0	Hyacinths,...per doz.	6 0	9 0
Cineraria ...per doz.	8 0	12 0	Lily of the Valley, doz. pots	12 0	18 0
Daffodils ...per doz.	9 0	15 0	Marguerites, per doz.	9 0	12 0
Dracæna term., doz.	24 0	36 0	Palms in variety, each	2 6	21 0
Dracæna viridis, doz.	9 0	18 0	Primula Sinensis per doz.	4 0	6 0
Epiphyllum per doz.	9 0	12 0	—scarlet .....per doz.	4 0	6 0
Erica Hymalis, per	12 0	18 0	Solanums...per doz.	9 0	12 0
— gracilis, per doz.	9 0	12 0	Tulips.....per doz.	8 0	9 0
Evergreens, invar. doz	6 0	24 0			
Ferns, invar. per doz.	4 0	18 0			

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Acacia or Mimosa French per bunch	1 6	2 0	Marguerites, 12 bun.	2 0	4 0
Anemone various, French, doz. bun.	2 0	4 0	Mignonette... 12 bun.	1 6	3 0
Arum Lilies, 12 blms.	3 0	6 0	Narciss, var., Scilly, doz. bunches	2 0	4 0
Bouvardias, per bun.	0 6	1 0	Narciss, French, paper whit-, doz. bs	3 0	6 0
Carnations, 12 blooms	2 0	3 0	Pelargoniums, 12 sps.	1 0	1 6
Daffodils, double, doz. bunches	4 0	6 0	—scarlet.....12 bchs.	6 0	9 0
—Single, doz. bchs	6 0	9 0	Poinsettia doz. blms.	4 0	9 0
Eucharis ...per doz.	3 0	6 0	Primula, double, bun.	0 9	1 0
Freezia .....doz. bun.	3 0	6 0	Primula single, doz. sprays	0 4	0 6
Gardenias 12 blooms	4 0	9 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Hellebore or Christmas Roses, doz. blooms	0 6	1 0	Roses, yellow, dozen	3 0	6 0
Heliotropes, 12 sprays	0 6	1 0	— Red..... doz. blms.	4 0	8 0
Hyacinths, doz. sprays	3 0	4 0	— Saffrano...per doz.	2 0	3 0
Lilac, French, per bunch	4 6	6 0	— Tea ..... per dozen	1 0	3 0
Lilium Harrisii, doz. blooms	6 0	9 0	Tuberoses, per doz.	1 0	2 0
Liliums var., doz blms.	1 6	3 0	Snowdrops, doz. bn.	1 0	2 0
Lily of the Valley, doz. bunches	6 0	12 0	Violets, Parme, Frnch per bunch	2 6	3 0
Maidenhair Fern, 12bs	6 0	12 0	— Czar, French bch.	1 6	2 0
			— Dark, French, doz. bunches	1 6	2 0
			—English, doz. bchs.	1 0	1 6

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, March 14.—Sale of Hardy Perennials, Bulbs, etc., at Protheroe & Morris' Rooms.

TUESDAY, March 15.—Flower Show in the Town Hall, Manchester.

WEDNESDAY, March 16.—Preston and Fulwood Horticultural Society's Spring Show. Bath Bulb Show (2 days). Sale of Lily Bulbs, Greenhouse Plants, &c., at Protheroe & Morris' Rooms.

FRIDAY, March 18.—Sale of Orchids, at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, MARCH 12th, 1892.

THE INTERNATIONAL HORTICULTURAL EXHIBITION.—We are pleased to be able to report that Mr. Milner and his executive committee are pushing forward the arrangement of administrative details in connection with the forthcoming International Exhibition at Earl's Court with that necessary amount of energy which alone leads to success. The alterations in the gardens, too, are being most vigorously pressed forward in order to have everything ready for the opening ceremony on May 7. The committee met on Tuesday afternoon, at the Hotel Windsor, and passed the schedule of prizes to be offered for competition at the several special exhibitions to be held during the season,

the value of which in cash and medals amounts to some £2,000.

The dates finally fixed upon for the special exhibitions are:—May 27 and 28—the Grand Summer Show, which will embrace all the usual subjects available at that period; June 6, 7, and 8—for a display of plants and flowers cultivated by market growers; July 5 and 6—a Rose show, with classes for Tuberous Begonias, herbaceous plants, and table decorations, and twenty classes for fruit; August 1, 2, and 3—a show of Carnations and Picotees, cottage garden and market growers' produce; September 9 and 10 — Dahlias, Gladioli, and other autumn flowers; October 5, 6, and 7—hardy fruits; and October 26, 27, and 28—Chrysanthemums, plants and cut blooms, and trees and shrubs. The schedule will be issued as soon as possible, and intending exhibitors who do not happen to receive an early copy should apply for one to Mr. G. H. Loveday, International Horticultural Exhibition, Earl's Court, S.W.

OLD GARDENERS.—We alluded last week to the prospects open to young men in the gardening profession. It may be that many a young man full of knowledge and intelligence still has been unfortunate in his situations, because he has not found that outlet to which he has aspired. Generally, however, capable young men who have devoted hard study to gardening, as well as hard practice, find their proper reward eventually. But the case of the old gardener is much worse than is that of the young man. The latter has life before him, and often if he finds that he has mistaken his vocation, or does not find that encouragement looked for, may take up some other means of living.

The old gardener is in no such position, not only with him has the fire of youth long since burned low, but he has probably been vegetating for some twenty or thirty years in one or two places, and at the age of 55 to 60 finds himself, through no fault of his own, but perchance through death, or the breaking up of a family, or to some other cause, thrown out of employment. He is past the prime of life, has become bent and grey in the service of horticulture, has perhaps saved a little money which he has carefully invested, but which is far too small in amount for his maintenance. What is he to do? He finds the younger men invariably selected to fill places now, for there are hundreds of them only too ready to do so, and the old gardener, and chiefly because he is old, is elbowed aside in the race for existence.

What is he to do? Trust his all in some horticultural or market business; take a public-house or a shop, emigrate or what? It is a terrible problem which in the decline of life he is called upon thus painfully to solve. This is no over-drawn picture. There are hundreds of such cases, and they merit all our deepest sympathy. It is too evident that the gardening vocation has its deep shadows, as it also has its periods of sunshine.

TASMANIAN APPLES.—A paper enjoying an enormous circulation, the other day gravely informed its readers that consignments of Australian Apples were being arranged for, and that they would reach us in July. If these fruits are not here for our delectation in April and May, they will be too late, for even the best of imported Apples can hardly hope to be very good long after being kept for several weeks in refrigerating chambers, and then exposed to our summer heat. Naturally the Tasmanian Apples come to us in a fairly fresh condition, because they are the products of the Australian autumn, which is coeval with our spring. They have also the advantage that they come to us at a time when not only our own stocks, such as we have, but also the American supplies are pretty well spent, hence they have the market to themselves.

It may be pleaded as against this advantage that they come to us after we have been consuming Apples for several months and have become nearly satiated. That so far is true, but all the same it is doubtful whether the British people ever tire of good Apples. It ought to be recognised, although hitherto it has hardly received the attention merited, that these regular and considerable importations of fresh, wholesome fruit and other similar products should materially help to sustain and improve the public health. That is one aspect of the question none too largely considered. Our home growers have very little to fear from the Tasmanian Apple importations. The Cape soft fruits may create some uneasiness, but still both come to us in what may be termed our dead fruit season. Meanwhile all these competitions should serve to spur us up to greater efforts, and inspire us with renewed energy not to be beaten.

THE SPRING.—Although we still have of an intermittent kind weather which seems to have been wintry enough in all conscience, yet is there no evidence of any continued hard frost or of an exceedingly cold nature, and specially with this intermittent weather we are getting a comparatively dry period. There may be some sanguine souls whose energies it is hard to repress who want to be gardening, and are anxious to be sowing and planting. These soon became impatient of unsettled weather, and rail against what seems after all to be a wise protection of nature, the which checks active work of that description in gardens, until the sun has more power, and the winds under its benign influence become tempered to the shorn lamb of vegetation.

There is almost always very much of unwisdom in being too sanguine as to the late winter weather, and in striving to anticipate the spring. So far as our experience goes, we should say that the weather is all that well can be desired for the time of year. We may commit seeds and plants to the soil, but there is little hope that growth of a healthful robust kind will speedily follow. A few days of warm sunshine does not make a spring, and when a much longer period of sharp frost or of keen biting east wind follows, then some understand how real has been our mistake.

The best of growth is that which coming in the natural course of things is constant and unchecked, therefore is it better to sow and plant a couple of weeks later than so much earlier; we are having vegetation, especially fruit trees, well held in check. There will be no undue precocity to lament this season, and therefore we look for a beautiful spring and a prolific summer.

The Dutch Horticultural and Botanical Society, at its meeting held on February 10th, awarded a First-class certificate to Mr. C. G. Van Tubergen, of Haarlem for Lachenalia Garnet (a cross between L. quadricolor and L. Nelsoni), and Botanical certificates to Messrs. E. H. Krelage & Son, Haarlem, for Crocus Korolkowii and Galanthus Fosteri.

Gardeners' Royal Benevolent Institution.—We have much pleasure in announcing that the 53rd anniversary festival dinner of this institution will take place on Wednesday, June 29th, at the Whitehall Rooms, Hotel Metropole, on which occasion Sir Julian Goldsmid, Bart., M.P., has kindly consented to preside. The secretary of the institution, Mr. Ingram, will be much pleased to hear from gentlemen willing to act as stewards on the occasion.

Tasmanian Apples.—The Peninsular and Oriental Steamship Company have arranged that their steamers shall make twelve visits to Hobart, Tasmania, for the purpose of bringing to England a consignment of 240,000 bushels of Apples. The first lot has been despatched and will arrive in London towards the end of the present month. The fruit is packed in cool chambers during the voyage.

The Potato Disease.—With the commendable object of benefitting their friends in the Western Counties Messrs. Robert Veitch & Sons, of Exeter, last season conducted a series of experiments with the *Bouille Bordelaise*, to the satisfactory results of which we called attention last autumn. The Messrs. Veitch also sent a report upon their experiments to the Devon County Agricultural Association, which they have now reprinted in handy pamphlet form. We have a copy before us and recommend its perusal to anyone who may be contemplating a trial of the Bordeaux mixture during the coming season.

Banana with red foliage.—It is related by *L'Illustration Horticole* that Musa sapientum foliis rubris should be destined to become one of the most marked plants of our gardens during summer. It has been discovered by M. J. Dybowski, in a recent journey, near Lake Tschad, in the French Congo. This novelty attracts from a distance by the vinous red colour of its foliage. The traveller precited saw it for the first time near the village of Bateke, not far from Brazzaville. The plants attain a height of four yards, and its leaves acquire a length of four to five feet.

Gardeners' Orphan Fund.—Mr. A. Dean writes from Kingston:—"The meeting of gardeners alluded to last week, was held here on Saturday evening, twenty-five responding to the invitation issued. Amongst these was Mr. Burrell, of Claremont, who was unanimously elected chairman of the meeting. The proposal to organise a concert in aid of the fund was most warmly agreed to, and a general determination expressed to make the affair a success. We venture to hope that once the proposal takes shape, we shall receive very warm support from every gardener in the locality. A sub-committee was appointed to arrange for the concert, which it is hoped may take place in one of the large halls here soon after Easter. I have undertaken to act as secretary, and Mr. Burrell will be our chairman."

The Sunderland and District Gardeners' Mutual Improvement Society.—The executive of this society have just issued their first annual report, a record of twelve months' admirable work. The society held some two dozen meetings, at which papers were read on a wide range of subjects, and also promoted a Chrysanthemum Show for the benefit of the local infirmaries, which was the means of adding £30 10s. to the funds of two of those institutions. Should they decide to repeat the experiment, we hope they will not forget the claims of the Gardening charities. The society has an admirable chairman in Mr. J. W. Bolam, of the Sunderland Cemetery, and an energetic secretary in Mr. J. T. Richardson, Moorlands Gardens, Sunderland.

The Esher Gardeners recently held the annual meeting of their Mutual Improvement Society, and subsequently, to the number of fifty, sat down to a "High Tea," presided over by Mr. Bedser, who during the evening proposed success to the society, which was acknowledged by Mr. Holden, the secretary, and Mr. C J. Waite, of Glenhurst. Mr. Waite spoke of the great advantages to be derived from membership of such associations, especially by young gardeners, who should be encouraged in every way to qualify themselves for the serious duties of life in front of them. Gardeners could not be too practical or too well educated now-a-days, as gentlemen now only looked out for this class of men.

Birmingham Chrysanthemum Society.—It may be interesting to exhibitors and committees of other societies, to know that the committee of this society have decided to divide their class for forty-eight blooms into two classes, viz., one class for twenty-four incurved and one for twenty-four "Japs," their usual liberal prizes likewise being equally divided between the two classes. The open class for twenty-four blooms too will be divided in a similar manner. This it is anticipated will facilitate competition, and simplify the judging, inasmuch as it will be simply

"Japs" against "Japs," and incurved against incurved, whilst it will afford opportunities for competition to exhibitors who cannot manage a forty-eight, but who can muster a twenty-four, at the same time admitting, as before, those who can manage to exhibit both. The committee have further decided to introduce a rule making the use of gum or other adhesive in the dressing of cut blooms or blooms on plants a disqualification; and further that all Orchids exhibited at their next Chrysanthemum show and their spring show in 1893 shall be *bona fide* specimens exhibited in the pots as grown and not made up for the occasion.

National Amateur Gardeners' Association.—The amateur gardeners of Liverpool have established a branch of the National Amateur Gardeners' Association, and held their first monthly meeting on the 3rd inst., when Mr. W. A. Ardran read a paper on "The failures and successes of an Amateur Gardener." Prof. Harvey Gibson has consented to become president of the branch.

The Whit-week Show at Manchester.—We understand that the Great National Horticultural Exhibition, which for some years past has been one of the specially successful horticultural events of the season, and which this year was to have taken the character of an Orchid show mainly, has been abandoned in view of arrangements which have been made for letting the gardens at Old Trafford for the season, to a syndicate who are going to run an exhibition there, entitled "Old America." Some flower shows will probably be held in the gardens, but they wil be under the control of the syndicate in question.

Kent County Chrysanthemum Society.—The fourth annual dinner of this flourishing society took place on Wednesday evening, March 2nd, at the Bridge House Hotel, London Bridge. About fifty members and their friends sat down to an excellently arranged repast, and the evening proved to be a very pleasant one indeed. After the usual loyal toast had been given, Mr. D. B. Crane proposed "The Kent County Chrysanthemum Society," and in doing so spoke in praise of the high standard of public utility which the society had maintained during the past year. The chief event of the evening was the presentation of a testimonial to the late Hon. Secretary, Mr. H. A. Needs, who was leaving the neighbourhood. The testimonial took the form of a silver tea and coffee service, which was much admired. The chairman, Mr. Stevens, in making the presentation, spoke very highly of the manner in which Mr. Needs had carried out the work of the society. Mr. Needs responded, and in doing so assured the members that be left the society officially very reluctantly, but was extremely pleased that the secretaryship had been taken up by his old and esteemed friend Mr. H. J. Jones. After Mr. Needs had returned thanks for the tangible manner in which the members of the society had expressed their goodwill, the remainder of the evening was given up to toasts, songs, and sentiment. The arrangements for the dinner were admirably carried out by the new secretary, Mr. H. J. Jones, Ryecroft Nursery, Lewisham.

THE OLD DOUBLE WHITE PRIMULA.

The beauty and usefulness of this grand old Primula can scarcely be over-estimated where cut flowers are in great demand during the winter months. They are particularly well adapted for filling small vases and glasses for the dinner table, also for making crosses and wreaths. The individual blooms can be placed together, in small bunches from six to twelve together, and so distributed over the frame of the cross or wreath, and no flower can surpass it for its purity of snowy whiteness, and very few for the vast quantity of bloom which it will produce during the short days of winter. There really seems to be no limit in this respect.

The grandest sight I have seen for a very long time was a house full of this Primula in Messrs Jefferies & Son's nursery, Cirencester, which the other day presented a perfect sheet of snowy whiteness. The plants were arranged on the side stages, and at the further end of the house was a bank which defies description, each plant representing a complete cone of bloom, each bloom being of very large size and good substance. I should very much like a hint or two from Mr. Dyer (Messrs. Jefferies & Son's foreman) as to the treatment these plants have received to bring about such satisfactory results.

Although several new varieties have been introduced from time to time, the good old double white still holds its own. Some of these newer varieties are miffy things to deal with; they are very liable to damping, and very suddenly too, for to-day a plant may look healthy and to-morrow it may be hanging down over the side of the pot. On examining it, it will be found to be perfectly rotten at the collar or just above the soil, I should very much like to know the origin of this useful plant.—*Visitor.*

TWO CHOICE BORONIAS.

Within recent years more attention has been given to the Boronias than formerly. The sweet-scented B. megastigma has no doubt assisted greatly to give an impetus to the growing of this class of plants owing to the delicious fragrance of its blossoms which make their presence felt in a house notwithstanding their small size, inconspicuous colours and general unattractiveness. So far as appearance goes the graceful habit of the plant, and the finely divided leaves with their linear divisions clothing the twiggy branches, are all that recommend the plant to the general cultivator. The roundly bell-shaped flowers of a maroon purple externally and yellow internally, recommend the plant for conservatory work on account of their odour alone. The accompanying illustration shows a spray of this plant, universally a favourite when it is known. It is a native of South Western Australia, from whence it was introduced in 1873.

A showier plant is B. heterophylla, shown in the same illustration, and which may readily be recognised by the more ovate drooping and partially closed flowers with the variably formed leaves, sometimes

1. Boronia megastigma. 2. B. heterophylla.

simple and sometimes with one or two pairs of linear leaflets at the base. The flowers are of a rich reddish purple, but of that peculiar hue which some describe as scarlet, and they are borne in clusters in the axils of the leaves all along the slender twiggy shoots. When grown vigorously, the plant makes long shoots annually, and consequently a great amount of bloom. For conservatory work it is certainly handsome, and produces a display of bloom from February to April according to treatment. The species was introduced from Western Australia in 1881, and is already getting widely disseminated in British gardens. In its native home it forms a bush about the height of a man, but in pots may always be kept down to 2 ft. or 2½ ft., and young plants flower freely in quite a small state.

CYCLAMENS AND PRIMULAS AT WOODSIDE.

Both Cyclamens and Chinese Primulas, in the nursery of Messrs. J. James & Son, Woodside, Farnham Royal, Slough, are now past their prime, but they have been exceedingly fine. They are grown solely for seed, so that when in full bloom they are fertilised with the camel's hair brush, which causes the flowers to drop quickly. The Cyclamens were still grand when we saw them last week, notwithstanding that many of the flowers were old and others had set their seed pods. A large number of the flowers had been pulled out when still quite young to prevent the weakening of the plants in view of the production of seed, but a large proportion of the plants were nevertheless simply one mass of bloom. The Primulas, on the contrary, are a mass of young seed pods and only a few flowers remain to show what their colours, size, and character were. All are grown in low, span-roofed, well lighted houses.

Cyclamens.

These are separated into groups according to their colours, but very few of them receive special names. We were particularly taken with the floriferous character of the pure white strain, which is grown in considerable quantity. No other type bore a greater quantity of flowers. At the other end of the house were the very dark flowered kinds, with blooms of an intense red or crimson, some of which would be difficult to excel in richness. Near the latter was a batch of the giganteum type, with large, dark rose-coloured flowers. Another lot had bright rose flowers with a dark mouth. A white-flowered variety with a dark red mouth was also very choice, and the same might be said of a pink one with a warm rose or carmine edge to the segments, deepening in colour with age. In process of time this might be developed into a good and attractive Picotee-edged strain.

Chinese Primulas.

The number of varieties grown is considerable, but some of them have been raised and flowered by way of trial, and will be discarded where they have failed to come up to the desired standard. There are 1,500 of them all grown in 40-size pots, a very suitable size where the plants are intended for seed.

Semi-double Sorts.

As most gardeners are now well aware the semi-double kinds can be raised from seeds in the same way as the single ones. Sutton's Double White has light green leaves and petioles with pure white flowers, produced freely in two or four trusses from a plant. Double White having red petioles, dark green leaves, and pure white flowers is a cross between the last named and another variety. A richly-coloured variety is the Double Salmon. The Double Purple is also of a rich shade of purple, shaded with a hue which, for want of a better term, we should call violet.

The Giant Strain.

One of the finest of this type is Giant White, with light green leaves and petioles, and white flowers shaded with blush. This is generally the case when the foliage is entirely of a light hue, but is different from what we should expect. The Giant Pink has large warm pink flowers, very freely produced for this strain. The blade of the leaves is of a deep green, while the petioles are light green. The flowers of Giant Crimson are of an intense purple shade with a crimson shading at the edge, and the leaves are of a dark green with red petioles. Sutton's Giant White is a much weaker grower than James' Giant White, at least under the same conditions. The Giant Rose is a fern-leaved variety, with dark red petioles and rich rose flowers, with a broad crimson band round the eye.

Other Varieties.

Of all the varieties we noted none had the flowers so compactly arranged as Ruby King, for they form a dense truss arising from the centre of the tuft of leaves and merely surmounting them in a conical truss. The whole plant is also very dwarf with red petioles. What Messrs. James term Market White is notable for its floriferous character, and pyramidal trusses of white flowers becoming slightly tinted with pink as they fade. Both leaves and petioles are of a light green as usual where the white flowers become tinted with blush, or pink. A new and greatly improved variety has however been raised here having pure white flowers carried well above the foliage in pyramidal trusses and in great abundance. In fact the variety is more vigorous in everyway than the Market White. The blade of the leaves is of a dark green, but the petioles are light green. Hitherto it has been regarded as almost impossible to get pure white flowers on plants having light green leaf stalks. Reading Blue is dwarf and very freely flowered. An improvement has also been obtained upon Chiswick Red in a dwarf habited sort with intense red flowers. The leaves are of a dark green, rather sharply cut and closely arranged. Purity is also a fine kin having large pure white flowers, produced in ramidal trusses, and with a five-angled yellow eye. The foliage is of the fern-leaved type with deep red petioles.

The fine strain of Cinerarias evolved and brought to great perfection here, are only commencing to flower so that it would be premature to state what they will be like. The remarkably dwarf strain of Calceolarias has not even reached that stage and will not be in bloom till May and June. The plants are now in 32-size pots, except the old ones of last year, and which have been potted on again into 12-size pots. All are remarkably dwarf and compact.

PARSNIPS, CARROTS, AND BEET FOR EXHIBITION.

The preparation of the soil and general cultivation of the three vegetables above named are in many respects identical. I have therefore deemed it advisable to include them under one heading. Necessary differences of treatment will be duly noted. There are two distinct methods practised in the growing of Parsnips for exhibition, both of which I have proved from experience to be excellent. Either may be adopted according to circumstances. The first method which I will describe is the most natural and the simplest. In autumn select the ground on which you wish to grow them, let it be open and well exposed to the sun. Take out a trench 2½ ft. deep and two spits broad. Wheel this soil to the other end of the bed to finish with. Put a layer 2 in. or 3 in. thick of old cow or horse manure in the bottom. Turn over on this the top spit of the next trench. Then another layer of manure, on which turn up the second spit. Manure this also, though not so heavy, and throw on the top of it what remains to be taken out of the trench to give the required depth. Thus will your first trench be completed. Repeat the same operation till the whole ground is gone over. Should the subsoil be very hard, loosen the bottom with a pick.

Should the soil not admit of such deep working, it will be necessary to board the bed round and make up with other soil to the required depth. If the bottom is clay and retains water, it must be drained, but the loosening of the subsoil is usually sufficient. Some growers sift the soil with a half-inch riddle, in order to break it up and get rid of stones. If manure water drainings from a stable or byre are procurable, a good watering given once a week along where the rows are to be, up till the middle of January, will very much enrich the soil. So much then for the first system.

The second method consists of digging a trench to the depth already indicated and about 14 in. broad, loosening the bottom. Fill this with a mixture, half soil and half manure, raising it 2 in. or 3 in. to allow for subsidence. It is not necessary that the manure be old. The trench may be filled at seed-sowing time, but it is better to have it done some weeks previously to allow time for settling. If not done beforehand the mixture must be in a friable condition, and in filling slightly tramp it down. Now make a dibber about 4 ft. long with a point regularly tapered 2½ ft. long by 5 in. or 6 in. diameter at the thickest part. With this instrument make holes along the trench at least 2½ ft. deep and about 9 in. or 10 in. from centre to centre. Each hole will require to be filled before the next is made, with the composition hereafter described. In filling the holes gently ram home the compost. With regard to the mixture or compost for filling the holes, there is room for differences of opinion, but I find the following produces grand results:—Equal parts of sand, loam and leaf-soil, with 1 lb. of Cross's Garden Fertilizer to the bushel. Soft and white sand is best. If leaf-soil is not to be had, very old manure will do as well, or part of both is perhaps better. Turfy loam that has been stored up a year or more is most suitable. This compost must be dry before being run into the holes and all passed through a ¼ in. or finer sieve.

I may say that I have filled the holes with pure white sand mixed with a little artificial manure and grown first prize roots in that way, but it is rather difficult to get them to start in sand, especially if the spring be dry, but when successful, the roots are beauties and no mistake! Quite as perfect as any I have seen illustrated in catalogues, where they are sometimes said to be a little bit exaggerated. I may also remark that the reason for using so much manure in the trench is, that the essence of it finds its way gradually to the roots, and is thus largely the cause of the success of this system.

Sowing.

Parsnips for exhibition require to be sown early. In February or early in March, the first chance of the soil being dry and friable should be taken advantage of. On the ground prepared by the first method sow in rows 16 in. or 18 in. apart, putting in four or six good seeds every 10 in. or 12 in., and covering them about half an inch deep. By the second method of course the seeds must be sown in the centre of the filled up holes. Cover the rows with spare branches or other suitable material to form a protection from severe frost or drought, till the seeds germinate. Should severe weather occur after the plants are up, protect with little branches stuck all round them. Thin them as soon as they are 2 in. high, leaving one (of course the strongest) plant in each spot. During growth, should the crowns show themselves, cover with fresh soil or sand. Parsnips grown as above described require little or no attention after thinning. The soil being so rich, manure watering is unnecessary, but should a time of drought occur, give a good supply of pure water. Manure water will no doubt assist growth, but some assert that it produces fibrous roots (a result to be avoided), though of that I am not convinced. Something must be said about the number to be grown, and that depends a good deal on the keenness of the competition and the space at command. At least three to four times what is required should be grown. Those raised by the second method produce the largest percentage of perfect roots. When lifting them be careful not to bruise the skin, wash clean and cut away all fibrous roots. A good specimen may measure nine or more inches in circumference at the thickest part and from 20 to 30 in. long, having a *gradual* taper. In staging arrange them on a sloping board with a dark background.

Growing Parsnips for Ordinary Use.

The first method above described, but modified a little, will give perfect results. Trench the ground in autumn 20 in. to 24 in. deep and turn up roughly, putting in two layers of manure. Sow in March in rows 16 in. apart, and thin out to 9 in. between the plants. If the garden is old the introduction of fresh soil—road scrapings and such like—will do much to ensure success. If the ground is not trenched till sowing time, care must be taken to use only old manure, free from straw, or the roots will be forked. On the approach of winter, soil should be drawn over Parsnips, and they should only be lifted as required. By this means their full flavour is preserved. Some, of course, will require to be stored away against a time of hard frost.

Carrots.

The best exhibition Carrots can be grown by either of the methods described for Parsnips. The ground need not be trenched so deep, 20 in. to 24 in. being sufficient, as I do not recommend the long-rooted varieties for competition. The Intermediate type, or Nante's are the best, and I prefer the former. In old gardens, Carrots are more subject to the attacks of vermin than Parsnips. Deep digging and the introduction or fresh soil (black mossy soil is the best) are the best preventatives, along with a good layer of salt in the bottom of the trench, and another layer on the surface after trenching, as much as will give it a white coating. The salt must be applied not later than December. There is not much danger of vermin being in the soil after such a dose.

When grown by the second method the holes should be 8 in. or 9 in. apart and about 20 in. deep, made with the dibber already described. When sand is used to fill the holes most perfect specimens are obtained, though usually larger roots are produced when the holes are filled with the compost.

Sowing.

Carrots that are sown very early are apt to be checked by frost and run to seed. For exhibition, sow on the first favourable day in April, in rows 15 in. apart, covering the seed with ¼ in. of fine soil. When large enough, thin out to 8 in. between each. They need all this distance when grown strong. Watch carefully for any sign of vermin at the roots, indications of which may be observed by the leaves turning yellow. As soon as noticed give them a good dusting of soot, and water it well into the soil, using a rose on the can. This is usually effective, but not always, conditions of soil, weather, and other influences all conspire sometimes to make the crop a failure; but, as already stated, fresh soil, deep digging, etc., seldom if ever fails to ensure success.

In exhibiting Carrots, select those that are brightest in colour, and most even in form. Also stage them, as directed for Parsnips, with a bluish-green background.

Carrots for Ordinary Use.

The soil for these need not be so heavily manured as that prepared for growing exhibition specimens. For first crop sow the Early Horn variety on a warm border towards the end of March, in rows 10 in. apart. As these are used in a young state they need only be thinned to 3 in. or 4 in. The Intermediate and later varieties should be sown about the end of April or beginning of May, in rows 12 in. or 14 in. apart, and left 6 in. or 8 in. apart after thinning. Before winter the crop should be lifted and stored in a pit or cellar among earth or sand, or be covered from the frost and lifted for use as required.

Beet.

This vegetable can be grown to perfection by the second method as described for Parsnips. The holes, however, need not be made more than 15 in. deep, 4 in. diameter, and 9 in. from centre to centre. The mixture for filling the holes should have less manure in its composition, as great size in this case should not be aimed at. The pure sand, with a little artificial manure as stated, will grow model specimens.

In preparing the ground by the second method—which, by the way, is equally suited for growing Beet both for competition and general use—half the quantity of manure needed for Carrots will do for Beet, and the bulk of it should be from 9 in. to 12 in. deep. When trenching the ground there is no need for a layer of manure in the bottom.

Sowing.

This should be done about the middle or end o April, in rows 15 in. apart, covering ½ in. deep. Thin out to 9 in. in the rows. For an ordinary crop, the rows may be 12 in. apart, and the plants 6 in. or 8 in. asunder in the rows. While every effort should be made to grow large specimens of Parsnips and Carrots for exhibition, never losing sight, of course, of other necessary qualities, here we have a vegetable, which, like the Turnip, if grown extra large, is likely never to be looked at by the judges. With a large Beet is associated the Mangold-wurzel and coarseness. An exhibition root should be about 7 in. to 8 in. round the thickest part, smooth and free from fibrous roots, and well formed. Above all, it should be of a rich, dark, crimson-purple colour. If found, on being cut by the judges, to have white rings, the chances of getting a prize are small. In dressing, do not cut the leaves close to the crown, else they will bleed and the root become light coloured.

It is difficult to remember at one time every detail in connection with the culture of roots for exhibition, but should any of your readers want further information, I shall be glad to supply it through your columns.—*Michael Cuthbertson, Public Park Nursery, Rothesay, N.B.*

THE SPRING SNOWFLAKE.

While the early-flowering Daffodils are only yet peering through the ground, the vernal or Spring Snowflake (Leucojum vernum) is in full beauty, contemporaneously with the Winter Aconite, Snowdrops, early Crocuses, Erica herbacea, Scilla bifolia, Lenten Roses, and a few others. Its competitors are therefore few, and its beauty unquestionable. But although a true native, or according to some authorities naturalised in the south of England, it is not so generally planted as one would expect. The weather for some time past has been anything but favourable to spring vegetation, yet its flowers seem as fresh as they might be at midsummer. The flower scape rises only about 4 in. or 6 in. above the soil, bearing as a rule a single, drooping, bell-shaped flower of spotless purity, save for a greenish spot changing to yellow around the notch at the apex of each segment, and which serves by contrast to add to the charm of this harbinger of spring. It is most effective when planted in good-sized clumps of irregular outline and left undisturbed for a number of years. Positions could be found for it on the margins of shrubberies or on the better kept rockwork, where its modest beauty would be appreciated from the early days of March onwards.

The Abbey Park, Leicester, seventh annual Flower Show and Gala will be held on Tuesday, August 2nd.

ALPINE PLANTS.

By F. W. Meyer.*

Before considering the cultivation of such plants in this country a few words about Alpine plants at home may not be out of place, as it is only by closely studying their peculiar nature, and the conditions under which they flourish in their native mountains, that we may hope to grow them successfully and surround them, as far as possible, with similar conditions in our gardens. The home of Alpine plants is in the vast mountain ranges of southern Europe and Asia, but by far the greatest number has been introduced from the Alps of Switzerland. Here we may find within a single day's walk a conglomeration of climates varying from the semi-tropical temperature of southern Spain or Italy to that of the arctic regions. The lower valleys abound in vineyards and fertile land. A little higher up we have forests extending to an elevation of from 4,000 ft. to 5,000 ft. above sea level. The Alpine region proper, which furnishes the plants now under our consideration, is at an elevation of 5,000 ft. to 8,000 ft. or sometimes even 9,000 ft. Above this is the region of perpetual snow and ice, where organic life is almost extinct and where glaciers and ever snow-clad mountain peaks stand out in their wildest grandeur and form a striking contrast to the vegetation below. On climbing the Alps it is most interesting to trace the seasons as we ascend. It is autumn in the lower parts, and most plants have finished blooming and are ripening their seeds. At a higher level it is summer, and we may see the same kinds of plants with blossoms fully expanded. Still higher up it is spring, the flower-buds are scarcely developed and are not due to open for several weeks longer.

At a higher altitude still it is midwinter for ever. We may thus pass through the four seasons within a single day's walk. During the winter months the whole of the Alps are covered with snow—not the wet slushy snow we know in this country, but a thick covering of soft powdery down, which remains in an almost perfectly dry state for many months. In the lower parts of the mountains the snow begins to melt in April or May, but in the Alpine region now under our consideration it is often not till June, or even July, that the protecting mantle disappears. There is frost every night even throughout the summer, and the struggle of Nature to throw off her winter garb would doubtless be much prolonged were it not for the timely assistance of a mighty agent, the so-called "Fohn." The "Fohn" is a warm southerly wind which regularly every year sweeps through the mountains and frees them as if by magic from their winter covering of snow. Immediately all is life and beauty, Nature awakes from her slumber, the hills become clad with flowers and verdure within an incredibly short space of time, and without any perceptible spring we are almost all at once in the midst of summer. The short duration of summer in the high Alps accounts for the

Peculiar Structure

and the dwarf and sturdy growth of the mountain plants. It is a fact well known to all botanists that plants grow more rapidly by night than by day. But in these altitudes growing by night is quite out of the question. The plants are frozen stiff every night throughout the summer; it is, therefore, only during the few sunny hours of the day that any growth can take plaae at all. Hence the stems of Alpine plants are not elongated, but, on the contrary, the internodes are very short indeed, and the leaves are packed so closely together as to resemble little cushions. When such plants are removed to a country like England, where the nights are warmer, they increase in size more rapidly. A striking example of this is the well known Cobweb Houseleek (Sempervivum archnoideum).

The pretty little rosettes of leaves attain with us the size of about a shilling or even a two-shilling piece, but in the Alps I have seen a dozen or more rosettes packed closely together within the space of the same coin; even the largest rosettes were scarcely the size of a threepenny piece. The anatomical structure of the leaves of Alpine plants is peculiar, and differs greatly from that of plants in the lowlands. Not only is the outer skin, or epidermis, very thick and tough, and especially adapted to withstand the rays of a powerful sun, but the cells are smaller, and the cell walls thicker, than in other plants, and designed undoubtedly to prevent a tearing of the tissues under the action of a scorching sun, immediately after the severe frost of the night. The leaves of many plants have an additional covering in the shape of white downy wool, which repels the rays of the sun; others are provided with stellate hairs, which when seen under the microscope, may be compared to so many sunshades spread out for protection. This fact is a hint to us that plants with woolly white or silvery leaves should have a sunny position, as they have been specially fitted out by nature to withstand the sun's fiercest rays. On the other hand, plants with leaves of a lively sap-green colour invariably prefer a moist and shady position.

The Soil

In which Alpine plants grow in their native home must be our guide for their cultivation, and a little reflection will show how absurd and unnatural it would be to plant them in well-manured garden soil. In the lower Alpine regions, it is true, rich soil may be found, sometimes to a considerable depth, and the coarser and more common plants from those parts will grow with us anywhere, and without the slightest trouble, but the exquisite gems of the higher altitudes grow in scarcely any perceptible soil at all. Even the extensive mountain pastures, which are studded with flowers in abundance, have a stony soil, sometimes less than an inch in thickness, and thousands of lovely plants spring apparently from the bare rocks themselves. If we closely examine such rocks we find that the roots are firmly embedded in narrow crevices, which have become filled with small particles of decayed vegetable matter, mixed with an abundance of small stones and grit, deposited by wind and rain. This scanty food is all that is required by the modest mountain flowers. Wedged in, as they are, in such a position there is no possibility for a spreading of the roots, which are, therefore, compelled by nature to penetrate deeply into these narrow fissures to find the cool moisture necessary for their existence. Blasting operations have proved the fact that plants only an inch or two in height had sent their roots into the rocks to a depth of actually several feet. This explains why the plants are not easily affected by either excess of moisture or exposure to the most scorching sun. Their roots are far down, out of harm's way, and actually touching the stones, which are not only cool and moist, but by their porous nature act as excellent drainage, and prevent any excess of moisture. It will be readily seen that plants torn from such a position even with the greatest care cannot possibly be removed with the whole of their roots, and would die quickly if transplanted. The chemical nature of the rocks is of great importance to the Alpines. By far the largest number of these plants have a decided preference for

Limestone.

Sometimes plants indigenous to limestone rocks are found in granite, flint, or sandstone; but their nature, and sometimes even the colour of their flowers, is changed. The celebrated botanist, Dr. Kerner, of Innsbruck, in the Tyrol, has given some interesting statistics on this point. He gives, as an example, the white form of Anemone alpina, which is found exclusively on limestone rocks, while the yellow form of the same flower (Anemone alpina sulphurea) is never found except on sandstone or flint. The learned doctor also assumes that the two distinct forms of Alpine Rhododendron (R. hirsutum and R. ferugineum) were originally the same, and that the different character may be directly traced to the chemical composition of the rocks. In the Alps, whole hills may be seen completely aglow with the beautiful crimson blossoms of these Rhododendrons which the Swiss call the "Alpine Rose," but R. hirsutum is only seen on limestone, and R. ferugineum on granite. Many Saxifrages, too, are at their best only on calcareous rocks. Thus with the beautiful Queen of Saxifrages (Saxifraga longifolia) the rosettes of silvery leaves are never so white as when growing on limestone. Another illustration is the famous "Edelweiss" (Gnaphalium leontopodium), which the Swiss call "Etoile du glacier" or star of the glacier, because, as a rule, it is found in the most inaccessible parts, near the snow line. The German name Edelweiss means "noble white," and refers to the peculiar white woolly bracts of this interesting flower; but the white colour changes to a dirty grey when the plant grows on other rocks than limestone. The American humorist, Mark Twain, in his amusing book, "A Tramp Abroad," describes a tour to Switzerland, and also speaks of the Edelweiss as follows:—"In the high Alpine regions we found rich store of the splendid red flower called the Alpine Rose, but we did not find any example of the ugly Swiss favourite called Edelweiss. The name seems to indicate that it is a noble flower and that it is white. It may be noble enough, but it is not attractive, and it is not white. The fuzzy blossom is the colour of bad cigar ashes, and appears to be made of a cheap quality of grey plush. It has a noble and distinct way of confining itself to the high altitudes, but that is probably on account of its looks. It apparently has monopoly of these upper altitudes, however, for they are sometimes intruded upon by some of the loveliest of the valley families of wild flowers. Everybody in the Alps wears a sprig of Edelweiss in his hat. It is the native's pet and also the tourist's." So much for Mark Twain. I am inclned to think that the Edelweiss described by him could certainly not have been growing on limestone rocks. I have frequently planted the Edelweiss in a mixture of limestone chippings and sandy leaf-mould with great success, and if the flowers have not been as white as snow, they have been at least as white as the ashes of a very good cigar.

An Even Moisture

Of the atmosphere is indispensable to Alpine plants, and this they enjoy in their native home even on the hottest and driest days of summer. From the snowfields of the highest altitudes, as well as from the glaciers, shallow streams of icy-cold water flow continually over the mountains. The air is, therefore, laden with moisture, which, in the form of invisible vapour, surrounds the plants as with a protecting veil against the scorching rays of brilliant sunshine. Some of the moisture-loving plants, like Saxifraga azoides, Gentiana bavarica, and others, may be seen actually growing in the very midst of these shallow streams, with their roots immersed in the icy-cold liquid and their heads exposed to a broiling sun. They are evidently in this respect the reverse from human beings, who like to keep their feet warm and their heads cool. I was particularly impressed with this fact when visiting the glacier of Valsorey, near the Italian frontier of Switzerland. Noticing some lovely specimens of the beautiful blue Alpine Columbine (Aquilegia alpina) and the Alpine Toadflax (Linaria alpina) I dug for their roots, and found to my surprise that they were growing in a layer of gritty sand and stones not more than 6 in. or 8 in. deep, and that below that there was nothing but a solid mass of ice. The roots of these plants must have been in actual contact with the ice, growing almost on the glacier itself, and yet the brilliancy of their flowers would baffle description.

The Glaciers

Are solid masses of ice filling up the valleys between the highest peaks in the region of everlasting snow. The huge boulders, stones, and grit, which for ages past have been deposited on the glaciers by avalanches and other mighty agencies, gradually glide to the bottom, and are pushed onward by the glacier, which acts as a stupendous ever-progressing and resistless plough. This vast mass of boulders and disintegrated rocky *debris* in front of a glacier is called a moraine, and strange to say, in these moraines we find so many varieties of the rarest and choicest plants that they have been justly termed the botanical gardens of the Alps.

(To be continued.)

* A paper read at a meeting of the Devon and Exeter Gardeners' Association, held on March 2nd.

SCILLA BIFOLIA.

The flowers of this Squill are small individually, but being produced close together in a short raceme they are very attractive, from their star-like form and bright blue colour more or less tinted with violet As the specific names indicates, there are only two leaves to a bulb. Those who like collections of Squills will find some variations in this one, for there are varieties with reddish or rose coloured flowers, and others with white flowers. The type is moreover the best, and the beauty of the rest is best seen and appreciated by contrast. The best effect is produced by planting the bulbs in a clump, not in the old fashioned way of allowing the bulbs to get crowded, but by allowing 1½ in. to 2 in. between every two bulbs so as to allow of some room for increase, as then the bulbs get better nourished and the foliage is not unduly crowded. The flowers never fail to appear in March, sometimes in the early part of it, and in late cold springs more especially they make their appearance above ground rather in advance of other subjects and generally before the other well known early Squills, namely, Scilla sibirica.

FLORICULTURE.

The Fertilization of the Pansy.

I HAVE read with much interest the remarks of "Veritas," as I had formerly read those of Mr. Wm. Cuthbertson, on Pansy fertilization. This is a matter upon which I have bestowed much attention for the past ten or twelve years, and you will perhaps allow me space for some remarks bearing on my own investigations and their results. My experiments have been directed to the attainment of some, at least, of the objects enumerated by "Veritas." I have not, indeed, sought with so much solicitude to obtain a scarlet Pansy, or one distinctly showing scarlet in its markings, as to secure improved form, texture, distinctness of marking. and habit. I do not by any means consider the first point unattainable, or of very great importance if attained; for the range of colours which we at present possess is rich and varied to a degree that should satisfy the most exacting; but there is much yet to accomplish in the other directions referred to. As to size, I am of opinion that we have reached in "David Rennie," and several other well-known fancy Pansies, dimensions beyond which it would be almost unsafe to go.

My experiments, continued from year to year through the period stated, have also been conducted for the purpose of ascertaining what influence each parent exerts in determining form, colour and habit in the offspring, and thus to give a definiteness to our aims in crossing, and some assurance of accomplishing our object. As a result of these experiments, I may state briefly that I have arrived at the conclusion *that the male gives colour, and the female form and habit* to the offspring. A similar law has been formulated with regard to the Narcissi by Rev. A. Rawson, I think; but my own generalization had been made before I became acquainted with this fact. I am curious to know if other growers have formed a similar conclusion; and it would be highly interesting to ascertain whether the law generally applies. It would occupy too much of your space to give details of my experiments, but I may here state that I usually selected varieties possessing marked individuality, and experimented only upon those of good constitution and in good health; for I consider it most desirable, as does "Veritas," to produce a race of robust and hardy plants.

The method of crossing which I adopt is different from either of those referred to by "Veritas." I tried the camels'-hair brush, but soon abandoned it for what I have found a much more reliable method. From a bloom of the variety which is to represent the male parent, I remove the lower petal with a sharp knife, cutting in front of the spur, but leaving the hollowed projection with its contained pollen—which need not be disturbed in the operation. I insert this petal under the pistil of a bloom of the plant that is to act as the female parent. If this is carefully done, the pollen will come in contact with the stigma, and the inserted petal will remain, blocking up the opening into the nectary, and so preventing bees, &c., from interfering with the success of the operation. As to the stage of expansion, weather conditions, &c., when fertilization is most successfully performed, I cannot now speak. With your permission I may at a future date refer more fully to this point and others necessarily omitted now.—[Please do.—ED.]

In addition to this I have carefully watched the actions of the bees—wild bees especially—and marked the blooms visited when the cross seemed suitable. And after all, there is less of the element of "chance"—in my opinion—about this method of crossing than is generally supposed. There is no doubt that an enormously larger percentage of good varieties is obtained from hand-crossed seed than from that naturally crossed—if we may speak of the action of bees, &c., as *natural*. At the same time, notwithstanding all my care in "matching" the parents, the instinct of the bee has often produced as fine individual seedlings. Hitherto I have operated upon plants growing in the open air, but I purpose this year to experiment upon some kept under glass during the critical period between the expansion of the flower and the setting of the seed. It is very difficult, however, to guard against interference from insects of various kinds; earwigs, for instance, assist greatly—I think—in cross-fertilization, and every Pansy grower knows how hard it is to prevent the incursions of this marauder—a veritable "pestilence that walketh in darkness."

Another series of experiments had for their object the increase of size of show Pansies in the white ground and yellow ground sections, but I have already occupied too much of your space to enter upon this question now. I would only here remark that this is a direction in which there is surely room for improvement, and I hope the subject is receiving attention in many quarters. Many Pansy growers among your subscribers have no doubt been experimenting in the directions referred to, and it would be most interesting to have them relate their methods and results, and I trust they will take the present opportunity of doing so.—*J. D. Stuart, New Forge House, Malone, Belfast.*

EXHIBITION POTATOS.

ALTHOUGH I employ this term yet I do so as it were under protest, because I hold that in no respect should what are commonly classed as Show Potatos be dissociated from ordinary sorts as consumed. If anyone who may imagine that there is a special class of Potatos not grown for ordinary consumption, but only to make or give specially handsome show tubers, will but visit exhibitions where Potatos are largely found during the coming season, they will find that chiefly these comprise varieties extensively grown for consumption, and it is only where large collections are displayed that sorts are found not so widely cultivated, hence less well known.

I read with amused interest a statement at p. 419, that exhibitors are shy about letting their fellow-competitors know of their choice varieties for exhibition. How is an exhibitor to win prizes if he does not exhibit his Potatos, and when he does cannot all the world see what his sorts are? Did the writer of the remark referred to imagine that any exhibitor changes the whole of his sorts every year, and then comes to the shows with an entirely fresh lot to the discomfiture of his fellows? That is too funny an idea altogether. Every exhibitor possibly expends upon certain of his breadths some special attention when he grows to obtain fine handsome samples for show, and yet these are but of the same kinds as he is growing for ordinary consumption. When from these special breadths comes these very fine clean handsome show tubers, then, comes the ignorant hypercritic and exclaims, "these are exhibition varieties" as though they were unfit for ordinary consumption, Let us get rid of cant of that kind as soon as possible.—*A. D.*

THE FLOWER TRADE OF PARIS.*

THE enormous increase of the cut-flower trade for some years past in Paris could hardly escape the most superficial observer, says M. Henry L. de Vilmorin, who writes an introduction to his son's just published work—"Les Fleurs a Paris"—which is the outcome of a series of questions, such as:—Whence come all these flowers? Who cultivate, send, receive, and distribute them? To how many people do the production and commerce of flowers provide a means of living, and sometimes of making a fortune? The French Association for the Advancement of Science invited M. Henry L. de Vilmorin to take cut flowers for his subject at one of the conferences which it is in the habit of giving in Paris during the winter. Later on MM. J.-B. Baillière & Son wished him to group together his information in the form of a book; but owing to his numerous occupations and engagements he was unable to accede to the request, but happily found in his eldest son Philippe, then scarcely twenty years of age, the man to undertake the work.

The plan followed in the arrangement of the contents of the book is very simple but efficient. The author at first calls attention to the wide-spread taste for and employment of flowers in our time; then he conducts the reader rapidly to various parts of the world where the importance and establishment of the commerce of flowers is made the subject of comment. At length, attaching himself to the city of Paris, he describes the proceedings and the organisation of the sale of flowers in the flower markets, with the retailers, and in the stalls of the florist. He then speaks of the arrival of the principal flowers at Paris, and passes in review those cultivated under glass and those grown in the South.

From the commerce of flowers, our author passes on to enumerate the principal plants which constitute the objects of the producers' care, and indicates the merits of the various species at the same time giving a brief summary of their culture. Annuals, biennials, hardy perennial and bulbous plants are successfully dealt with, after which he speaks of hothouse plants, and devotes special chapters to Orchids, to flowering trees and shrubs, and to Roses in particular. At last he reviews the special culture of the South, and the materials for mixing with cut flowers in bouquets, such as mosses, ferns, and various green subjects.

It is not too much to say that the author is well acquainted with his subject, for he has been familiar with flower culture in the environs of Paris from his infancy, as well as with those from Provence. He has made several journeys through Europe and in America for observation and comparison. The book runs to 324 pages octavo, and is illustrated with 208 figures intercalated in the text. It is divided into two parts, the first dealing with commerce and culture, the second with flowers used for ornamentation; and besides contains a good index. The illustrations consist chiefly of figures of various cultivated and popular subjects, but a full-page one shows a carriage adorned for the battle of flowers at Cannes. Being in French, the book should find most favour with French-speaking nations, but would no doubt be appreciated by those in Britain who are interested in cut flowers and the trade in them, and who understand the language.

*"Les Fleurs a Paris, Culture et Commerce," par Philippe L. de Vilmorin. Libraire.—J.-B. Baillière et Fils, Rue Hautefeuille, 19, Près du Boulevard Saint-Germain, Paris.

THE HOLLOWAY NURSERIES.

EXCEPT where Orchids are plentiful, there is not much to be seen in nurseries in the early days of March that is of any great value to journalists in search of materials for "copy," but there is very much going on that interests the Chiel that tak's the notes if he is fond of plants and is well versed, as he should be, in all cultural details and requirements. The lengthening days and increasing light of early spring brings a busy and anxious time to the nurseryman and his assistants. Most of his plants grown under glass get "on the move," and more or less are showing their impatience to commence their season's growth. These will day by day demand increased attention, and will admit of no neglect if they are to take the eye of "the buyer." In the propagating houses, too, all is activity, and every inch of space utilised with seeds, cuttings, buds, or grafts in endless variety, for sooner or later everything will be wanted; and all must now be closely watched, for with many things "a bad take" means the loss of a season's crop, and its attendant evils.

In the nursery of Messrs. B. S. Williams & Son, all these things are now going on with a degree of vigour that is characteristic only of successful enterprise, but much that one sees discretion tells us we must not make "copy" of just yet. In the Fern houses, which lead to those containing the Orchids, the young growths create a lively sense of the beauties to follow, and one plant in particular claims attention on account of its beauty now, for its young fronds have a glow of warm rosy pink colour that is not seen in any other Fern. This is Lomaria attenuata, a plant with a clear stem about 18 in. high and about 1 in. in diameter, with a crown of fronds that is wondrously pleasing just now.

In the Orchid houses the Vandas and Lælia purpuratas give abundant promise of a rich harvest of bloom later on when the Cattleya Trianæs, now in great form, are over. Among the latter we noted a grand variety with very broad, well-rounded petals, measuring 8 in. over, and a magnificently coloured lip, rendered all the more striking by reason of its clearly defined, rich orange-coloured saddle-shaped blotch in the throat. Lycaste Skinneri delicata, a variety distinguished by the delicately suffused tints of rose in its sepals and petals, is undeniably pretty; as also its near neighbour on the stage, the hybrid Dendrobium chrysodiscus, with sepals and petals tipped with violet, and a bright lemon blotch on the spear shaped lip. Specially attractive too was a group of good sized, freely bloomed specimens of the rare Cœlo-

gyne cristata alba, with singularly chaste pure white blossoms. The curiously spotted form of Dendrobium nobile, known as Backhousianum, and those grand hybrids, D. Leechianum, D. Ainsworthii and D. Ainsworthii roseum, are also finely in bloom. Another valuable garden hybrid is Phajus Cooksoni, which is represented by a plant with two fine spikes intermediate in height between its parents, and bearing brightly coloured blossoms. The cool Orchids are bristling with spikes, and in this department we note the recent introduction—Cochlioda Noezlianum, which gives promise of becoming one of the most widely grown of Orchids.

One of the most interesting houses in the nursery shortly will be that devoted to Amaryllis, the plants in which are now throwing up their stout flower stems with remarkable profusion; and not less gay certainly will be the Clivia House, which now contains one of the best collections to be seen anywhere. Of the effective character of these plants when in full bloom some idea may be gleaned from the annexed illustration, prepared from a photograph taken last year, and kindly placed at our service by Mr. Henry Williams, but they must be seen to be thoroughly appreciated, as many saw the beautiful group from Iwerne at the Drill Hall on Tuesday.

The Clivia House, Victoria and Paradise Nurseries, Holloway.

DENDROBIUM NOBILE NOBILIUS.

A magnificent bloom of this variety has reached us from Mr. James Brown, gardener to R. B. White, Esq., Arddarroch, Gareloch Head, N.B. It measured 3¾ in. across the petals, and the latter were close upon an inch in diameter. All parts were also of great substance. The narrowly, oblong, blunt sepals were of a rich purple almost to the very base, where, of course they were somewhat paler, especially the lateral ones. The broadly oblong petals were similar in colour, but darker towards the apex. The lip was notable for the length of its tubular portion, which was of a dark crimson internally and deep purple externally, these colours being due to the richness and size of the blotch; then came a creamy white band across the lamina, and the broad tip was of an intense purple. The variety has just bloomed for the first time at Arddarroch, proving it to be the true D. n. nobilius. Accompanying the above were the three leading forms of Cœlogyne cristata, namely the type, also C. c. lemoniana, with its lemon fringe of coarse hairs along the centre of the lip, and C. c. alba, of a clean pure white.

FALKLAND PARK.

This fine estate is pleasantly situated on the brow of South Norwood Hill, and overlooks a wide area of Surrey, the view being broken only by different ranges of the Surrey hills in the distance. The estate was recently acquired by Thomas McMeekin, Esq., but since then has been completely transformed. A new mansion of two stories in height, built of Portland stone and white bricks, is now all but completed although not occupied. It is rectangular in form with several wings and an entrance on each of the four aspects; internally it is fitted up with all the modern conveniences of a dwelling house, and electric wires for the lighting of the different rooms are laid all over the building. A flower garden to match the surroundings is being laid out round the house, and a balustrade separates this portion of the ground from the green sward sloping in various directions towards the valley below. Many of the larger beds both inside and outside the balustrade will be occupied with flowering and other shrubs, including deciduous Azaleas, Rhododendrons, and others which do well here.

The old mansion occupies a slope of the hill and at a lower level. A splendid new range of hothouses, built a few years ago, occupies a prominent position from whence the ground slopes more or less rapidly in all directions, and within a few hundred yards of the new mansion. The hothouses themselves vary in form according to their position, but most of them run at right angles to a long corridor into which all of them open. The corridor also communicates with the potting sheds behind and which are fitted up with every convenience. The garden office, and the young men's bothies are also on the north aspect of the back wall of the corridor. No expense has been spared in fitting up everything to meet modern requirements. The new conservatory abutting on the mansion is well adapted for plant growth, but is not yet completed. A fern cave forming a wing to the conservatory is being fitted up with an elaborate rockwork of Derbyshire tufa and concrete. A rockery is also in course of construction in the open ground, the centre of which is occupied by a winding water-course with pools of water connected one with the other. The laying out and the planting of all these will occupy the gardener, Mr. A. Wright, for some time to come.

The corridor connecting all the plant houses together is of great length, and the back wall is planted with a great variety of climbers, some of which are still in bloom, notwithstanding the fact that the winter is practically now past. Some are, however, spring-flowering plants, including Clematis indivisa, but others in bloom are Solanum jasminoides, Eccremocarpus scaber, and a dark form of Habrothamnus elegans, evidently H. e. Newelli. On each side of the clean washed slate pathway are numerous flowering plants of Indian Azaleas, Hyacinths, Tulips, etc., in pots. A large number of other subjects not yet in flower must serve to keep up an interesting display all through the summer.

The house at the end of the range nearest the mansion may be described as a show-house or greenhouse, for there is already a fine display of various spring plants in flower. Amongst others we noted Acacia ovata, A. grandis, A. Drummondi, and others, also fine plants of Grevillea Thelemanniana, Eriostemon myoporoides, Cytisus stenopetalus, Boronia megastigma, and various Heaths in bloom. There are numerous Clivias, two varieties of which are very fine. One of them has large, deep orange-red flowers, with a white throat extending well up the side of the segments; another has somewhat paler flowers with white tips to the segments. On the side shelves are fine plants of Pittosporum Tobira, Ardisia crenulata in fruit, male and female forms of Skimmia japonica, and others. There were also fine specimens of Agave americana, A. filifera in dense rosettes 18 in. deep by 2 ft. broad, and larger samples of what are evidently A. Salmiana, Senecio Kæmpferi albo-variegata.

In another house occupied with greenhouse plants was a standard specimen of Polygala Dalmaisiana about a yard in height and more in width. Cytisus racemosus floribundus is a compact-habited, free-flowering plant. Another house was similarly occupied with greenhouse subjects, including Acacia lineata, A. Riceana, A. armata, A. grandis, A. platyptera, the Otaheite Orange in fruit, and others.

A stove known as No. 4 contains a large number of interesting fine-foliaged plants such as Anthurium Warocqueanum, A. crystallinum, A. Andreanum, A. Scherzianum, Tillandsia tessellata, and T. hieroglyphica; the irregular bands of deep olive green on the latter are interesting as they are hieroglyphical. Other handsome fine foliaged plants are Aralia elegantissima, Cyanophyllum magnificum, Dracæna fragrans Lindeni, D. f. Massangeana, and a tall plant of Acalyphatricolor with parti-coloured leaves each about a foot square. There are also strong pieces of Curculigo recurva variegata. Amongst flowering plants were good plants of Begonia glaucophylla splendens and Isoloma hirsuta.

Some houses are devoted to Orchids, and additions are being made to this department from time to time. Amongst those in flower we noted Pleurothallis Colibri, with purple spotted flowers curiously fringed with white ciliæ. Numerous Cattleyas in baskets hung up near the glass will flower in due time. Dendrobium Brymerianum and D. densiflorum are showing well, while D. Wardianum is flowering freely. Others flowering in the same house are Cypripedium Villosum, C. Harrisianum, C. H. superbum, C. insigne var, C. Leeanum, C. callosum, and C. Boxalli. Of several of the latter scarcely two were alike, and some of them were handsomely blotched on the upper sepal. C. Harrisianum superbum was particularly notable for its dark and glossy colour.

THE CHRYSANTHEMUM.

Is the Feeding of Chrysanthemums necessary? *

After reading Mr. Norman Davis' practical paper on "Chrysanthemum culture under difficulties," I thought I should like to hear some discussion on the subject of feeding Chrysanthemums, for although I should be sorry to influence any grower to alter the treatment so ably explained by Mr. Davis, with the main body of his plants, I think it would add a great interest to our hobby of Chrysanthemum growing if we were to try an experiment or two with a few surplus plants, and bring the results to our meetings whether they succeed or fail, for I think we oftentimes learn more from a failure than we do from a success. In speaking of feeding it would be as well perhaps to study our plant a little, what food it requires, and how it assimilates it. As a cutting it requires nothing more than warmth and moisture to induce it to throw out rootlets, when the plant may be said to commence feeding. Now a dried plant is said to be composed of carbon, one-half, oxygen and hydrogen, two-fifths, and nitrogen, two and a half per cent., called organic matter; and the analysis of the ashes of the plant show the plant to contain potash, about 25 per cent., silica, 18 per cent., lime, 16 per cent., acid, 12 per cent., sulphuric acid, 5 per cent., magnesia, soda, chloride of sodium, iron, etc., called inorganic matter. Now this gives us some idea of what a plant requires.

The first rootlets are formed from food material returned from the leaf, and they in their turn convey the crude sap and nutriment to the plant. These rootlets and root hairs are formed of delicate tissues through which no solids can enter; water readily passes providing the plant is in want of moisture, and so can other substances in a soluble state provided they are not too dense, for if they are the action of the rootlets would be stopped. This action, called endosmose, can be easily understood by the following illustration:—If a small bladder containing sugar and water be placed in a vessel containing pure water, the sugar and water being denser than the pure water the two liquids will tend to become of the same density, the less dense passes through the bladder the more quickly, and in consequence the bladder gains more than it loses, the force of which would eventually burst the bladder. Absorption by the roots can now be understood, the flow of sap being induced by heat, and evaporation passes through the young wood to the buds, young shoots, and upper parts of the leaves, where it undergoes a process of manufacture passing through another set of vessels in the under part of the leaf and returning by the cambium and inner bark, forming another layer of wood, a part of the elaborated sap returning to the extremities of the roots forming new ones.

Now I wish to impress upon my listeners that I thoroughly agree with Mr. Davis' mode of growing Chrysanthemums, but as a grower myself I know something of the difficulty of obtaining good loam or a good compost for them, and that possibly accounts somewhat for the inferior flowers sometimes staged by amateurs. I believe a large flower may be had from a compost of good loam three parts and one part of leaf mould and coarse sand, with a layer of small bones over the crocks, but I very much doubt if with the loam we get the blooms would have that depth which is necessary in an exhibition flower, and again I am under the impression that the large quantity of water required by a Chrysanthemum, say from June to November—some thirty or forty gallons in a dry summer, possibly more, per 8-in. pot—must carry off a great amount of the soluble plant food, leaving the compost in a very poor condition at the end of the season, a time when the plant requires extra food to develop its buds.

A good loam should contain the principal food of the plant, and consist of 30 per cent. of clay, 5 of lime, 5 of humus or vegetable matter, and 60 of silica or sand. But the poor light sandy loam we too often get probably does not contain more than 10 per cent. of clay, the rest being principally sand and lime. Now by adding one-third of leaf-mould to this the compost is sufficient to support the existence of the plant, but does not contain sufficient inorganic matter to make a good flower.

Carbon as charcoal is insoluble, therefore the plant cannot take it up in that condition, but absorbs it in the form of carbonic acid gas, which is one part carbon and two parts oxygen, and is obtained from the atmosphere. I might add this gas is taken in by the leaves, where the light decomposes it, the carbon is retained, and the excess of oxygen is thrown off, hence the necessity of all the light that we can give our plants; and although charcoal is not a plant food I would recommend the use of it as drainage, as it retains a large amount of plant food in a soluble state.

Hydrogen is formed in the plant by the decomposition of water, and the plant derives its nitrogen from ammonia, which is formed through the decay of vegetable matter.

We thus see that our compost contains sufficient organic matter, and I now come to the question of inorganic matter. It is the application of this inorganic matter that is termed "feeding."

The inorganic elements, as I before stated, are potash, silica, lime, phosphoric acid, sulphuric acid, magnesia, soda, chloride of sodium, iron, &c. Now good loam contains all these (although not, I think, in a sufficient quantity to finish a Chrysanthemum), but I am quite sure a poor one does not, and that is the reason why I advocate feeding. I cannot help thinking that many are of a different opinion through using plant foods containing a large amount of ammonia in one form or another, and the result has generally been a vigorous, but sappy growth, and the resultant bloom more or less a failure.

I think if we in this district use rain water when it is obtainable we shall get as much extra ammonia as our plants require, particularly if we catch it after a spell of dry weather.

The food of Chrysanthemums is generally applied in solution, some growers preferring one kind of manure and some another. This, perhaps, is owing to the difference in soils. Mr. Davis suggested guano, but after trying it myself I gave up using it, the results not being satisfactory. I came to the conclusion that it was a good stimulant, owing no doubt to its being composed of a good percentage of ammonia in some form or other, but I believe that others have done better with it than I have.

The same might be said of several other artificial manures and natural manure waters. Of manure water I prefer the urine from the stable, because in a fresh state it is composed principally of potash, nitrogen, soda, and lime, but then we have not all got the advantage of having a stable to go to, and the same things can be procured in a much cleaner way from the chemist or horticultural sundriesman at a trifling expense.

Now if we return to the analysis of the ashes we find that potash forms about 25 per cent. and is mostly found in the form of carbonate of potash, which is an important part of the food of the plant; this can be bought at the chemist for about 2s. 6d. per lb., or in small quantities at 2d. per oz. We also find lime and phosphoric acid, 16 and 12 per cent. No doubt our compost contains a large amount of lime but in an insoluble state, and phosphoric acid would be too corrosive in itself, and that is the reason why bones are used as a plant food, as they contain both phosphoric acid and lime; but when we consider what a short time the Chrysanthemum has to do its work in, I do not think the bones dissolve quickly enough. I therefore prefer super-phosphate of lime, which is bones dissolved by sulphuric acid and is soluble in water. Then we have sulphate of magnesia, which is better known to some of us as epsom salts; chloride of sodium, which, in its pure state, we know as rock salt; and last, but not least, we have iron in the form of sulphate of iron, known at the oil merchants as copperas, sufficient of which can be obtained for twopence or threepence. I intend to use this last much more freely, as I am under the impression that it greatly improves the colour. There are traces of others, but these are the principal plant foods.

I remember some fifteen or sixteen years ago (I was a member of the Croydon Horticultural Society at the time), I had the mum fever rather badly, and being anxious to produce some extra blooms used some of these foods very freely, and I often had cause to regret it; but as we go on experience teaches us that it is better to use them very sparingly at first, if we increase the dose afterwards, for, although I know of no plant that will struggle on more gamely under adverse conditions, I know of none that will give a better return for a little generous treatment than the Chrysanthemum.

Now, if members will carefully note what they use, what quantity, how often, and the results, and compare their notes, it will greatly help us to reach that standard of perfection which is one of the principal objects of our society.—*J. Sharman.*

* A paper read at a meeting of the Battersea Amateurs' Chrysanthemum Society, on March 2nd.

THE AUBRIETIA.

It is in April that the Aubrietias put on so thickly and effectively their garb of flowers. In my own garden I employ A. violacea as an edging, and every winter the plants owing to the effects of fog and the drip of trees lose every vestige of green, and appear like so many naked and dead stems. But only let spring weather be experienced, and then these apparently dead plants leap up into new life, put forth growth freely, and bloom abundantly. It is a plant that will undergo a great deal of rough treatment, also the extremes of wet and drought, heat and cold, and yet its tenacity of life is so strong that it rises superior to every reverse of this character. My plants receive only a small amount of sunshine, but they bloom at the proper time with great freedom, and form quite a miniature bank of rosy-violet.

The first introduced Aubrietia was A. deltoidea, the three-angled flower, which came to us from the Levant about 1710. It is of a dwarf and compact growth, admirably adapted for covering rockwork. The flowers are of a pale greyish purple, and it is one of the earliest to bloom. There is one feature in which the Aubrietias may be said to beat the Arabis—the flowers are more lasting both in the season of bloom and the individual flowers.

I think it may be assumed that all our varieties of Aubrietias have been derived from A. deltoidea, the generic name Aubrietia having been given in honour of Mons. Aubriet, a French botanical draughtsman. So purpurea, grandiflora, Græca, Hendersoni, Campbellii, and others, are simply seminal varieties improved by cultivation. Among newer types showing advances in point of colour are Violacea, deep violet purple; Leichtlini, pale rosy pink, a very marked advance in point of colour; and Bougainvillea, which is said to represent in colour the particular hue of Bougainvillea speciosa. Anything that gives a new and distinct tint of colour is highly desirable, and especially welcome. All that is required is that the habit be compact and the plants constitutionally vigorous.

We owe a great deal in the way of the production of rose-coloured varieties to Mr. William Ingram, of Belvoir Castle Gardens, who several years ago selected Aubrietias showing a tendency to flesh colours, and led them on until he had evolved some very pleasing pale pink and pale rose-coloured shades. Anxious at all times to have new shades among the pretty, early-blooming hardy plants he uses with such delightful effects at Belvoir in March and April,—

> "Maketh all things softly smile,
> Painteth pictures mile on mile,"

he took in hand the Aubrietia, and has now many shades of pretty rose-coloured varieties.

I have already alluded to the hardihood of the Aubrietias. That, as already stated, they suffer severely in winter at times, but their singular tenacity brings them through the trial. They seem to do well in a good loam, with some leaf mould in it, and a little grit of some sort, such as old mortar rubbish. When they occupy warm and exposed situations in summer they should be helped by top-dressings of fine soil scattered among the shoots, and also by drenchings of water. Aubrietias pay well for good culture. When they have something to

feed on at the roots they grow luxuriantly and flower much more freely. When they are starved, that is when grown on poor soil, the bloom is smaller, less dense, and of shorter duration.

The Aubrietia rapidly propagates itself by throwing out creeping shoots, which make roots as they run and fasten themselves in the soil. Then, the long shoots if taken off in early spring and dibbed deeply into the soil, will root, and make plants in the course of a year or two. If anyone is desirous of lifting and dividing their established plants it is recommended that it be done about midsummer, after the plants have bloomed; but advantage should be taken of a showery season, which often comes as soon as the hay harvest is over, and the divided plants should be well watered after should dry hot weather set in.

Aubrietias can also be raised by means of seeds. They seed freely on warm and sunny borders, and it is best to sow the seeds thinly as soon as ripe. The seeds will also germinate well if kept to the following spring. The seedlings are found to vary in colour as well as in habit of growth; and if the seedlings are to be used as edgings, the most compact among them should be utilised for the purpose. It is interesting to raise seedlings, and it is possible to find among them something distinct in character. As it is possible to entertain angels unawares, so it is probable that even from chance seedlings may come something that shall be a marked advance upon anything already grown. Especially is it necessary to raise seedlings from the rosy A. Leichtlini, for a variety approaching scarlet may put in appearance in course of time.—*R. D.*

ORNAMENTAL CHERRIES OF JAPAN.

The mere mention of the word Cherry calls up vivid pictures of the luscious, long-stemmed, juicy fruit, which from childhood has been a favourite with most of us. And when we speak of planting or cultivating the Cherry tree, we have the same luscious fruit in mind as the ultimate reward of our efforts. The utilitarian idea lies uppermost in thoughts of the Cherry. The tree and the fruit stand in the relation to each other of cause and effect.

It may therefore surprise the practical American to learn that the Japanese plant Cherry trees very extensively, and yet never gather a Cherry. Their trees bear no fruit; they plant them for their flowers, and for them only. With our firmly-rooted idea of the function of a Cherry tree, it may not be easy to prove that their trees are worthy of our attention; and yet I venture on the task in the hope of gaining a few converts. I should not despair of success if it were possible to impart to the reader a realization of a tithe of the charm of the Cherry flower season in Japan, and of the enthusiastic admiration which the tree then inspires. All classes of society, from the emperor to the coolie, rich and poor, old and young, all are enthusiastic admirers of the Cherry flowers. The trees are planted in groups in the parks, in temple groves, in avenues, lining many of the principal streets and roads, singly and in clusters in the gardens and yards about dwellings; they are dwarfed and grown in pots of all sizes, and trained in many forms and with pendulous branches; they are favourite objects with artists for conventional representation in paint, in lacquer, in metal—everywhere, both in nature and art, one finds unmistakable evidence of the innate love which the people have for this flower. The trees bloom during the balmy month of April, when the raw and chilly winds of winter have given place to the warmth and calm of cheery spring, and all nature leaps into renewed life.

Invited by the irresistible charms of nature, the people collect in gaily-dressed throngs under the pink clouds of Cherry blossoms, and there abandon themselves to jest and merry making. In Tokio, Ueno Park, and the street called Mokojima are especially renowned for the charm of their Cherry blossoms, and on pleasant days these places are visited by tens of thousands of people, who have banished care and are bent solely on enjoyment, and they form, perhaps, the happiest collection of humanity that the world ever sees. It is a motley but always good-natured and orderly throng. The grave savant, the spectacled student, the flushed and prosperous merchant, the careworn poor, the decorous matron, giggling maidens, and hilarious children—all are there, with laughing faces and in holiday attire. Mokojima is particularly a favourite resort. It is a long but rather narrow street, which borders the river Sumida. It is thickly lined with Cherry trees, and when they are in bloom, numerous small and temporary refreshment stands are put up on the land side, in which the pleasure seekers stop to rest and smoke, sip tea, eat sweetmeats, drink *saké* (rice wine), and watch the surging mass of humanity moving by, under the slowly swaying clouds of bloom. No pen can do justice to the scene. To be fully realized, it must be seen.

The Cherry blossoms also usher in a series of private festivals, which ministers of state and the mighty in the land who glory in the possession of Cherry groves give to their friends. Even his Imperial Majesty, the mikado, called by his subjects O'Tenshi, the son of heaven, is affected by the general impulse the blossoms impart, and issues a mandate to the effect that on a certain day, if it does not rain, he and the empress will give a Cherry-blossom festival in one of the imperial parks. Large, handsome cards inviting the guests are issued several days beforehand. The guests comprise all high officials of the government down to a certain rank, the *corps diplomatique*, foreign employees of the government at the capital who receive a salary of 300 yen or more per month, high officers of the army and navy, and representative officers of foreign war vessels, which happen to be in the Yokohama harbour. The writer had the honour of attending three of these parties, and can therefore speak from personal observation. Usually a similar party is given in the fall when the Chrysanthemums are in flower. In each case the ceremony is the same. At the appointed hour the guests collect in some pleasant place, not far from the entrance, the foreign representatives and high officials on the right side of the walk and the remainder on the left side. Presently bands, stationed about in the park, strike up the national anthem with which the emperor is always greeted. Dressed in military uniform and followed by only a few attendants, the emperor passes between the two groups of waiting guests, stopping, however, to shake hands with the foreign ministers, and he is followed at an appropriate distance by the empress and a bevy of court ladies. When the royal hosts have passed, the guests follow, and to the sounds of music alternately caught up by the bands, stroll through blossom-shaded paths, over Wistaria canopied bridges, by swelling mounds studded with brilliant Maples, until finally a flower-decked pavilion is reached. Here a long table is spread with a truly royal collation. Their majesties and excellencies are seated at the upper end, while the majority of the guests stand up or are seated at little tables scattered about on the lawn outside. Ample justice is always done to the viands, and wine, wit and humour flow freely. Here one may hear at once nearly every language of any importance under the sun. The repast being finished, their majesties retire to their carriages, and the guests give themselves up to the charms of the flowers for the remainder of the afternoon.

Having thus seen how the Cherry blossoms charm the lives of all classes of Japanese people, let us now give a little closer attention to the flowers themselves. The flowering varieties belong to the species known as Prunus Pseudo-Cerasus (P. puddum, Pl.), Jap., Sakura, Yama-sakura. It forms a large tree, which is wild in the forests everywhere in northern Japan, and in the mountains of the south. It resembles our cultivated sweet Cherry trees in growth and appearance, but differs from them in the flowers and fruit. The former are often panicled, and the latter is so small and insignificant as to be quite useless. The wood is hard and fine grained, and is often used for carvings and cabinet making. It has been a favourite ornamental tree with the Japanese from time immemorial, and under culture a great number of flowering varieties have originated. These varieties are propagated by grafting on seedlings of the wild stock. Aside from the flowers there is much difference in the growth and general appearance of these varieties. Some are upright, stiff and straight in habit, while others are spreading, short jointed and crabbed; and others again have slender willowy shoots, which lend themselves readily to the various forms in which dwarfed and pot-grown specimens are often trained. As a rule, the earliest varieties to bloom are single, and the large and very double flowers are among the latest to appear and remain the longest, though there are some notable exceptions to this.

Flower and leaf start at about the same time, but the leaf grows slowly at first, and the tree does not usually get green till the flowers are ready to fall. The early single varieties remain in bloom only a couple of weeks, and begin to decline about the middle of April. Most of the double varieties are in the zenith of their glory during the latter half of April, and some of them persist till well into May. All of them are charming, even in their dissolution, when the falling petals turn summersaults through the air in clouds, and literally strew the pathways and the people with flowers.—*American Garden.*

The Carnation: its History, Properties, and Management, with a descriptive list of the best varieties in cultivation. By E. S. Dodwell. Third edition, with supplementary chapter on the yellow ground. London: Gardening World office, 1, Clement's Inn, Strand, W.C. 1s. 6*d*.; post free, 1s. 7*d* —[Advt.]

GARDENING MISCELLANY.

GALANTHUS PLICATUS.

The flowers of this Crimean species vary in size and also to some extent in colour. The whole plant is more vigorous than the common Snowdrop, but the flower has not increased in proportion. The leaves are very broad with a fold on each side longitudinally, and the edges are rolled backwards, and they are further of a deep glaucous green as in G. nivalis. The outer segments are obovate-spathulate, uniformly white and notable for their length; the inner ones are only half the length, and obovate with a notch at the apex. Around the notch on the outer face is a large, deep green blotch with a larger one on the inner face; in some individuals or varieties the green blotch extends almost to the base on both surfaces and adds much to the beauty of the flower by the strong contrast between the peculiar deep green of the blotches and the pure white ground colour of the segments.

CROCUS STELLARIS.

The native country of this Crocus is unknown, nor is it very widely cultivated, yet it is one of the prettiest of the yellow species. The exterior surface of the outer segments is heavily lined and slightly feathered with brownish-purple or dark purple. All the rest is of a rich golden-yellow outside and inside, even including the stamens and style. When in full bloom under the influence of bright sunshine all the segments spread out regularly like the rays of a star, hence the specific name. A large proportion of the best known species have cup-shaped flowers even when fully expanded, so that C. stellaris offers a distinction in the form of its flowers, as does C. susianus by the reflexing of the three outer segments.

GARDEN WALKS.

When walks are composed of sand or any other loose material hoeing and raking will always be found the most economical mode of keeping, but when covered with binding gravel weeding and sweeping will seldom cost one-half the expense of hoeing and raking, to say nothing of the horror of a walk newly hoed and raked and covered with loose pebbles naturally raises in the minds of those who happen to suffer from tender feet. At the season when the seeds of weeds are most profusely scattered about by the wind the surface of walks, if weeded, are smooth and hard, and by occasional sweeping the seeds are removed before they have time to strike root, but when hoed the surface is generally in a loose and uneven state and any seeds that are deposited upon them must remain there till they have become perfect plants before they can be destroyed. Hoeing and raking, though it generally destroys one crop of weeds, is certainly the most effectual means that could be adopted to secure another.—*R. D.*

ABELIA RUPESTRIS.

This neat evergreen has proved itself quite hardy here unprotected against a south wall during the last two severe winters. It is rather a slow growing plant for a wall creeper, but very pretty, as it flowers very freely even in a small state, and its pinky white honey-scented blossoms with their ruddy calyces are very effective in contrast with the bright green of

the foliage. Grown in pots it makes a very useful plant for autumn flowering in the greenhouse. And it strikes very freely from cuttings of the half-ripened wood put in in the autumn.—*C. Dixon, Holland House, Kensington.*

ANEMONE BLANDA.

Though generally considered a distinct species in gardens, this is only a form of A. apennina, differing in flowering earlier in the spring and in having darker flowers; but in the latter respect it varies, for the flowers are sometimes of a deep blue shaded with purple externally, and sometimes of a light blue washed with white at the base internally. The sepals vary in number from fourteen to sixteen and are oblong and narrow compared with those even of A. nemorosa, which are broader but only half the number or even less. The feathery, finely divided leaves also tell in the favour of this plant as an ornamental subject for the rockery during the spring months. It does well when grown in a loose open soil kept cool and moist by means of leaf soil. Should the weather be very mild in February it will come into bloom then, but in seasons like the present not till March.

HARDINESS OF SOLANUM JASMINOIDES.

A small plant of this species was planted out against a south wall here in the spring of 1890. It reached the top of the wall (12 ft.), covering a space 4 ft. wide before the end of the season and flowered profusely during the summer and autumn months, but got killed to the ground during the severe winter of last year, although protected with mats and dry litter. It started to grow again from the root late in the spring and reached the top of the wall again before the end of the season, but it did not cover so wide a space, neither did it flower so freely as in the previous summer. No doubt that was partly owing to the cold wet season. How it has fared during the present winter I am unable to say, as it is still covered up.—*C. Dixon, Holland House, Kensington.*

SOCIETIES.

Royal Horticultural, *March 8th.*—Notwithstanding the piercingly cold weather on Tuesday last there was a good display at the meeting, consisting chiefly of Orchids, New Holland plants, Camellia blooms, and forced bulbs such as Hyacinths, Tulips, Daffodils, Lily of the Valley, etc. A Silver Flora Medal was awarded to Messrs. F. Sander & Co., St. Albans, for a mixed group of Orchids, including many interesting Odontoglossums and Dendrobiums, of which there were several plants of the Elephant Moth Dendrobe. Messrs. Pitcher & Manda, Hextable, Swanley, received a Silver Banksian Medal for a group of Orchids, consisting chiefly of Cypripediums and Cattleyas. A smaller group was shown by Messrs. B. S. Williams & Son, Upper Holloway, including a fine piece of Phaius Cooksoni. A finely-flowered but unnamed species of Oncidium was shown by Mr. H. Bailey, gardener to W. L. Barclay, Esq., The Briars, Reigate. A plant of Disa incarnata in bloom was shown by Messrs. Lewis & Co., Southgate, and had orange-scarlet and yellow flowers. Another new thing in Dendrobium amethystinum was shown by Messrs. H. Low & Co., Clapton. Other exhibitors of Orchids were F. Wigan, Esq. (gardener, Mr. W. H. Young), Clare Lawn, East Sheen; P. Crowley, Esq., Waddon House, Croydon; Mr. I. F. Jackson, Esq., J.P. (gardener, Mr. G. Dowsett), Bourne Place, Bexley; John W. Wilson, Esq., South Care, East Yorks; Reginald Young, Esq., Sefton Park, Liverpool; A. W. Nixon, Esq., Stanley Street, Leek; and W. H. Evans, Esq., (gardener, Mr. J. Crook), Forde Abbey, Chard.

A Silver Flora Medal was awarded to Messrs. H. Low & Co. for a beautiful and interesting group of New Holland plants, including Boronias, Acacias, Heaths, &c. A Silver Banksian Medal was awarded to Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, for a large group of forced Daffodils, Irises, Snowdrops, &c. A similar award was made to Mr. P. R. Davidson, The Gardens, Iwerne Minster, Blandford, Dorset, for a showy and well-flowered group of Clivias, including Duke of Clarence, Princess May, Lady Wolverton and others. A Silver-gilt Banksian Medal was awarded to Messrs. Wm. Paul & Son, for 12 large boxes of Camellia blooms. A Silver-gilt Flora Medal was awarded to Mr. Geo. Phippen, Reading, for a large group of Hyacinths, Tulips, Lily of the Valley, etc., set up with Palms. A small group of Richardia æthiopica Little Gem was exhibited by Messrs. Wm. Cutbush & Son, Highgate, showing the different stages of the plant. Some flowering branches of Amygdalus Davidiana alba were shown by Messrs. J. Veitch & Sons, Chelsea, who also showed some Amaryllis, Cypripediums, and Cineraria blooms. Some noble spathes of Anthurium, including A. Andreanum sanguineum, A. leodiense, and A. carneum, were shown by Sir Trevor Lawrence, Bart. M.P. (gardener Mr. W. Bain), Burford Lodge, Dorking.

At the meeting of the Fruit Committee some Apples, named Welsh Beauty and St. Davids, were shown by Messrs. J. Veitch & Sons. A Cultural Commendation was awarded to Mr. W. Poupart, Twickenham, for some exceedingly fine dishes of Sea Kale. A dish of Apples, Annie Elizabeth, was shown by Sir Thomas Farrer, gardener Mr. Payne, Abinger Hall, Dorking. Some Tomatos and Onions were exhibited by Mr. W. C. Leach, Albury Park. Some Florida Oranges were shown by Mr. W. H. Divers, Ketton Hall, Stamford. And Mr. J. Watkins, Pomona Farm, near Hereford, received an Award of Merit for "Improved Ashmead's Kernel" Apple.

ORCHID NOTES AND GLEANINGS.

Dendrobium luteolum giganteum.

The varietal name of this Dendrobe has been given in allusion to the large size of the flowers, as in the case of D. primulinum giganteum. The sepals and petals seem somewhat paler than in the type, for they are of a soft creamy or sulphur-white. The lip is white with golden-yellow or reddish lines on the interior of the side lobes; on the middle of the disc is a beard of green hairs. The lamina is very broad and blunt with a beard of white hairs along the centre. Hitherto little variation has been met with in this species. One variety, namely D. l. chlorocentrum, is characterised by a beard of green hairs on the lip. The large-flowered variety under notice bloomed recently with Messrs. Seeger & Tropp, East Dulwich.

Dendrobium albo-sanguineum.

The large and curiously coloured flowers of this species are very striking, the more so as the plant is by no means common in collections. The blooms are produced two or three together in clusters from stems that may be one or two years old, and when in good form they are nearly 3 in. in diameter. The sepals and petals are buff yellow, not white as the specific name would imply. The lip is similarly coloured with exception of two large maroon-purple blotches, which give it a singular appearance, the more so as they are raised somewhat above the other portions. There is a large batch of it in one of the houses in the nursery of Messrs. Hugh Low & Co., Clapton, and which must be a grand sight in a short time.

Oncidium splendidum.

The bold character of the flowers of this species renders it a highly ornamental subject in the Orchid houses during the winter months. The flower scape attains a height of 2 ft. or 3ft., according to its strength, and branches at the upper end, producing a large number of flowers. The sepals and petals are oblong, greenish-yellow, blotched and barred with brown. The lip on the contrary is the largest and showiest organ of the flower, being of a uniform golden yellow. We noted it in full bloom some time ago in the collection of Messrs. H. Low & Co., Clapton. At first sight it bears a close resemblance to O. tigrinum, and was at one time considered to be a variety of that species, namely, O. t. splendidum. The habit of the plant is, however, different, the flower spike of O. tigrinum being drooping or pendent, whereas that of O. splendidum is stiff and erect.

Dendrobium picnostachyum.

The flowers of this species are very small individually, but collectively they are pretty. They are freely produced in terminal and lateral drooping racemes so that the stems look well furnished. The small sepals and petals are lanceolate and white, but the three-lobed lip is green and marked with brown lines. The size of the flowers may be roughly compared to that of some of the species of Dendrochilum, more correctly named Platyclinis. As a matter of course it would find no favour with those who delight in large and showy flowers like those of D. Wardianum D. Falconeri, and D. Dalhousieanum. Those who take an interest in uncommon or peculiar species that are seldom met with in cultivation, will find in this something to admire and study for the variety which it imparts to a collection of Dendrobiums, in the same way as the small-flowered Masdevallias add to the value and interest pertaining to the same. We noted a number of plants in full bloom in the collection of Messrs. H. Low & Co., Clapton.

Cypripedium villosum.

It seldom happens that this species shows any indication of spotting on the dorsal sepal, that being more characteristic of C. Boxalli, a very distinct variety of C. villosum and often regarded as a distinct species. The flowers of a variety of C. villosum, now in bloom in the nursery of Mr. P. McArthur, 4, Maida Vale, W., are large, bold, and showy. The dorsal sepal is more rounded than in the type, with dark brown spots on a groundwork of a paler hue with the usual white margin. The petals are of two different shades of brown, the upper longitudinal half being of a rich shining brown, beautifully netted with darker veins. Taken altogether it seems to be intermediate between the typical C. villosum and C. v. Boxalli, and might with great propriety be added to a collection of select Orchids.

Cyrtopodium Saintlegerianum.

Several of the species of Cyrtopodium are notable for the large development and rich colouring of the bracts at the base of the flower stalks. This is particularly characteristic of the species under notice. The inflorescence consists of a large branching panicle of flowers about 2 in. or 2½ in. across, and when in full bloom and subtended as they are by the large and showy bracts, they are highly ornamental indeed. The species is by no means common in cultivation, and nowhere, perhaps, is it better flowered than at The Grange, Wallington, where it is under the care of Mr. G. W. Cummins, gardener to A. H. Smee, Esq. The oblong-lanceolate sepals and petals are of a more or less bright yellow on individual plants, and heavily banded transversely with a rich brown. The bracts are remarkably similar both in form and colour, but the lower ones are the largest, while the others gradually diminish in size as the top of the flowering stem is approached.

Cirrhopetalum Amesianum.

Most of the species of Cirrhopetalum have either small or dull coloured flowers that are often more interesting from their peculiar form and arrangement than from their bright colours. That under notice is an exception, for the flowers are very pretty. It was introduced from Dutch India by Messrs. Linden, Parc Leopold, Brussels, and recently flowered with them. There is a coloured figure of it in the *Lindenia*, English edition, Pl. 314, representing a clump of it growing on a piece of wood. The red flower stalks assume a spreading or somewhat pendulous habit, and terminate in an umbel of flowers radiating in the form of a semi-circle. The lateral sepals are united by their contiguous edges, are 1¼ in. long, 4½ lines wide, and are rosy-purple fading into a yellowish-white at the margin and upper portion. The upper sepal is fringed with brownish red hairs, and the small lip is of the same hue, the rest of the flower being yellow. The rosy-purple hue of the lateral sepals is the striking feature of the flower, and is a rare colour in the genus.

WHAT TO DO IN THE GARDEN.

Ferns.—The ferns in the warmer houses should now be gone over without further delay, and all those potted that absolutely require a shift. In the case of those which are considered large enough for all practical purposes, repotting may not be necessary, but the drainage should be examined to see whether it is efficient enough to serve another season.

Fern-covered Walls.—The back walls of pits, ferneries, stoves, or even greenhouses, are often covered with wire netting supporting soil in which ferns, Begonias, and other ornamental-foliaged subjects are planted. Such walls are kept moistened by means of the syringe or garden engine in summer, but owing to the necessity of maintaining a drier atmosphere in winter, such methods of watering have to be abandoned, and the soil getting dry as a consequence, crumbles out, leaving holes in places. Al

such broken places should be mended with fresh soil and moss, and replanting done where necessary, After the whole has been completed give a good watering, and follow this up all through the season, never allowing it again to get dust dry.

Rondeletias.—These should be cut back at once to the hard wood, and the young shoots that arise may have their points taken out in May, after which they may be allowed to grow at will. They will flower better when treated in this manner than when left entirely unpruned.

Show and Fancy Pelargoniums.—Close watching will now have to be given this class of plants, otherwise they will get badly infested and injured by green-fly. The growing tips suffer most, as the young leaves never afterwards expand properly. If only a few plants are infested they might be taken to a house by themselves and fumigated, but if many plants show the slightest trace of the enemy, then have the whole house lightly fumigated on two successive nights, in calm weather if possible.

Zonal Pelargoniums.—Plants for summer flowering should now be shaken out of the old soil and repotted in a compost of good fibrous loam, with a little well-decayed cow manure and sufficient silver sand to keep the whole porous and open.

Tuberous Begonias.—If an early display of these is desired, the pots containing the last year's, or even older, tubers should, by this date, have been in heat for some time to induce the tubers to start into growth. As soon as the young stems are well above the soil, turn the tubers out and reduce the ball of soil considerably, so that they may be repotted in much smaller pots than those in which they flowered. Keep the plants as near the glass as possible to keep the stems stocky and short-jointed, potting them on into larger sizes as they permeate the soil with roots and attain size.

Fuchsias.—Old plants placed in a mild heat will soon commence pushing their buds, and as soon as this has taken place, they should be turned out of their pots and have the ball considerably reduced so as to get them into the same sized pots with a considerable amount of fresh soil. The latter should consist of sandy, mellow loam, well enriched with decayed cow or even horse manure well broken up, with the addition of sufficient sand to keep the compost porous in view of the large amount of moisture required during the growing season.

Petunias for Pot work.—Old plants have now commenced to grow tolerably freely, and should be kept near the glass to keep them short-jointed. Some or all of the plants will be the better for being repotted to induce a vigorous growth. Never permit the plants to crowd one another, and all large plants should have their stems staked out to admit light and air amongst the shoots and foliage. Cuttings that have been rooted should be potted singly, and after they take to the fresh soil the points should be pinched out to make the plants bushy.

Vineries.—Second early houses where the vines are in bloom should be kept at a night temperature of 65° to 70°, with a rise of 10° to 15° by day, giving ventilation early in the day and reducing it early in the afternoon, so as to economise sun heat. Give assistance in the setting of Muscats, and keep the atmosphere in a brisk and dry state. Late Grapes such as Gros Colmar, Lady Downes, and Alicante, which require a long-growing season, but especially the first-named, should now be started into growth in order that they may have sufficient time to develop and ripen properly.

QUESTIONS AND ANSWERS.

**** Correspondents are requested, in order to avoid delay, to address all communications to "THE EDITOR" or "THE PUBLISHER," and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa London."*

HORSE-RADISH.—*Omega*: A new plantation of Horse-Radish may be made in various ways. If you are to use crowns with a piece of root attached, you ought first of all to trench the ground deeply, making it richest with manure in the bottom, and even turning the best of the soil down there, while the worst is kept on the top. The object of this is to supply the extremities of the roots with plenty of food, while the poor soil on the top will keep the main root from becoming forked or branched After the trenching is completed you can make holes (with a crowbar or long dibber) of sufficient depth to allow the crowns when dropped in to be about 6 in. or 9 in. below the surface. The crowns will then grow towards the surface, having below them clean and straight roots. Another method is to raise the ground so as to form long narrow beds. Straight roots about 6 in. or 9 in. long with a crown attached are laid in a horizontal position and about a foot apart with the crowns towards the sides of the beds. In doing this take out a trench so that the roots may be placed at 6 in. below the surface.

RASPBERRIES.—*Omega*: About five canes will be quite sufficient for a stool, and they should be strong. It is of little use to expect a good crop from weak canes, and if only three or four of them are good then the rest may be cut away. It will also depend upon the length and strength of the canes as to how much they should be shortened. If the canes are straight and stout to a height of 4 ft. or 5 ft. then the weak and curved or crooked part above those heights should be cut away. Seeing that the weak and perhaps badly ripened points are comparatively useless for the production of fruit, it is a matter for your own judgment as to how much they should be shortened. In other words you will have to be guided by the vigour of your own plants.

BAD LAWN.—*E. B.*: If the lawn is only patchy but level we should point over the bare places with a fork, scratch the grass covered part well with a rake, and apply a top-dressing of soot. During dry weather this month work up the surface so as to make up a good seed bed, and sow with lawn grass seed during showery weather early in April. If the soil is poor a dressing of nitrate of soda later on, at the rate of 110 lbs. to the acre, will be of great benefit to it.

HEIGHT OF TREE.—*Omega*: Not having a copy of Euclid by us we are not quite certain, but from what we can remember you will find something pertaining to the question you ask in Book 1, Proposition 47.

NAMES OF PLANTS.—*T. H.*: 1, Erica hyemalis; 2, Deutzia scabra flore-pleno, (generally known as D. crenata flore pleno); 3, Vanda suavis; 4, Nephrodium Molle; 5, Pteris tremula; 6, Adiantum Capillus-Veneris; 7, Calathea Kerchoveana probably.

VARIOUS QUESTIONS.—*Flos*: Both the Aconite and the Tansy are frequently cultivated in gardens, the crisped-leaved form of the latter being the most common. The White Poplar (Populus alba) and the Grey Poplar (P. a. canescens) are probably what you refer to. The special characteristics of the Strawberry are its luscious and refreshing fruits, consisting of a large percentage of water flavoured with a greater or less amount of sugar according to the kind, and other substances giving them their peculiar aroma. Spinach is used as a green vegetable; it contains but a relatively small quantity of solid matter, and in the ash there is a large percentage of soda, lime, potash and sulphuric acid. The special characteristic of Sorrel is its sourness, owing to the presence of a large quantity of oxalic acid. The Lantana has no popular name, unless you mean Viburnum Lantana, which is the Wayfaring Tree. The circles of light in Pine woods, judging from what you say, were due to the agency we previously mentioned. Walnut trees are more common in France and in other parts of South Europe than in this country.

CARNATIONS IN POTS.—*W. M. B.*: You have done right in keeping your plants on the dry side up till now. During next month more water will be required as the plants have now commenced to grow, and that growth will become more rapid as the days lengthen and the sun gets stronger. The plants will therefore require more water, especially if in small pots. The lights should be drawn off during the day in mild weather, to prevent undue elongation of the stems and leaves, until such time as they can be planted out. When giving water, use a light watering pot without a rose so as to avoid wetting the foliage, and water those only where the soil is dry. While being careful not to overwater, it must be borne in mind that it would be a mistake to allow them to get at all dry after this time of the year.

COMMUNICATIONS RECEIVED.—G. J. I.—J. H.—G. P.—C. D.—T. H.—G. B.—R. S.—S. F.—A. F. B.—R. S. & S.—Experience.

TRADE CATALOGUES RECEIVED.

HARRISON & SONS, Leicester.—Farm Seeds for 1892.

DICKSONS & Co., 1, Waterloo Place, Edinburgh.—Farm Seeds for 1892.

S. SHEPPERSON, Prospect House, Belper.—Florists' Flowers, Hardy Plants, Bedding Plants, Seeds, &c.

LONDON SEED TRADE.

March 8th, 1892.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, E.C., report a brisk enquiry for Red Clover at hardening rates. Supplies of English Red and Cowgrass almost exhausted. White Clover, Alsike, and Trefoil steady.

COVENT GARDEN MARKET.

March 9th.

FRUIT.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.		s. d.	s. d.
Apples... per ½-sieve	1 0	5 0	Grapes .....per lb.	1 9	3 6
Canadian and Nova Scotian Apples per barrel	12 0	25 0	Pine apples. —St. Michael's, each	2 6	6 0
			Cobbs... per 100 lbs		45 0

VEGETABLES.—AVERAGE RETAIL PRICES.

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ArtichokesGlobe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Asparagus, Eng.bun.	10 0	13 0	Lettuces ...per dozen	1 6	2 0
Beans, French, perlb.	1 6	2 6	Musbrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers, Eng.dz.	3 0	6 0	Smallsalading,punnet	0 4	
Celery.....per bundle	2 6		Seakale ...per basket	2 0	3 0
Cucumbers .....each	1 0	1 6	Spinach, per strike ...	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	1 0
Herbs .....per bunch	0 2	0 6	Turnips ..... per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

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Azalea .....per doz.	30 0	42 0	Genista .....per doz.	10 0	12 0
—Mollis.....per doz.	24 0	36 0	Hyacinths,...per doz.	6 0	9 0
Cyperus .....per doz.	4 0	12 0	Lily of the Valley, doz. pots	12 0	18 0
Cineraria ...per doz.	8 0	12 0	Marguerites, per doz.	9 0	12 0
Daffodils ...per doz.	9 0	15 0	Palms in variety,each	2 6	21 0
Dracæna term., doz.	24 0	36 0	Primula Sinensis per doz.	4 0	6 0
Dracæna viridis,doz.	9 0	18 0	—scarlet .....per doz.	4 0	6 0
Erica Hymalis, per	12 0	18 0	Solanums...per doz.	9 0	12 0
— gracilis, per doz.	9 0	12 0	Tulips.....per doz.	6 0	9 0
Evergreens,invar.doz	6 0	24 0			
Ferns, invar.,per doz.	4 0	18 0			
Foliage Plants, doz.	12 0	60 0			

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Acacia or Mimosa French per bunch	1 6	2 0	Mignonette... 12 bun.	1 6	3 0
Anemone various, French, doz. bun.	2 0	4 0	Narciss, var., Scilly, doz. bunches	2 0	4 0
Arum Lilies, 12 blms.	2 0	6 0	Narciss, French, paper white, doz. bs	3 0	6 0
Bouvardias, per bun.	0 6	1 0	Pelargoniums, 12 sps.	1 0	1 6
Carnations, 12 blooms	2 0	3 0	—scarlet.....12 bchs.	6 0	9 0
Daffodils, double, doz. bunches	4 0	6 0	Poinsettia. doz. blms.	4 0	9 0
—Single, doz. bchs	6 0	9 0	Primula, double, bun.	0 9	1 0
Eucharis ...per doz.	3 0	6 0	Primula single, doz. sprays	0 4	0 6
Freezia .....doz. bun.	3 0	6 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Gardenias 12 blooms	4 0	9 0	Roses, yellow, dozen	3 0	6 0
Heliotropes,12 sprays	0 6	1 0	— Red..... doz. bluis.	4 0	8 0
Hyacinths, doz. sprays	3 0	4 0	— Saffrano...per doz.	2 0	3 0
Lilac, French, per bunch	4 6	6 0	— Tea ..... per dozen	1 0	3 0
Lilium Harrisii, doz. blooms	6 0	9 0	Tuberoses, per doz.	1 0	2 0
Liliumsvar.,doz.blms.	1 6	3 0	Snowdrops, doz. bn.	1 0	2 0
Lily of the Valley, doz. bunches	6 0	10 0	Violets, Parme, Frnch per bunch	2 6	3 0
Maidenhair Fern,12bs.	6 0	12 0	— Czar, French bch.	1 6	2 0
Marguerites, 12 bun.	2 0	4 0	— Dark, French, doz. bunches	1 6	2 0
			—Englisb, doz. bchs.	1 0	1 6

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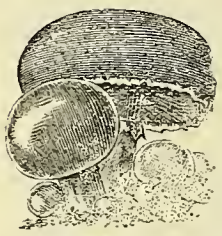

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The Gardening World.

ESTABLISHED 1884.

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15 ft.	10 ft.	8 ft. 6	6 ft. to eaves	8 10 0	12 0 0
20 ft.	10 ft.	9 ft.	5 ft. 6 to eaves	12 0 0	16 0 0
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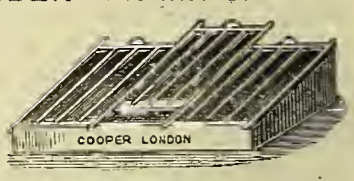

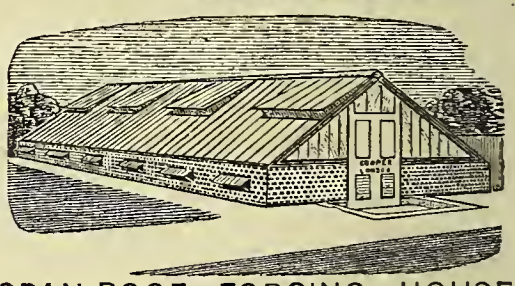

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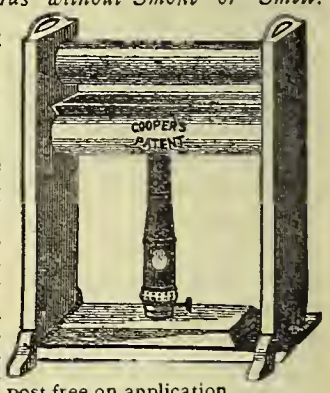

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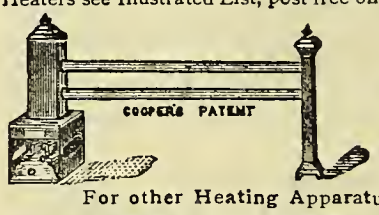

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, March 21.—Sale of Hardy Plants at Protheroe & Morris' Rooms.

TUESDAY, March 22.—Royal Horticultural Society: Committee meetings at 12 o'clock. Sale of Orchids at Protheroe & Morris' Rooms.

WEDNESDAY, March 23.—Royal Botanic Society's Spring Show. Sale of Palm Seeds, Greenhouse Plants, etc., at Protheroe & Morris' Rooms.

FRIDAY, March 25.—Sale of imported Orchids, at Protheroe & Morris' Rooms.

SATURDAY, March 26.—Crystal Palace Spring Flower Show.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, MARCH 19th, 1892.

FLOWER SHOWS.—The announcement we made last week that for the present year at least the long established and justly celebrated Whitsuntide Flower Show at Manchester would be abandoned must have brought a strong feeling of regret into the minds of many habitual frequenters of those shows. Apart from the charm which, even to the ordinary horticulturist, attached to the inspection of the subjects exhibited at a show of this nature, the gathering is one of a specially attractive kind because of its social aspects, bringing as it does many traders, gardeners, and amateurs together, who meet perhaps but once in the year.

It is in this sense that flower shows are still so much cherished by horticulturists, long indeed after they have failed to possess any attractions for the general public. But the intimation given that the Manchester Botanical Gardens are being handed over to an entertaining syndicate, even if only for a season, while bringing exceeding pain to many still serves to show how in relation to flower shows the old order is changing, and how in regard to enjoyments the public is becoming very exacting. The proposed International Horticultural Exhibition at Earl's Court is based upon the recognition given by the promoters to this fact. They will doubtless give first-class displays of horticultural products, but under such diverse and attractive conditions as will make all old-fashioned or ordinary flower shows seem of very small account indeed.

At York, Shewsbury, Southampton, Wolverhampton, and some other places, the need for a greater range of attractions at flower shows than a mere band of music is fully recognised, and at those exhibitions the public assemble in their thousands. It will be well if promoters of flower shows everywhere will recognise this broad requirement on the part of the public, and do all that is possible to make their exhibitions attractive. Whether we like it or not, it is much better for horticulture that flower shows should be held in conjunction with popular entertainments than that we should lose the shows altogether for the lack of popular support.

THE MARKET PLANT TRADE.—One of the remarkable statements made in Mr. John Will's paper on House Plants, read at the Drill Hall meeting on the 8th inst., was that whereas some twenty years ago there were only some thirty market plant growers about London, now there are three hundred. Naturally by far the larger number of these are found within a radius of twenty miles of the metropolis, because the demand in London is far greater than is the case elsewhere. But we may add certainly many more to this large total found in other parts of the kingdom, hence it is evident that the market plant trade has become an enormous one.

Whilst we have no branch of the trade in association with which can be found more skill in plant culture displayed, in no branch is there found less of sentiment. Plants are grown not for love or for admiration but solely to sell. They are treated simply as articles of merchandise, and to the growers of no more value than is found in pounds, shillings, and pence. Happily we have very much of plant culture which does foster sentiment—for if we did not learn to love those we produce, and so attentively cultivate, gardening would lack its chief charm. The market plant grower serves a useful purpose in the world, but after all his work is not in the best sense gardening, although he puts into it the highest cultural skill.

The market plant growers' vocation has been called into existence less perhaps from pure love for flowers than through a desire on the part of the wealthy to create display and thus gratify a taste for show and ornamentation, which may be very profitable to plant growers but is none the less unpleasing. Happily we have still myriads among us to whom show is of little concern, but who do love and appreciate plant and floral beauty. These after all constitute the backbone of British horticulture, and to them do we look for the perpetuation of that real garden love which has for so long marked civilised nations.

GARDEN PRODUCE MARKETS.—It is now most certain that the recent County Council of London Election has given a strong impetus to the demand being made not only for the destruction of market monopolies but also for the establishing of numerous public markets for the ready sale of all sorts of land produce, in all parts of the metropolis. How far the action of so important a body may react upon other

county councils it is hard to determine, but that such bodies should have the fullest power to establish markets wherever needed is certain.

Probably under no circumstances shall we ever be able to dispense with the middleman altogether, because in our conditions of social life myriads of distributors of commodities are essential. None the less, the public market seems to be specially a most valuable means to trade intercourse, bringing into immediate contact the producer and the consumer. This is particularly so with garden produce material, that is perishable and needs to be quickly sold, and speedily consumed. London is such a marvellous conglomerate of habitations and of people, that its ample "foraging," to use a well-known term, is a matter of supreme importance, and it cannot much longer be tolerated that within its borders any persons should possess monopolies in markets to the detriment of the inhabitants.

The same must be said in relation to all populous places. We want the sale and purchase of all garden products to be free as air, but to insure this, it is needful that the various municipal authorities should furnish the needful markets where the sale and barter can be conducted under the fairest and freest conditions. When we remember that the London population is increasing at the rate of 60,000 per year, what wonder is it that the demand for many markets should grow. The same demand will soon grow strong all over the kingdom.

THE GARDENER AS A SERVANT.—There can be no doubt but that the relationship of the gardener to his employer is not always sufficiently defined, and because the gardeners as a body of workers have no union or society which looks after their special interests, they are in a very doubtful position, so far as the defence of their own interests and clear definition of their status is concerned, when cases occur, as they sometimes do in which the interests of the gardener are attacked.

A report of a case which appeared in the columns of our contemporary *The Gardeners' Chronicle* last week, in which a gardener was compelled to take an employer into a court of law to recover damages for instant dismissal, shows that the worker's position is here very imperfectly defined, and although in that instance a verdict was given in the gardener's favour, yet such is the glorious uncertainty of the law that in another court an entirely different verdict might have been given. It is too hard upon a gardener that he should be regarded as a mere weekly servant. He may be paid weekly because frequent wage payments are indispensable; but on the other hand, just as kitchen-maids or footmen are entitled to a month's notice to leave, or the equivalent—a month's wages—so should a gardener be so entitled without question, and have some greater respect shown him than was displayed in such a case as that which we refer to. Of course we ask so much only in the case of fair conduct.

A very interesting question has been raised by a correspondent of our contemporary, who asks whether a gardener can class as a domestic servant, and thus claim a legacy left generally to all the testator's domestics. What is the legal definition of the term "domestic" has not yet been determined, so far as we know, but whilst butlers, coachmen, &c., even though they reside out of their employers' houses, are still held to be domestics, so would it seem that a gardener who resides on his employer's premises should be so treated, or is engaged in the discharge of those domestic duties of a household which pertain to the garden department.

Royal Horticultural Society.—The next meeting of the Royal Horticultural Society in the Drill Hall, James Street, Victoria Street, Westminster, will be on Tuesday, March 22nd. Besides the Floral, Fruit, and Orchid Committees, the Narcissus Committee will also meet for the first time this year, for the purpose of adjudicating on Narcissi and Daffodils, of which there will in all probability be a fine display in addition to other Spring Bulbs. At 3 o'clock Mr. C. Ross will read a paper on the "Cultivation of Melons."

The Dyeing of Flowers.—Mr. W. Brockbank, of Didsbury, sent to the last meeting of the Scientific Committee a large series of dried flowers, the venation of which had been rendered apparent by the action of aniline dyes. The cut ends of the flower-stalks were immersed in the fluids, so that the colouring matter was absorbed by the vascular tissue of the flowers. The results were very striking, and considered likely to be of use to botanists.

Fruit from South Africa.—The Union Steam Ship Company's R. M. S. Mexican, which arrived at Southampton on the 6th inst., brought a further consignment of fruit from South Africa, consisting of Grapes, Pears, Apples, and Melons. This fruit was placed on sale at Covent Garden market, on Wednesday, the 9th inst., when the Grapes realised the highest prices yet obtained for importations from South Africa, boxes containing about 20 lbs. fetching 15s. each. The Apples and Pears turned out in first-class condition, boxes containing 30 to 35 of the former realising 7s. 6d.; the Pears also obtaining high prices, one case of 42 being sold for 34s. The Melons realised about 3s. 6d. per box.

The Birmingham Gardeners' Association.—At the last meeting of the members, Mr. H. Dunkin, the Gardens, Warwick Castle, read a paper on "Modern Gardening," comparing the horticulture of the present day with that of years ago, of the great advance in Chrysanthemums and other popular plants, and the great demand for flowers which necessitated the culture of many kinds on an extensive scale, and the influence on horticulture of the numerous flower shows about the country. Much useful information was given, and Mr. Dunkin recommended young gardeners to obtain a knowledge of Geometry, Chemistry, and Botany. A hearty vote of thanks was accorded.

The Midland Counties Pansy Society.—The schedule of prizes for the second annual exhibition of Pansies and Violas is now issued, and the date fixed is June 9th, at the Central Hall, Birmingham. There are thirty-three classes, and all sections of growers have a good chance, the schedule being so arranged that the small growers are protected. Several classes are open to all growers in the United Kingdom. The society gives a handsome Gold Medal as a first prize for twenty-four new fancy Pansies, open to all. Schedules can be had of Mr. W. Dean, hon. sec., Dolphin Road, Sparkhill, Birmingham.

Fruit Growing in California.—The following extract from a private letter recently received in this country from Mr. J. Burnett, formerly of the Deepdene, Dorking, will doubtless be of interest to the many personal friends he left behind him. Writing from Bakersfield, Kern Co., California, early in Feburary, Mr. Burnett says:—"I am glad to say we all kept in good health during the past year, and my vineyard has thriven finely. The vines are very strong, and although only planted some eighteen months many of them have stems from 6in. to 8in. in circumference,—not bad work in the time. I look for a good crop from them this year, as I do also from my Peach trees, many of which are already from 10 ft. to 12 ft. high, and from 10 ft. to 15 ft. through the head. We had a very hot summer last year, the thermometer being generally from 110° to 120° in the shade nearly every day for about two months, but we stood it very well. There is much planting of orchards and vineyards going on here just now, and we employ Chinese labourers to do the planting. They make very good workmen when they get used to it. The influenza has reached even this dry climate, which by the way is rather damp now as we have a little rain. It is surprising what a small amount of rain falls here, only about 4½ in. during the year, and none whatever from May till October. Were it not for the system of irrigation the country would be a desert."

NEW & RARE PLANTS.

THE undermentioned plants and the Apple were exhibited at the meeting of the Royal Horticultural Society at the Drill Hall, Westminster, on the 8th inst., and received awards according to their relative value. The Orchids receiving certificates on the same occasion are recorded under Orchid Notes and Gleanings.

ANTHURIUM ANDREANUM SANGUINEUM. — The leaves of this variety are heart-shaped, acuminate and of great size, but that is probably due to good cultivation. The spathe is roundly heart-shaped, of great size and of an intense reddish-crimson or blood red, and therefore very distinct from the ordinary scarlet type. The spadix is elongated, stout, slightly curved and yellow at first, but gradually becoming creamy white from the base upwards. A First-class Certificate was awarded it when shown by Sir Trevor Lawrence, Bart., M.P. (gardener, Mr. W. Bain), Burford Lodge, Dorking.

AMYGDALUS DAVIDIANA ALBA.—The more we know of this Almond the more we recognise its hardiness, early flowering character, and its consequent ornamental value in the shrubbery or pleasure grounds. Flowering branches were cut from the open ground and exhibited at the meeting on the 9th of February; other branches were cut from the same trees and shown in excellent condition on the 8th inst., that is, a month later. Flowers are produced in great abundance, in clusters all along the wood of the previous year, as may be seen from our illustration on p. 421, and which was prepared from specimens shown on the 9th of February. The petals are broad, orbicular, often emarginate and pure white. There is also a pink or reddish variety of the same Almond. Both were shown by Messrs. J. Veitch & Sons, Chelsea, and the white variety under notice was awarded a First-class Certificate.

AMARYLLIS MARS.—The flower scape of this variety was about two feet high, two-flowered, and the well-advanced leaves were about the same length. The flowers themselves are of good average size or even above it, with a very short tube and wide spreading segments, of an intense scarlet with a short, white six-rayed star in the throat. The outer segments are the broadest; all the three inner ones are narrower, but the lowest one is much the narrowest and would be a great improvement to the flower as a whole if it equalled its fellows in width. As it is, it is certainly an improvement upon those hitherto raised by Messrs. Paul & Son, who showed it, and received an Award of Merit for it.

APPLE, IMPROVED ASHMEAD'S KERNEL.—Like the Ribston Pippin, the Apple known as Ashmead's Kernel is a very old variety, but has long remained in obscurity. It is by no means an attractive Apple, and this may account in a measure for the little attention it has received. The fruit of the improved variety under notice is of medium size, flattened, 5-angled, but more prominently so at the top and around the half-open, eye which lies in a rather shallow, slightly plaited or sometimes smooth basin. The stalk is very short, stout, and inserted in a moderately deep, narrow cavity. At this season of the year the skin is yellow but thinly suffused with russet all over, in some places a little more densely than others. The sunny side is said to be more decidedly orange in the autumn. The flesh is yellowish, crisp, juicy, and sugary, so that the variety is reckoned of first-class quality for dessert purposes. It is in season from November to May, and should therefore enjoy greater popularity for its long keeping properties. A dish of it was exhibited by Mr. J. Watkins, Pomona Farm, near Hereford, and an Award of Merit was accorded it.

THE LADY GARDENERS AT SAWLEY.

WE take the following from the *Nottingham Daily Guardian*, of the 11th inst.—"By your courtesy, I gladly avail myself of the opportunity for giving a short explanation respecting the reasons for starting the ladies industry at Sawley. All my life I have been brought into contact with numbers of educated ladies who are obliged to earn their own living, and it is well known that each year every opening to them becomes more and more overcrowded.

"The report of the Congress papers in 1888 first drew my attention to this style of hardy fruit-growing in addition to ordinary gardening, but before venturing

to suggest it possible that ladies might earn money by fruit and vegetable growing I had personally tried the experiment at Harrow, and had found the work very pleasant and fairly easy. Early in 1890 I submitted my views in writing to the adviser to the Board of Agriculture, who pronounced my ideas of the scheme 'excellent,' and promised his active help, at the same time kindly sending the best reports on market gardening that had then been published. He also drew my attention to what had been published as early as 1877 in Volume 13 of the Royal Agricultural Society's Journal regarding fruit growing on a large scale on low bush trees. Several plantations existed at that time, notably that of Mr. Dancer at Chiswick.

"Other eminent authorities also gave their honest opinion, and in no instance could I get an adverse one.

"The colony established at Mettewold, in Cambridgeshire (seven miles from a station), surely proves that this place might also be made a self-supporting industry, but nothing could possibly be a success without loyal co-operation, combined with individual effort and individual responsibility.

"Within one month of my ideas of market gardening for ladies going the round of the Press, I was besieged by over two hundred ladies, all saying they wished to join, and had the necessary capital. Perhaps I should here state that the promoters have found all the capital, and started the industry on their own property. This land being available in so thickly populated a neighbourhood, and close to the Midland main line, so eminently suitable for the purpose, and in the opinion of some experts more valuable than that at Melbourne, being of a rarer nature, it was taken in hand.

"Before the first six ladies, who only contributed 10 guineas each, a mere bagatelle compared with the heavy outlay necessary to prepare for them, had been in residence two months, no one saw more plainly than myself that the suggestion published in the April number of the *Strand Magazine* could not practically be carried out, but that with certain modifications fruit, vegetable, and salad growing might be made an opening for an unlimited number of ladies, provided each had a taste for garden work, sufficient powers of observation, and capacity enough to see through from the planting of the trees and sowing of seeds to selling the product at a fair price. Each one must also be prepared to pay for a term of apprenticeship.

"No one could have started anything with a fairer prospect of success or a more enthusiastic determination to overcome any and all difficulties. Soil, products, favourable freights, and markets have exceeded my expectations.

"Possibly this industry might now be utilised by either County Council availing itself of it, as a technical school for youths and men, and at the same time working it as a market garden, a private connection having been secured for the sale of the produce retail.—*Grace Harriman.*

WORLD'S COLUMBIAN EXPOSITION.

Horticultural Department.

This will be one of the most wonderful features in a wonderful undertaking. Chief Thorpe, the "Father of the Chrysanthemum," has arranged to hold a series of flower shows throughout the season, prominent among which will be the Rose and Chrysanthemum displays. He has lately made a tour through the East, and has secured the donation or loan of magnificent specimen Palms and Cycads, as well as of rare Orchids, etc. Several English nurserymen, including Laing and Cannell, are already to the front with promises of large donations of Pansies, Begonias, etc. The wooded island in Jackson Park is to be turned into a flower garden, and will be made a veritable bower of beauty with rare plants and fine specimens of Roses. On its shores will be grown aquatic plants.

Two sets of greenhouses are to be built, one to be 600 ft. by 500 ft., in the southern part of the park; the other along the west side of the horticultural building, and connected with it by walks and gateways. It will be 25 ft. wide, and 1,000 ft. long. In it will be thousands of rare plants. It will cost 12,940 dollars. Applications for space in the Horticultural Department have been received from 224 German wine growers. A consignment of flower seeds from a German firm and also one from a London house are to hand. Chief Thorpe will personally superintend the planting of such, and the exhibitor will have nothing to do with it. Those are for the competitive exhibit, for which 20,000 square feet will be reserved. The American Association of Nurserymen has applied for space for a collective nursery exhibit.

The California horticultural exhibit in the open court will be noteworthy, being a Citrous fruit tree exhibit, with a group of Date Palms in the centre, surrounded by an ornamental grass plot. There will be five rows of bearing Lemons and Oranges of various sizes, surrounded by festoons of Monterey Cypress heads. California's fan Palms are to fill all the inclosed spaces within the ornamental design of the border, and there will also be shrubs and many characteristic California plants.

The Japanese Government are to have a garden on the north end of the wooded island. 40,000 square feet have been allotted for this and for their official headquarters. Their building and garden is to be Chicago's property after the Fair, they having agreed to present them either to the Park Commission or to the City. They also desire 8,000 square feet for nursery purposes. The building and garden round it will cost 70,000 dollars. We note that British railroads have agreed to carry goods at half rates, and the principal steamship companies will carry freight at 11s. per ton, also offering a reduced passenger tariff to exhibitors and assistants, properly certified by the Royal Commission.

The horticulturist to the Imperial Court of Austria-Hungary promises a donation of Roses, comprising 200 each standard and half-standard, and 400 bushes, to be of the finest sorts. To the horticultural department belongs the honour of the first installed exhibit, which is also a donation by a local nurseryman. It consists of an Elm, 75 ft. high, and 2 ft. in diameter, weighing 10 tons; and a Sugar Maple and Ash also of large proportions. A Hackberry, a Willow, and another Elm are also to follow. The three now planted took twenty-two men and twelve horses to convey and replant them. The Hackberry is 40 ft. high, and 2 ft. in diameter, and is a most representative Western tree. Transplanting these has cost the donor 500 dollars.

The Department expects to secure much of their display thus and in exhibits, which will lessen the expense of laying out the grounds. They are now engaged in ascertaining how much can be hoped for in this way.—*C. Macquarie, Chicago.*

ALPINE PLANTS.

(*Continued from p.* 435.)

The Cultivation of Alpine Plants in this Country.

With the exception of the mountain districts there is, perhaps, no country in Europe better adapted for the cultivation of Alpine plants than this United Kingdom. It is true we have no glaciers and no snow to speak of (except an occasional blizzard). Neither can we transfer the brilliant sunshine of Switzerland to these Islands. But, thanks to its insular position, this country possesses one of the most important conditions, viz, a humid atmosphere such as cannot be found in any part of the Continent. This enables us to grow choice Alpines even better than the Swiss themselves are able to do in the lowlands of their own country, where the air is very dry. In view of these facts it is surprising that choice Alpine plants are not grown more generally in England, and that the plants in cultivation include mostly the larger and coarser kinds only. Let us enquire into

The Cause of Failure.

There seems to be a great deal of prejudice. I have often heard ladies and gentleman who have travelled in Switzerland remark that the Edelweiss and other plants from high altitudes will not thrive in this country. "We have tried," they say, "and failed." Many gardeners, too, are very shy about growing choice Alpines, and often with good reason. Probably their employers sent home from abroad a quantity of plants just torn from the mountains, almost without roots, and almost dead when they arrived. In 99 cases out of 100 such plants must naturally succumb to a speedy death, and the most skilful gardener could not have saved them. I know several cases, however, where the loss was attributed to carelessness on the part of the gardener, and the latter could hardly be blamed for expressing a wish that all Alpine plants would "go to Jericho." This is the experience of many who look upon the cultivation of Alpines as failure. Very different would have been the result if well-established home-grown plants had been used. I have already pointed out that the mountain plants in their native home are so firmly and so deeply rooted in the narrow fissures of the rocks, that it is in most cases impossible to remove them without greatly damaging the roots. To ensure success, therefore, beware of fresh importations and procure already acclimatized plants, which have been grown in this country. Another frequent cause of failure may be found in the positions where Alpine plants are grown. The right place is undoubtedly a well-constructed rockwork, exposed all round to full light and air, and on no account under the shade of trees. This should be so arranged as to provide every aspect, for although most plants require a sunny position there are several which require a north aspect, while others succeed best in an easterly or westerly position. If the work is properly constructed even the choicest Alpine plants will flourish and soon take care of themselves, giving the gardener no trouble, except that of keeping out the weeds and giving, perhaps, an occasional watering. But the composition of such a rockwork requires very much greater care than is usually given to it. A few years ago I visited a gentleman's gardens not 100 miles from Exeter, and was shown by the gardener a new rockwork, which he had just constructed for growing choice Alpines. It consisted of a round heap of well-manured garden soil, studded at regular intervals of about two feet with large stones all standing upright, and really good Alpine plants planted between. "There, what d'ye think of that?" my friend proudly asked, adding in tones of self-congratulation, "I've done it all myself." I am afraid I should have wounded his feelings if I had told him that his work resembled a large pudding with almonds stuck in endways. But when a year or two later I visited the same spot the Alpine plants were dead, with the exception of one or two of the very coarsest kinds, and the stones might fittingly have been described as tomb-stones marking the graves of dead plants. The rockery has now been turned into a shrubbery, as "Alpine plants won't grow in that part." Why so many people when making a rockwork content themselves by simply sticking long stones endways into a heap of soil seems difficult to understand. As a matter of fact, nothing could be worse. A few of the coarsest plants, which it would be difficult to kill under any circumstances, might possibly thrive in such a position, but fancy an Alpine plant from the higher altitudes in such a position as I have roughly shown on this sketch. The stones impede the free access of light and air, and as they are a foot or more apart the roots of the plants would spread close under the surface of the soil, where the slightest excess of moisture or draught would be quickly felt, and result in speedy death. Many people object to the cultivation of Alpine plants because they hate rockeries, and well they might when the work is of such a stiff and formal appearance as that described above.—*F. W. Meyer.*

(*To be continued.*)

DEUTZIA GRACILIS.

I was much interested in the notes on this valuable forcing shrub, which "Stirling" contributed to your number for March 5th. They should set those thinking as to their method of culture, who have hitherto not been so successful as they could wish in blooming the plant. It is a fact that cannot be too often stated, that if you want a plant to bloom early you must have an early growth, and well ripen it. To get this you cannot depend upon plants grown in the open air, because the shoots do not ripen quick enough to bloom by Christmas or the New Year. All forcing shrubs that are wanted to bloom early should be grown in pots, and if possible have their growths made under glass. It is surprising how quickly Deutzias so treated, and subsequently put in the open air to ripen up will come into bloom if only put into a little warmth. This is well illustrated by some plants now under my charge, which have been forced early for several years. After flowering they are put into a warm fruit house, and subsequently into the open air. Not having this year so much heat at command as in other seasons, the plants were put into a temperature of 50° by night, and they were in full bloom by the end of January. Early in the autumn a friend gave us half a dozen large plants that had been in the open border. These were potted up and put into a little warmth, but on March 9th we cut them hard back because they were bloomless. They shall now make their growth in pots and under glass.—*Con.*

FLORICULTURE.

THAT March came in blusteringly there can be no doubt, Boreas, with his stormy train, was heard roaring angrily, frost and snow were in his train, and cold of an unusual character. Let us hope it will quickly change, becoming lusty and full of life, with "crown of buds upon his open brow," and like a sturdy giant lead forth young Spring ere the month melts away into April.

Auriculas.

IN cold houses these have had a rough time of it, and for days the frost-bound soil was about their roots. One could but leave them to the tender mercies of nature. That the plants move onward in the face of hostile influences there can be no doubt. Should the cold weather change to warm, they will come on rapidly, and then extremes of cold should be guarded against. Air and light are all important—a clean surface and clean pots. I heard that collections that have had the advantage of a little artificial warmth promise remarkably well.

Carnations and Picotees.

POTTING-UP in blooming pots is now a work demanding immediate attention. Some growers have already completed potting, and perhaps it is best done early that the plants may root freely and quickly. Better to have pots of roots than soil only. Good fibry yellow loam, well-decomposed manure, leaf soil, and some rough sand make an excellent potting compost. While the weather is wintry, and cold biting winds abound, the plants are best under shelter, as frost will do much harm to those newly potted. Carnations in the open ground have suffered severely from frost and winds; the shoots should be tied up to stakes where they need it, and the soil about the plants gently stirred, and some top soil added as a dressing.

Cinerarias

ARE in flower or about to come into bloom. Light and air are indispensable, and water when the weather is drying. Care must be taken to keep down green-fly and have the plants as clean as possible. A little weak manure water will greatly benefit plants in flower, and especially such as are pot-bound.

Calceolarias.

CLEANLINESS is equally necessary in the cases of these plants, keeping them in as cool a temperature as possible, but not allowing frost to reach them. Watering must on no account be neglected, and if the plants are in a house or frame by themselves, a gentle syringing may be given of an evening in mild sunny weather, and the floor of the house kept moistened. The Calceolaria is a great absorbent of moisture, much more so than is generally supposed.

Chrysanthemums.

ROOTED cuttings should now be placed singly in small pots, using a compost made of good loam, leaf soil and sand in equal parts. They should be kept close for a few days and then have air admitted, placing the forwardest in a cold frame. Such early-flowering varieties as Madame C. Desgrange, Mrs. Burrell, G. Wermig, and Mrs. Hawkins represent a rather delicate family, and should occupy a shelf near the glass in the warmest part of the house. Up to the end of the month the forwardest potted plants can be got into cold frames, and towards the end of the month the most forward into 5-in. pots. A coarser compost can now be used, one that has not been riddled, and a fourth part of good rotten manure can be mixed with the leaf soil, such as that from a spent hot-bed, pressing the soil firmly with the fingers at the time of potting. In mild weather an abundance of air should be given so as to secure vigour of growth, indeed the frame lights may be entirely removed by day.

Dahlias.

A BED with a fairly brisk bottom heat can now be employed for striking cuttings of Dahlias. On the dung bed should be laid a couple of inches or so of light soil, then the roots can be placed upon it, and half covered with mould. Too high a temperature results in a spindly growth. What should be aimed at is short, stout cuttings. The earliest shoots put up are generally hollow and of little value for cuttings, and these may be destroyed. For striking the cuttings a light sandy soil should be employed, and the pots plunged in fermenting material up to their rims. They will root in three weeks or so according to the weather.

Fuchsias.

EARLY-STRUCK cuttings of these may now be potted in a rich compost having an abundance of leaf soil. They should have a slight shift only, and if repotted once in three weeks or so the plants can soon be grown on into size, When making a rapid growth they should be kept in warmth, be syringed frequently, and the floor of the house kept moist. Cuttings strike quickly in moistened sand in a brisk heat.

Pansies.

BEDS of Pansies now need to have the surface stirred occasionally, and kept clean of weeds. The frost may have operated to lift some of the plants and loosen them; they should be pressed firmly into the beds, and some surface soil added. Seedlings from autumn-sown seeds now in store pans or boxes should be planted out to flower as soon as the present wintry weather changes to something more in keeping with spring. A little seed may now be sown to give successional batches. Any loose shoots of old plants should be secured to stakes. The earliest opportunity should be taken of filling up vacancies in beds and lines of violas, from the store plants a wise gardener always keeps in reserve. Those who have wintered their plants in cold frames should now prepare beds for planting them out as soon as the weather becomes favourable.

Pelargoniums.

THESE are scarcely flowered so early in the year as formerly; time was when a good head of bloom in May was looked for by all cultivators. Those plants intended to bloom early should now be developing their trusses, the house should be kept moderately warm, but a gentle current of air allowed to circulate. On warm, mild evenings a syringing may be given with advantage. Later flowering plants should be led gently on to make a vigorous short-jointed growth, and be useful for house decoration at the end of June, July, and August. Green-fly will soon appear: their first appearance should be watched for, and their career cut short by a timely fumigation. The fancy varieties require to be kept a little closer and warmer than the large flowering kinds.

Pinks.

THE cold frosty winds of late have been trying for Pinks, and if they can be warded off by using sprays of Evergreen the plants will be all the better for the shelter. The surface soil may be kept fairly loose and open, and a good liberal top-dressing of rich soil given. When a change of weather comes the plants will begin to show signs of growth. Seeds of Pinks and Carnations may now be sown.

Polyanthuses

IN pots appear to be much affected this season with a kind of rot which affects the main stem at the surface of the soil. Those in borders look a little miserable from the effects of snow and frost. Happy are they who, having wintered their plants in the open ground can, now lift and pot them, with a good ball of earth adhering to the roots. Any plants in beds will be benefitted by a good top-dressing.

Ranunculus.

DOES any one grow these? It is not too late to plant in a well-prepared bed, placing the roots about 1½ in. deep in it. At this late season frost is scarcely likely to affect them injuriously. It is a pity these charming subjects are so much neglected. At one time the Scarlet Turban was largely grown round London for bunching for market, but it is rare indeed to see a bed now.

Tulips.

HAILSTORMS and high cutting winds do injury to the unprotected leaves, hence the reason for growers covering their beds when storms and frost are imminent. Any hurt to the leaf is sure to affect in some measure both the bloom and the future bulb. For bright sunshine to fall on the frozen leaves is very hurtful, and so there is need for protection from the sun also. If the leaves when stiffened by frost are stirred by high winds much damage is done. Water accumulates round the embryo blossoms after rain, and, if frozen, the effect is highly injurious. It is wise then to insist upon protection for the beds.

Verbenas.

BUT very few plants are now grown in pots for exhibition purposes, in fact, the Verbena may be said to have fallen away from the lists of exhibition subjects. Seeds may now be sown in a gentle bottom heat to furnish plants for bedding out during the coming summer, for the usefulness of the Verbena as a bedder is yet acknowledged. Young struck cuttings can be grown on for the same purpose, hardened off in due course and made as stocky and hardy as possible. Prizes are still offered at some shows for cut blooms, but they are generally poorly represented, and the Verbena appears to be a sadly declining quantity among florists' flowers.—*R. D.*

SPRING FLOWERS AT CHELSEA.

WITH the absence of fog of any duration since Christmas flowering plants even in the metropolis look quite gay again, and foggy times are almost forgotten. Although we have had comparatively little sunshine, the atmosphere has been tolerably clear, and all classes of plants have therefore profited. The frosty nights and cold north and east winds have retarded vegetation both under glass and out of doors, otherwise spring flowers would be more plentiful than they are. In various departments the houses are now gay in the nursery of Messrs. J. Veitch & Sons, Chelsea, and a little later on the Amaryllis house will offer its own special attraction to admiring visitors.

ORCHIDS.

The cool houses are not yet at their best, but several species of Odontoglossum are in bloom, including the popular O. crispum and its forms as well as some grand pieces of O. Edwardi having large panicles of rich mauve-violet flowers. The warmer divisions are gay with a great variety of Cypripediums, Dendrobiums, Phalænopsis, Angræcum, and other subjects. The list of the first-named would be too lengthy to enumerate. Amongst Cypripediums however were C. vernixium, C. villosum albo-marginatum with a distinct pure white margin, C. Mrs. Canham with its soft rosy and purple petals and large lip, C. Creon, a hybrid with a rich purple upper sepal and black veins, and C. Winnianum. The latter is a distinct looking hybrid having the upper sepal oval and yellow suffused with brown on the lower half, greenish upwards with a white edge and a broad rich dark brown midrib. Dendrobiums are represented by D. Findleyanum, D. Harveyanum, D. Ainsworthii, the hybrid D. Schneiderianum with its flattened orange-yellow lip striated with crimson at the base, and others.

Many plants of Dendrochilum glumaceum with their graceful, drooping spikes serve to brighten up the stages considerably. Amongst Angræcums are the fragrant A. citratum, the curious and small but floriferous A. hyaloides and A. fastuosum. The latter, although a small plant naturally, has large pure white flowers and spurs 3 in. to 4 in. long. Many plants of Oncidium ampliatum majus are either flowering or will soon expand their showy blossoms.

The house in this department fitted up with rockwork of Derbyshire tufa is always kept gay with a mixed assemblage of various Orchids, while the rocks themselves are clothed with the close creeping Ficus minima, Selaginella serpens and others. Amongst the things to be noted is a fine plant of Phaius Wallichi, with its pale brownish-yellow sepals and petals, and a yellow, purple, and white lip. A singular looking thing is Lycaste gigantea, with its long greenish sepals and petals, slightly tinted with a fuscous brown hue on the inner face, and its deep, rusty-red lip. Other choice plants in this house are Lycaste Skinneri alba, Cœlogyne cristata alba, both pure white, and Dendrobium crassinode album, also pure white, with exception of a large orange-yellow blotch on the lip. D. Farmeri, with its dense, drooping raceme of delicate, blush-white flowers, is also very choice.

Neither can Pleione humilis, with its lip beautifully marbled with a tawny brown, be overlooked. Oncidium luridum will also be fine in a short time. The branching flower stem is 4 ft. to 5 ft. high, and one leaf measures 25 in. in length by 4¾ in. in width, while another is 19 in. long and 6 in. wide.

The display in the Cattleya house is also fine. At this early season the bulk of the plants in bloom consist of C. Trianæ and its varieties, including numerous samples of C. T. alba. Then of this species alone there are about 650 blooms at the present time. The beautiful and interesting Lælia glauca is also in flower.

Hybrid Greenhouse Rhododendrons. Where a collection of these is kept in a house with an intermediate temperature there are always some of them in bloom. The undermentioned include only some of the best and showiest in flower at the present time. A large plant of Triumphans has been flowering grandly for some time past. The flowers are of a brilliant crimson-red, of large size and borne in large trusses. Those of Minerva are also of large size, but of a soft yellow with a crimson style and stamens. Princess Beatrice has pale salmon flowers with a rosy tint in the the throat, and crimson style and stamens. Both the trusses and flowers are large. A seedling has just bloomed with large yellow flowers and salmon-coloured stamens and style, red at the tips, but it is too close to Yellow Perfection to be worthy of a special name. The double white flowers of Balsamæflorum album last three times as long as those of the single flowered sorts. Young plants of the rose-flowered Taylori only about 5 in. or 6 in. in height bear large trusses of bloom. The blush-white flowers of Princess Alexandra are moderate in size, but very freely produced. Those of Lord Wolseley are of a salmony-orange and of large size. The old R. jasminiflorum, with its long tubed white flowers, is still a useful old-fashioned species.

The Clivias have commenced flowering and will soon be quite a display in themselves. The cool conservatory is gay with a host of spring flowering subjects, such as Hyacinths, Tulips, Lilacs, Heaths, Polyanthus Narcissus, Rhododrendrons, including many floriferous plants of Early Gem, also Azaleas, Astilbes, Dielytra, the double blossomed Chinese Cherry, Choisya ternata, Ornithogalum aureum, and many others. In another house is a most attractive lot of Boronia megastigma which scents the whole house with its fragrant blossoms. The plants are in 48-size pots, and form neat bushy specimens. The house devoted to Carnations contains a number of kinds in flower, conspicuous amongst which is Winter Cheer, a bright scarlet free-flowering kind that keeps on all the winter and spring; Irma with pink flowers, finely flaked with rose; Madame Arthur Warocque or the scarlet Malmaison; and several others are still in bloom.—*F.*

CROCUS BIFLORUS.

In a wild state this enjoys a wider distribution than any other species of Crocus, and varies more in size and colour than any other species in its native habitats, which extend from Tuscany to Georgia. The garden forms are also somewhat numerous, although less so than those of C. vernus, which is more popular for general garden decoration on account of the size of the flowers. The typical form of C. biflorus has white flowers, the outer segments of which are generally grey on the external face, beautifully striated and slightly feathered with purple. The internal face of all the six segments is white; the style or stigmas are scarlet, and the stamens yellow. The species is frequently designated the Scotch Crocus, and although not so common in Scotland as it was at one time, yet it does very well there. The segments in some varieties are of a pale lavender hue; and some of the wild forms are very diminutive in the size of their flowers, and vary through several light shades to a pure white.

TREES AND SHRUBS.

Ornamental Flowering Trees and Shrubs. Æsculus (Horse-Chestnut).—With the common Horse-Chestnut (Æ. Hippocastanum) most persons are familiar, it being not only one of the handsomest of our park and woodland trees, but undoubtedly the most ornamental from a floral point of view.

Æ. rubicunda (Scarlet-flowered Horse-Chestnut) is of smaller growth than the latter, with a nicely rounded head, and produces a great wealth of showy scarlet flowers. For confined spaces or where ground is limited it is one of the most useful hardy tree that have yet found their way to this country.

Ailanthus glandulosa (Tree of Heaven).—A handsome, low-growing tree, with large pinnate leaves, and terminal panicles of flowers. For the town garden or planting by the seaside, it is a most useful acquisition, while being of free growth and easily suited with soil few situations come amiss to it.

The China Fringe Tree: Chionanthus retusus.

Akebia quinata is a pretty twining plant with palmately divided leaves and small purplish highly fragrant flowers. It is a very effective wall plant, and though not perfectly hardy in the northern portions of these Isles is yet rarely injured throughout England generally. A light warm soil suits it well.

Aloysia citriodora (Sweet-scented Verbena), though usually grown as a pot plant, is yet peculiarly suitable for using as a wall shrub, and in which position, in most parts of England, it succeeds admirably. With the grey green and agreeably scented leaves and whitish or lilac panicled flowers most persons are familiar.

Amelanchier canadensis (Juneberry).—In April this is one of the most distinct and showy of ornamental flowering shrubs, or rather small growing trees. The flowers are of the purest white, and produced in such abundance as almost to hide the branches from view, while they are of good substance and last for a long time. There are numerous forms or varieties in cultivation, while the European so-called species, A. vulgaris, is not sufficiently distinct from the American plant to deserve particular notice at our hands.

Amorpha fruticosa (Bastard Indigo), with its pretty purple flowers and elegant divided leaves, is an extremely interesting decorative shrub. It succeeds well almost anywhere, and being perfectly hardy and of free growth is a desirable acquisition to any lawn or shrubbery.

Amygdalus (Almond).—Of this handsomest of the early flowering trees there are several forms, the best known and most widely cultivated being A. communis amara (the Bitter Almond) with small pale pinky plentifully produced flowers. A. nana (the dwarf Almond) is a neat and highly ornamental shrub that in early spring is usually smothered in flowers. The Almonds are of easy growth, doing well in any fairly rich garden soil, while as to flowering qualities they have certainly few if any rivals.

Andromeda.—A widely diffused genus containing some of the most showy and ornamental of hardy peat-loving shrubs.

A. Floribunda (Lily of the Valley Tree) is at present one of the handsomest of shrubs, every twig being tipped with numbers of the pure white Lily of the Valley like flowers. Being perfectly hardy and of neat growth it is at once one of the choicest subjects for the border or shrubbery.

There are several other species, including our native A. polifolia with pretty pinkywhite flowers; A. tetragona, a small growing shrub with white flowers; A. calyculata, of medium growth and remarkable for the great wealth of white bell-shaped flowers that it produces in spring; and A. Mariana, another distinct and desirable species.—*A. B. W.*

The China Fringe Tree. — The botanical name of this plant is Chionanthus retusus, and the generic name comes from two Greek words signifying snow and flower, in reference to the snow-white flowers. The plant is a low shrub, a native of China and Japan, from whence it was introduced to this country in 1850. It flowers in May, and the blooms are produced in cymes terminating the shoots. Just before expansion they resemble the flowers of a Snowdrop, but when in full bloom they are erect with deeply four-parted corollas, the segments of which are narrow as in the Flowering Ash (Fraxinus Ornus), and both are members of the Olive family. C. retusus has been grown in the open air in this country and proved to be hardy. The flowers are sweet scented.—*J. F.*

ACACIA DRUMMONDI.

Several of the Acacias are of great ornamental value during the winter and spring months, but few if any are of more value for this purpose than A. Drummondi. The leaves are bipinnate, with two pairs of pinnæ of a rich dark green colour, which serves to set off the delicate beauty of the long, drooping spikes of the clear yellow flowers. The plant is of a dwarf, bushy, and branching habit, and therefore very suitable for greenhouses of small dimensions where space is a serious consideration. During the summer time, the Acacia may be stood out of doors, which will enable it to ripen its wood properly.

NATIONAL CHRYSANTHEMUM SOCIETY.

THE annual meeting of this society was held at Anderton's Hotel, Fleet Street, E.C., on Tuesday evening, Mr. Robert Ballantine presiding. The report of the committee read by the honorary secretary, Mr. R. Dean, was as follows:—

"Your committee are glad to be able to report that during the past year the society has fully maintained its position; its work is to-day appreciated at home and abroad more heartily than at any previous period in its history, and the highest possible testimony to the success of its endeavours to encourage and assist those who are engaged in the culture of the Chrysanthemum is to be found in its constantly increasing list of members and affiliated societies. At the present time it numbers 656 members and 87 affiliated societies.

"The exhibitions held at the Royal Aquarium during the year 1891 have been quite worthy of a society calling itself National, and there has been but little evidence of the exhaustion of public interest which was expected by some after the unusual efforts put forth during the centenary year. The display of early Chrysanthemums and Dahlias in September was extensive and very attractive, although the season was somewhat unfavourable. The great November show, which occupied three days, was an agreeable surprise both in the numbers and quality of the exhibits, considering the great difficulties with which growers had to contend owing to the wetness of the summer and early autumn. The committee greatly regretted their inability to obtain, as on other occasions, the use of St. Stephen's Hall; in consequence the general effect was largely spoilt by the necessary crowding caused by the great curtailment of the space at their disposal. Throughout the show both cut flowers and specimen plants were remarkably good, and the competition in the leading classes very keen. The contest for the Challenge Trophy was of a very spirited character, and this feature of the November show is growing in popularity among provincial societies. The experiment of a December instead of a January exhibition, as heretofore, was tried, but the result was somewhat disappointing, and the committee have decided to substitute for it, in 1892, an October exhibition.

"The Floral Committee has done a large amount of most useful work, and its meetings have created a great deal of interest, being numerously attended, whilst its awards have given general satisfaction. Whilst a large number of flowers have been submitted for adjudication the committee have been somewhat cautious in granting certificates, and will continue to exercise great care in this respect. An additional meeting of the Floral Committee will be held this year in the month of September.

"The Conference on Chrysanthemum Sports which was held in connection with the November show, was well attended, and the papers read by the Rev. Prof. Henslow, M.A., and Mr. Norman Davis excited great interest. These papers, together with the awards of the Floral Committee, will appear in the schedule for 1892, and the committee hope that these additions will render the latter more interesting and useful to the members.

"As the advisability of increasing the size of exhibition boards for Japanese blooms has been much discussed and the society strongly urged to take action in the matter, it has been decided to hold a conference on the subject in connection with the October show. In view of the great differences of opinion among growers with regard to the matter the committee are of opinion that the question should be fully considered in all its bearings and the opinion of the provincial societies ascertained before any change is made."

The financial statement showed the total receipts to amount to £845 15s. 5d., the principal sources of revenue being the subscriptions of home and foreign members, £197 10s. 5d.; affiliated societies, £108 8s. 6d.; special prizes, £77 8s. 6d.; donations, £10 1s.; and Royal Aquarium Company's contribution to prize fund, £305 8s. 6d. The total expenditure amounted to £837 15s. 5d, the balance in hand being £8. The principal items of expenditure were:—Prizes, £423 3s.; purchase of medals, engraving, etc., £94 6s. 10d.; printing, £131 9s. 2d.; clerical assistance, £50; etc., etc.

The report and statement of accounts were unanimously adopted, and a cordial vote of thanks accorded to the auditors, Mr. Cobbold and Mr. Crane, for their services. Mr. Leopold de Rothschild was unanimously elected president; and the names of Sir John T. D. Llewelyn, Mr. Martin R. Smith, Mr. Samuel Barlow, and Mr. H. R. Williams were added to the list of vice-presidents. The treasurer, Mr. J. R. Starling, chairman, Mr. Ballantine, vice-chairman, Mr. Jukes, secretary, Mr. R. Dean, and foreign corresponding secretary, Mr. C. Harman Payne, were all re-elected and thanked for their services during the past year. The following gentlemen were also elected to serve on the committee for the next three years:—Mr. W. H. Fowler, Taunton; Mr. Arthur Veitch, Chelsea; Mr. G. S. Addison, Mr. Rowbottom, Mr. Bevan, Mr. Shoesmith, Mr. A. Taylor, Mr. R. Owen, Mr. Langdon, Mr. Kendal, Mr. Turk, and Mr. Brooks, Highgate. Mr. F. A. Cobbold and Mr. G. J. Ingram (secretary of the Gardeners' Royal Benevolent Institution), were appointed auditors.

After some discussion it was resolved on the motion of Mr. Fowler that rule 3 should be amended, so as to make it read that no retiring member of the committee shall be eligible for re-election who fails to attend six times during his term of office. It was also resolved that a general meeting of the members should be held annually on one of the evenings of the November show. Mr. C. Harman Payne, read a letter received from a gentleman in New Zealand, who stated that he was anxious to get the opinion of the Society's Floral Committee as to the merit of some of his seedlings raised from home-saved seeds, and as the plants would be in bloom in April, he proposed, as an experiment, to send some blooms to London frozen in blocks of ice. Mr. Payne was instructed to offer every facility for the trial of such a novel and interesting experiment, and to summon a meeting of the General and Floral Committees immediately the flowers arrive. A hearty vote of thanks to the chairman closed the proceedings.

UNITED HORTICULTURAL PROVIDENT AND BENEFIT SOCIETY.

THE annual meeting of this society took place at the Caledonian Hotel, Adelphi Terrace, W.C., on Monday evening, Mr. Robert Cannell presiding. The report of the committee for the past year congratulated the members on the increase of their number which had taken place during the year, and which brought up the roll of benefit members to 413. There had again been a good deal of sickness among the members, owing to the influenza epidemic, which had involved an expenditure under this heading of £119 10s. 6d. Three deaths had occurred during the year, and the amounts standing to the credit of the deceased members had been paid to their nominees. The Benefit Fund had been increased during the year by about £600; and the Benevolent Fund also showed an increase of some £140. The accounts presented showed the treasurer's receipts during the year to have been £1,923 18s. 10d., including the balance carried forward from last account of £75 19s. 7d., and his disbursements £1,801 17s. 4½d., leaving a balance in his hands of £122 1s. 6½d. The Benefit Fund showed receipts amounting to £4,984 2s. 6d., made up of the sum of £4,222 4s. 9d. brought forward, and £761 17s. 9d. received in subscriptions, interest, &c., while the expenditure, including sick pay and repayments to nominees of deceased members, etc., amounted to £206 14s. 0¼d., leaving a balance in hand to date of £4,777 8s. 5¾d. The receipts in regard to the Benevolent Fund, including £1,561 2s. 11d. brought forward, amounted to £1,720 18s. 4¼d., and the expenditure to £30, leaving a balance in hand of £1,690 18s. 4¼d. The receipts from the Management Fund amounted to £126 11s. 0¾d.; and the expenses to £95 9s. 3¼d., leaving a balance in hand of £31 1s. 9½d.

The report and statement of accounts were unanimously adopted, and most cordial votes of thanks accorded to the auditors, the members of the committee, the treasurer and the secretary, the latter of whom were re-elected to their respective offices. Five new members were elected, and during the proceedings it was announced that the committee considered that the time had arrived when the valuable services rendered to the society by Mr. James Hudson, the treasurer, should be suitably acknowledged by the members. It was therefore proposed to present him with a testimonial at the annual dinner in October next. A cordial vote of thanks to the chairman concluded the business of the meeting.

ODONTOGLOSSUMS.*

I INTEND in this paper to give as nearly as possible my own experience in the cultivation of these beautiful plants. In the first place I propose to deal with the plants as soon as they are received from an Orchid nursery. As a rule they ought to be repotted or examined before being placed in the Odontoglossum house, as very often they are potted too hard for the roots to strike into the material, and then they ramble over the top and outside of the pots, where they are likely to take injury from the slightest change of temperature or dryness of the atmosphere. Also they not unfrequently contain a quantity of residents in the shape of some or other of the various kinds of snails, woodlice, centipedes, ants, young cockroaches, thrip, green-fly, etc., all of which soon begin to multiply if not destroyed at once. The repotting should be done as gently as possible, putting a little fresh sphagnum under the new growths, for all new roots to strike in, filling the pot three-fourths with broken crocks first, laying some fresh sphagnum on the top to stop the peat when decaying from being washed into the drainage, filling up round the plant with fibrous peat and fresh sphagnum, the plant being well up above the rim of the pot; then surface-dress with a little fresh sphagnum. It is advisable to renew the sphagnum and peat every year as the peat soon decays into mould, which, if short of fibre when wet, gets into a kind of blackish-brown mud which poisons every root amongst it, and causes their decay also. Sphagnum, no matter how it grows, after a while loses its original nature, gets very soddened and wet, and if not in active growth rapidly decays and dies, stopping the circulation of air amongst the roots. I have no particular time for potting Odontoglossums, except that I like to examine them just as they are beginning to make their young growths, and add a little fresh moss for the new roots to strike in if they do not need potting.

The temperature of the houses in winter should not get below 40° if possible, and then the plants and roots must be very dry, or there will be danger of rot starting in all plants in active growth, especially if there is any drip from the roof upon the plants. A temperature of 45° or 50° is better for all the O. crispum type. During the last winter my house was down to 35° several times, still I have not noticed any injurious effects, and all are now growing freely. I am very particular about maintaining a damp atmosphere when the plants are growing, and to keep them so I never open the ventilators even if the sun runs up the temperature to 90°, but trust to shading and syringing to keep them cool. I ought to say, however, that my houses are situated underneath a row of trees that keeps the sun off after 11.30 in the morning, consequently I have not the hot afternoon sun to burn the foliage, which soon shows by turning yellow and then dropping off.

In 1885 I had a house full of Odontoglossums that got frozen, in fact the house got down to 30°, and every plant except O. Rossi majus perished, which plant I have now. At the time of the disaster the plants were very wet, which I think helped to do all the damage. As usual the cause of my trouble was a defective boiler, which gave out when most wanted through heavy firing. I had only one house at the time, and I tried covering up with newspapers, etc., still they got frozen. I have tried several plans for saturating the atmosphere of my houses, but find that ordinary slates laid upon the staging and covered with sand 1½ in. thick, is the best. The plants stood upon pots, so that any moisture arising out of the drying of the sand has to pass through the pots and amongst the foliage of the plants. The hot-water pipes should not be heated above 140°, or there will be a dry heat which has a tendency to shrivel the bulbs when at rest and cause loss of foliage.

Different Odontoglots require different treatment; for instance, O. Harryanum likes a temperature of 45° minimum, and as high as you like under 100°; it also likes less water than the O. crispums. It seems to be always growing with me, getting stronger every year. O. Rossi majus, O. crispum, O. gloriosum, and O. tripudianus will grow very cool, but like to have their foliage syringed with a fine spray every morning, except when frosty. O. cirrhosum and O. blandum like even more water than does O. Crispum when growing, and they also enjoy the warmest corner of the Odontoglossum house. They are very

* A Paper read on March 5th, before the Chester Paxton Society, by Mr. WM. BOLTON, Warrington.

susceptible of cold. If the bulbs are not well ripened and the atmosphere is kept moist, I find the edges of the leaves are apt to dry up to the bulbs, so that any moisture or water runs down the leaves to the base of the bulbs and rots either the young flower spike or the bulb itself. O. Pescatorei likes more air than O. crispum, and also less pot room for its roots. It requires little or no rest, in fact, as soon as the bulbs are matured they begin to push up their flower spikes. Such species as O. ramosissimum and O. Edwardi require to be grown in the coolest part, with an unlimited amount of moisture. They make long, thick roots, which grow very fast and need a little care to keep them from getting damaged.

Odontoglossum grande, O. Insleayi, and O. Schleiperianum require a little more warmth in winter, and some growers allow them to get quite dry, bnt I do not see the advantage of this, as I find they make good bulbs and flower quite as freely if they are kept moist; in fact mine are never allowed to lose their foliage. They do not start into growth till the end of April; but in January the eyes begin to get plump, waiting for a change in the temperature of the house. Then I give them a little extra water, when they begin to put forth their growth. I keep them shaded with all the light the house affords.

In watering all Odontoglossums I use pure rain-water caught on the greenhouse and run into cement tanks underneath the staging, where it is stored at the same temperature of the house, as I think to use water several degrees colder than the house is not an advantage but a loss. I do not care to use any manures whatever, either fish, potash, soot, or guano, etc. I think I get as good results as those who have used them, and in some cases the new bulbs are quite as large again as the old ones, so do not see where the advantage comes in, as all manures have a tendency to rot the potting material and turn it sour unless repeatedly washed out. O. maculatum, O. cordatum, and O. Uro-Skinneri like to have a cool corner but plenty of sun, as it strengthens the foliage and they flower freely, often with seven and eight blooms upon a spike of O. maculatum. A batch of O. polyxanthum I have has done remarkably well under cool treatment with a very liberal supply of water. I am under the impression that this species and a great many others of its class must come from regions of forests where the moisture is always condensing and teeming down the foliage, like what is known as a Scotch mist. O. Halli is another sort that has a good constitution, and with a little liberal treatment soon makes good bulbs and blooms freely. O. luteo-purpureum and its var. sceptrum, O. Lindleyanum, and O. constrictum grow remarkably well with the treatment of O. Halli, and all seem to like their foliage kept moist and clean.

The new Cochlioda noetzliana I have had very little experience with so far, but it seems to like cool treatment as it refused to grow amongst some O. vexillariums, but directly it was removed it began to start away and grow with a vigour that I was surprised at. I am hoping great things from this plant if all that is said about it comes true.

(To be continued.)

OLD GARDENERS.

It is my privilege to be "one of them," for a very long time has elapsed since I was a young one. This I may say, however, that had I to begin life anew I certainly should choose the same avocation; but I think, and have many times expressed myself thus, that I would much prefer to start in the profession at the time that I did commence—before a gardening newspaper had an existence in this country. We may live now in days of great prosperity, and possess a great wealth of floral beauty, but I am led to question very much if there exists a greater appreciation of the beauties of nature in all her varied forms at the present time than existed in the old time gardening, more than half a century ago.

Your leader at p. 432, bearing upon the experiences of old gardeners, which I have just perused, has infused vitality into one's ideas that are so closely associated with the welfare of those under consideration, and affords abundance of food for serious thought. We most thoroughly conceive that in all professions, some are more or less, as the poet Burns has it, "favourites of fate." And again, when we start upon the first round of the ladder "we little know the ills we court when manhood is our wish." Excelsior is the theme of our aspirations as on the road our course is pursued, but some out of the many it may be are not so highly favoured (although not the less worthy) as others, the sun of prosperity does not seem to shine on all alike. Opaque-like clouds become apparent and render the path rugged, and the forecast of a doubtful character; and as you have in a graphic and concise form vividly put before your readers, many of the misfortunes that befall a gardener from the time that his blood is freely and warmly coursing through his veins till it becomes less active and the temperature is registered below summer heat. This is the period to which we should look forward, for, as Burns has it, is sad indeed to be under the necessity of realizing "Age and want is an ill-matched pair."

Gardeners for the most part are like birds of passage: they can never consider that they are permanently located in any spot, however well the surroundings may present themselves; and I may here observe that here comes the test question as to what a gardener can really do in providing for his declining years; in very fact, in numerous cases, absolutely nothing. Many can speak feelingly in this respect, even those who have led temperate lives, and have been assiduous in their endeavours to command and maintain a respectable position in society. Gladly would they, if they could, have contributed to some good cause, so as to be able to receive something to comfort and sustain them in their declining years. True, we have benevolent institutions, which are doing excellent work in this direction, but that good work wants extending by more liberal aid from the affluent, for whose tastes and pleasures the gardener incessantly toils almost night and day, ofttimes under those difficulties of which no one but himself has the least conception.

Having been a gardener for so many years my sympathies are naturally with my brother gardeners, and I would that the unfortunate could all be placed in a better position at the time when the old tree begins to show diminution in fruitfulness, after having contributed much that has tended to elevate and enhance the comfort and happiness of the community in general.—*Man of Kent.*

HARDY PLANTS FOR GROUPS AND MASSES.

Much of the interest and beauty of a well-kept garden depends upon the right plants and flowers being grown in the right place; and while some of the plants named above may occasionally find suitable positions in the flower garden proper, yet they are mostly seen to the best advantage in masses and groups on the grass. They form a natural transition from the formality of the geometrical flower garden to nature, and nature's gardening in the fields and woods beyond. In nature we see grand effects produced by masses of very common flowers. Most of us can call to recollection the glorious purple of a sunlit hillside when the native Heather is in bloom, or a woodland glade lighted up with thousands of scarlet Foxgloves, or bright white countless Primroses, or the blue of the wild Hyacinth.

Although within the boundaries of the garden we cannot work on the extensive scale of nature, yet we may with advantage take a lesson from her book, and dispose such of our hardy plants as may be suitable in masses and groups sufficiently large to show their distinctive character to harmonise with their surroundings, and to give additional interest and beauty to the garden. In positions by the margins of shrubberies, near walks, by the edge of the lake or river, or to break up a monotonous stretch of lawn, these hardy plants may be used with good effect. Some kinds like the Polygonum Sieboldii and P. sacchalinense may be usefully employed to cover bare spaces with luxuriant growth and foliage, where little else will grow. It may be further urged in these labour-saving times, that when once planted they require no further attention beyond an annual dressing in spring, and keeping clear of weeds till the plants grow sufficiently to keep the weeds down by the density of their growth.

Another strong point in their favour is that they are self-supporting, requiring no staking or tying, supporting themselves in sturdy robust independence. As they are mostly of a free, graceful habit of growth, they do not accommodate themselves to angles and corners of geometrical pattern, but are seen to most advantage, and are most at home, in beds cut out in grass, with free natural curves, avoiding sharp corners and points. If something geometrical is preferred, then the plain oval, circle, or parallelogram is most suitable. As the plants usually occupy the same position for a number of years, it is advisable to prepare the beds well in the first instance, particularly in the case of those of gross feeding tendencies and of luxuriant growth.

If the soil is shallow, enough should be added to bring the depth to about 18 in., and manure or compost added according to the requirements of the soil. Drainage must not be overlooked if the natural drainage is not sufficient—as a water-logged soil in winter and spring would probably result in unhealthy growth.

One of the most useful plants for a mass of color is the Lythrum roseum. It usually attains a height of from 3 ft. to 4 ft., and bears long spikes of rosy purple, and when grown in masses of some size invariably attracts attention. It is a gross feeder, and well repays a little trouble in the way of providing a deep rich soil. It is equally at home in the water, in creeks and bays, by the edges of lakes or rivers. Masses of this plant used to be grown at Cliveden, with excellent effect, in creeks on the edge of the river Thames. It does equally well, however, in suitable positions in the grounds where provided with a good root run. It is usually propagated by division of the roots and crowns in spring, and is planted about 12 in. to 18 in. apart.

Another useful plant for growing in quantity is the old Fuschia Riccartoni. It does well with ordinary attention anywhere, but is perhaps most at home in positions near the sea, where the annual growth is not killed down, and where in the open it attains a height of 8 ft. to 10 ft., and on the walls 15 ft. to 20 ft.

In most situations inland the annual growth is killed down, but it grows freely from the crown in spring, and many prefer the appearance of the F. Riccartoni when cut down annually, as it usually attains a height from 2 ft. to 3 ft. in a season, and flowers freely on the young growth. Tritonia Uvaria is capable of being employed with great effect where a bright bit of colour is wanted late in the season; the plants present a creditable appearance all the year round, but in September and October, when other plants are showing the sere and yellow leaf, the Tritonia is bright with orange scarlet, and merits the common name of "red hot poker" often applied to it. There are a good many varieties of the Tritonia, the old T. uvaria being perhaps the most useful and best known. There is T. nobilis, a strong-growing variety, with stems of 6 ft. to 7 ft. in height, bearing immense spikes of orange red. Other varieties are T. Burchellii, T. glaucescens, and T. grandis. T. corallina and T. Macowanii are dwarf varieties.

For a mass of white perhaps nothing in its season equals the white Japanese Anemone, Honorine Jobert. From August till the first sharp frost the white Anemone is a sheet of white. The flower stems are produced very freely, and attain a height of from 2 ft. to 3 ft. Each stem produces a number of flowers which open in succession, and so prolong the blooming period. The leaves are a fine dark green, and are very ornamental. They are also useful for mixing in arrangements of flowers in vases and for table decoration. The red variety, named Rubra, is not such a strong grower as the white, and, though very useful for small beds or lines, is not so satisfactory in a large group. Anemone hybrida is a cross between the red and white, is of a bluish colour and grows as strong as the white Anemone, but the colour is not so distinct and effective.

The plume Poppy, Bocconia cordata, is well worth a place where a group of sub-tropical character is required; it grows from 3 ft. to 5 ft. in height, the stem ending in a branching plume or spike of a light fawn colour. The leaves are beautifully shaped, the under side being downy and white, and when stirred up by a breeze the shimmer of white is something like that of the woolly-leaved Poplar. A large mass of Bocconia is very characteristic, and produces quite a sub-tropical effect. It flowers in September, and is much frequented by bees.

Rudbeckia Newmannii forms a striking mass of yellow in autumn; unlike some of the preceding plants, it is best when grown in rather poor soil. In rich soil it grows to a height of 5 ft. or 6 ft., but when grown under poorer conditions, it flowers at a height of 3 ft. to 4 ft. and is self-supporting. The

flowers are yellow with a maroon disc. There are several other varieties of Rudbeckia—R. Californica, R. laciniata, and R. sub. tomentosa—useful varieties for cutting, but R. Newmanii is perhaps the best for all-round use. Polygonum Sieboldii is most useful for furnishing a luxuriant sub-tropical growth in positions where the soil is thin and poor, and where most other things refuse to grow satisfactorily. It is a very effective plant for a mass, and when fairly established comes up very robust and free each season. It has a quick-growing hollow stem, not unlike a bamboo, grows to 4 ft. to 5 ft. in height, flowers about August and September, bearing a Spirea-like cluster of white flowers in the axil of most of the leaves. The stems in the early stages of their growth are streaked with crimson, and are usually about an inch in diameter at the base. Polygonum sachalinense is another useful variety frequently used on the continent for groups on the grass and in bare situations. Polygnum rubrum is a good variety, flowering in September, grows from 2 ft. to 3 ft. high, the stems bearing in the axils of the leaves a profusion of flowers of a deep red colour. The Polygonums are usually propagated by roots and crowns; when planted firm, 1 ft. to 15 in. apart, they soon fill the ground and form an effective mass of sub-tropical appearance.

The plants here mentioned are a few of those which may be depended upon for groups and masses, and are of sufficient hardiness to withstand our variable climate, though they do not exhaust the list. Among deciduous hardy shrubs the golden elder, Sambucus nigra aurea may be used with good effect for a mass of yellow. The Acer negundo variegata for white and green, while in some places many of the new Japanese acers afford considerable variety of colour and are fairly hardy. For foliage of great size the Dimorphanthus Mandschuricus is effective and hardy. For a shrubby mass of silvery grey, the sea buckthorn, Hippophæ rhamnoides, is ornamental and striking, it is also one of our best shelter plants. The golden-edged tulip tree, the Liquidambar, the Kolruteria, and the Rhus Cotinus, are all effective subjects, and are well worth being more extensively used.—*D. Melville, Dunrobin,' in Transactions of the Scottish Horticultural Association.*

PHYSALIS PERUVIANA.

I HAVE grown Physalis Peruviana under the names Cape Gooseberry (not Dwarf Cape Gooseberry), Physalis Peruviana, and P. pubescens. As compared with P. pubescens, it is a much tronger grower, the plant standing partially erect and attaining a height of one and a half to three feet; leaves thicker, less regularly toothed, more pointed, heart-shaped at the base, and very pubescent or fuzzy: flowers larger ($\frac{1}{2}$ in. or $\frac{5}{8}$ in. long), open-bell-shaped, the limb or border widely spreading and light yellow, the interior or throat blotched and veined with five purple spots, the anthers blue purple. The husk is thicker and larger than in the last, somewhat hairy, and has a much longer point. This species is too late for our climate. At Lansing, Michigan, during two or three years, the flowers did not appear until the middle of August, and very few ripe fruits were obtained. Here at Ithaca perhaps a fourth of the crop ripens. The berry is yellow, not glutinous, and much like that of P. pubescens in appearance, but it seems to be less sweet than that species.

This plant has been cultivated for two centuries, probably. It was described and figured by Morison in 1715 in England. In 1725 Feuillée gave a description of its cultivation in Peru, saying that it was then cultivated with care and was greatly esteemed as a preserve. The particular form of the species cultivated in our gardens is that which was described and figured by Sims in 1807 as Physalis edulis, the "edible Physalis." Sims' account says that "this plant is a native of Peru and Chili, but is cultivated at the Cape of Good Hope, in some parts of the East Indies, and more especially at the English settlement of New South Wales, at which latter place it is known by the name of the Cape Gooseberry, and is the chief fruit the colonists at present possess; is eaten raw, or made into pies, puddings, or preserves." This plant is rarely sold by American seedsmen. I have grown it mostly from French seeds. I once had it from New Zealand under the name of Cape Gooseberry.—*L. H. Bailey, in Bulletin of Cornell University, Agricultural Experiment Station.*

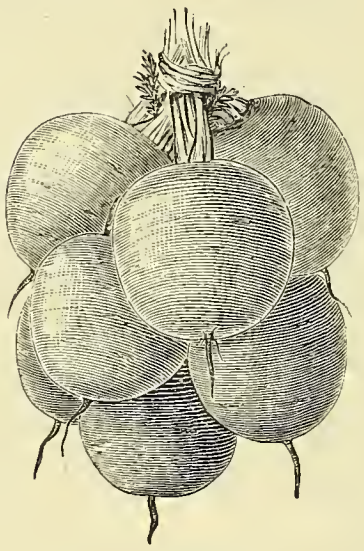
THE VEGETABLE GARDEN.

VEITCH'S EXTRA EARLY FORCING RADISH.

FEW things in the way of Salading materials are more appreciated at the Breakfast table than a dish of nice, young, fresh Radishes, and especially early in the year. In most garden establishments of any pretensions, as soon as the new year comes in, then begins the demand for forced vegetables, and to obtain Radishes thus early is no great task, especially when there are pits heated with hot water available. Failing these they can almost as readily be obtained by the aid of frames on ordinary hot-beds. The demand we have to supply for young Radishes and early Carrots is very great, and we have to supply

EXTRA EARLY FORCING RADISH.

them as long as possible. Early in January we fill up a brick pit with fresh leaves and stable litter, and as soon as these have settled down we put on 6 in. of soil, and when it has become warmed through, we make a sowing of Parisian Forcing Carrot, a variety which grows almost round, mixing with it some seeds of the Extra Early Forcing Radish. This year the seeds were sown on January 21st., and in a little more than five weeks we began to draw Radishes quite large



PARISIAN FORCING CARROT.

enough to send to the table. With ordinary varieties of Radishes there is an objection to sowing them with Carrots because the leafage of the former prevents the free development of the latter, especially when they are thick on the ground; but this is obviated by sowing the Extra Early Forcing because they produce such a small top that there is hardly enough for bunching. It is the quickest growing variety I ever saw, and so bright and attractive in appearence that every one who wants early Radishes should grow it.—*Con.* [Our correspondent sends a sample which well merits all the praise he has bestowed on this variety.—ED.]

VEGETABLE NOTES.

GENERALLY speaking there is little advantage gained by sowing the main crops of vegetables before the third week of March, more especially in northern and late districts. We have to admit having profited by hearing of the failures of those who after sowing in haste have had to repent of their actions at leisure. Not only is double labour in resowing in some instances necessary, but too often the crops are behind time in being ready for use. Where a full and constant supply of culinary produce is in demand, extra early sowings are sometimes risked, but these should only be on as small a scale as possible, in order only to tide over a short period of probable scarcity.

Referring to Celery, for instance, not required before October, handsome sticks of crisp and solid produce, with an almost entire absence of "bolters," may be easily secured, although the seed is not sown till the 1st of April and planted out about the end of June. Sowings made a few weeks earlier in strong artificial heat require much more careful management in the matter of supplying the seedlings with water regularly and gradually turning them to a cool temperature preparatory to final transplanting. There are no surer methods of producing a crop of seed than the neglect of these items. Checks from planting out early in the season while frosty nights are common will also induce "bolting."

Beet also, although sown on thoroughly prepared land, will often run to seed if the operation is performed long before the 1st of May. So precisely was the time table of one particular grower near the Scottish capital many years ago framed, that he objected to commit his Beetroot seed to the soil sooner or later, weather permitting, than the day following the district spring fast at the end of April. Such hard and fast rules in gardening may possibly not find favour with many, but there were not a few old school gardeners addicted to this so-called failing the excellency of whose produce by no means reflected unfavourably on their practices. Reverting to Beetroot, I may note that I have been witness to many loads of it being consigned to the rubbish heap which had bolted, and there was every reason to believe that too early sowing was the sole cause.

Swede Turnips, when grown for winter use, are also liable to be lost for kitchen use from a similar cause, which I have also had the opportunity of noting. From the 20th of May till the 8th of June is a good period to sow for successional crops. Many sowings of the Brussica tribe of plants might also well be made later in spring. There are instances where the seedlings are stunted from being overcrowded in the seed-beds, when the pricking-off system is not adopted and planting out not done at the proper time. Seedlings of such things as Onions, Carrots, Leeks, and Parsely I have always found to come away with more freedom of growth when patience was exercised in waiting for the right moment to set to work.

It is always well for us to bear in mind that a dry, mellow bed for seed sowing is one of the most important factors for promoting success in vegetable culture, and time may be gained by turning the surface soil of seed beds to the action of what sun and air is available for some days prior to sowings, more especially if it approaches a tenacious texture—*Dr. Mackie, Ayrshire.*

GARDENING MISCELLANY.

EPIPHYLLUM TRUNCATUM AS A WINDOW PLANT.

BRAZILIAN plants are by no means frequently grown as window plants, yet the subject under notice is perfectly amenable to that mode of treatment. We noted some plants of it in a window of Mr. Holmes' dwelling house at Brimpton, Berks. They are grown in pots and stood out of doors during the summer months; and this no doubt conduces to the proper ripening of the wood and the development of flower buds. Under this mode of treatment the plants flower later, as might be expected, than when grown in a greenhouse or intermediate house with the temperature usually kept up in those respective places; but they had nevertheless commenced to bloom by the last week in February or even earlier. In hothouses the plants are very liable to be infested with mealy bug, but the window-grown specimens were as clean as a new pin, healthy, and bushy. They were not grafted and in the standard form as usual, but had been grown from cuttings, a fact which accounts for their dwarf habit. The stems were numerous and freely branched, with the flower

bearing branches drooping in a graceful manner. Standards could be formed by training up the leading stem to the desired height and then allowing it to branch from the top. They are usually however grafted at the desired height on the stems of Pereskia aculeata, or P. Bleo, belonging to the same family, namely, the Cacteæ.

STRIKING CARNATION CUTTINGS.

It may not be known to all of your readers that Carnation cuttings can be rooted as easily as those of Pelargoniums. Have some clean well drained pots filled with a mixture of loam, leaf soil and sand in equal parts, and pressed down firm. Then get the cuttings, in the preparation of which lies the secret of success. Instead of cutting it square across under a node or joint, make a longitudinal cut through two or three joints as is done in cutting a tongue for layering. Having dressed the cuttings in this manner dibble them in the pots closely and 90 per cent. will strike root. I have several times tried this plan during the last two years with all sorts of varieties, and found it very successful.—*W. N.*

ACACIAS.

Among other plants that add materially to the riches of the greenhouse or conservatory at this season the Acacias are well worthy of cultivation. The well known A. armata, A. grandis and A. Riceana are each very showy species, and when grown to a height of 3 ft. or 4 ft. in a mixture of good peat and loam, form magnificent specimens when in full bloom. A small plant of the latter kind, which I received in a 5-in. pot a few years ago, was grown on and last year stationed as a climber in a lofty conservatory, where it is at present flowering freely. The long trailing racemes of bloom which abound from base to apex of the pillar on which it is trained presents a singularly graceful and pleasing effect.—*D. N., Ayrshire.*

ERANTHUS HYEMALIS.

I noticed the subject of this note in full bloom a fortnight ago, the numerous yellow flowers contrasting admirably with its green foliage, and the moss-covered rockwork. At this early date many seedlings can be seen in their first leaf. The plants in question seem to fully enjoy the position they occupy, which is under some standard Yew trees with shrubby surroundings. There is another variety of Eranthus cultivated, E. Sibiricus, having only five sepals while the former has six. The flower is yellow and it blooms in March and April. They are natives of Western Europe and Siberia, and are both pretty little hardy tuberous-rooted perennials.—*W. N.*

DAPHNE MEZEREUM.

A fortnight ago I noticed two fine examples of this useful shrub in full flower, one specimen growing in a herbaceous border being fully 5 ft. high and 4 ft. in diameter. It was densely covered with its red pear-like blossoms, which quite filled the air with their delicate perfume. This Daphne is a deciduous shrub, perfectly hardy, and thrives best in a deep moist soil.—*W. N., Abergavenny.*

AMARYLLIS PRINCE OF ORANGE.

Although this is an old variety which may not bear much comparison with modern sorts in point of size, it yet does not lose by comparison in the matter of floriferousness. Some three years ago I had three good bulbs, and now I have two dozen, so free is it in producing off-sets. Our large bulbs this year, potted three in a 7-in. pot, gave us two spikes each many of which had three blooms on a spike. Another merit in this variety is that the bulbs bloom in quite a small state. A gardening friend to whom I gave a few bulbs recently wrote me that he never saw such small bulbs of Amaryllis bloom so freely before; he had two spikes to each bulb. Free blooming plants, whatever they may be, are most valuable to every gardener. I never allow this variety to get dry at the roots, or put it into a low temperature. Some of the plants were in bloom at the beginning of January, and with a good stock, a long succession is maintained.—*Con.*

GOLDEN STAR OF BETHLEHEM.

The plant to which this name may be applied, namely Ornithogalum aureum, was originally introduced to this country in 1790, that is over a hundred years ago, but like O. arabicum, has only been cultivated intermittingly during that time. The flowers of O. aureum are of good average size with obovate, deep golden or almost orange-yellow segments having a green line down the back of each. The ovary occupying the centre of the flower is olive green, but unobtrusive, and does not in any way detract from the general appearance of the bloom. The leaves are lanceolate and of a deep shining green, while the scape arising from amongst them varies from 10 in. to 14 in. long, bearing on the top a short raceme of flowers from the axils of leafy bracts. The plant is a native of the Cape of Good Hope, and requires greenhouse treatment in this country, but might well be grown for forcing purposes along with the white flowered O. arabicum, so that one might serve to show off the other by contrast. A batch of O. aureum is now flowering in the cool conservatory in the nursery of Messrs. J. Veitch & Sons, Chelsea.

SPIRÆA THUNBERGII.

As this comes into bloom very early in spring, even out of doors in this country provided the weather is mild, it follows that very little forcing is required to urge it into bloom under glass. The slender, twiggy stems look very graceful when covered with their linear-lanceolate leaves and white Hawthorn-like blossoms. Out of doors there is a liability of the flowers and even of the first expanded leaves getting injured with the late frosts; but under glass they expand with all the freshness of a warm, showery, and genial spring. The plant is naturally of dwarf and bushy habit, even when it attains full size, so that young plants may be kept for several years of a suitable size for pot work. Like Deutzias they must be properly cared for after flowering until the weather gets sufficiently warm for them to be placed out of doors.

GOLDUFSSIA ANISOPHYLLA.

This free winter-blooming plant does not need near so much heat as many gardeners think it does. During the past winter I have had it standing in a cold greenhouse where the temperature went down to 40° at night during January and February, and it has bloomed most satisfactorily. It is an old plant of the easiest culture and should be more often seen in private gardens than it is.—*Con.*

ORCHID NOTES AND GLEANINGS.

Cypripedium Brysa.

This new garden hybrid was raised from C. Sedeni candidulum fertilized with the pollen of C. Boisierianum. Both parents belonged therefore to the section Selenipedium, the New World type of the genus. The leaves are linear-lanceolate, pointed, keeled on the back, of a rich deep green and 12 in. to 18 in. long even in the present young condition of the plant. The flower scape of a plant shown by Messrs. J. Veitch & Sons, Chelsea, at the Drill Hall on the 8th inst., was about 18 in. high and had just commenced to flower, so that the number of blooms each is capable of developing cannot yet be determined, suffice to say from four upwards. The upper sepal is oblong, and straw-coloured, with wavy and netted pale green veins. The lanceolate petals are of the same hue on the lower half with a boss of purple hairs at the base, and pink on the apical half, while the edges are wavy and the upper portion twisted. The lip is large and of a peculiarly rounded shape with a curious ear or lobe on each side of the claw. It is of a pale pinkish hue slightly tinted with green, and the claw is spotted with red. An Award of Merit was accorded the hybrid.

Cypripedium Ianthe.

Here again we have a garden hybrid, but the parentage has not been given. The leaves are elliptic-oblong, about 3 in. to 5 in. long, greyish-green and tessellated or marbled with rich green The upper sepal is roundish, heavily suffused with brown, darker on the veins, suffused with green upwards, and white at the edges which are ciliated. The petals are spathulate and of a deep shining brown. The lip is also of a shining brown with deeper veins. The one flowered scape is purple, hairy, and about 6 in. high. The whole plant is therefore dwarf and compact. It seems to have some affinity with C. villosum, and some of the species or hybrids having beautifully marbled foliage. An Award of Merit was accorded it when shown by Messrs. J. Veitch & Sons, Chelsea, at the same time and place as the above.

Odontoglossum Pescatorei Jackson's Var.

The pseudo-bulbs of this variety are ovoid and much tinted with brown as we frequently see in the type. The sepals are lanceolate and white, with one, two or three large red blotches sometimes variously amalgamated into one on the middle of each and shaded with rose externally. The petals are broad, lanceolate-ovate, beautifully crisped at the edge and coloured like the sepals. The obovate, spathulate and apiculate lip is white with three crimson blotches in front of the golden yellow crest, and striated with crimson on the lateral lobes of the crest. On the whole the variety is bold, attractive and showy, and must be highly appreciated by the owner, J. F. Jackson, Esq., J.P. (gardener, Mr. G. Dowsett), Bourne Place, Bexley, Kent, who exhibited it at the Drill Hall on the 8th inst., when an Award of Merit was accorded it.

Dendrobium Jamesianum.

Among the large flowered Dendrobes of this section none are more amenable to culture than the above. Ours are grown in the coolest end of the Mexican house, and last year, when in bloom about the end of April the largest plant was removed to the cool house, where it continued in bloom nearly two months. The rest has certainly suited it, for it is more vigorous than ever this year. The new bulbs average newly a yard in length already, and with the old ones are already showing flower buds in profusion.—*Jas. Brown, Arddarroch, N. B.*

Odontoglossum Rossii Humeanum.

This was supposed by Reichenbach to be a hybrid between O. Rossii and O. maculatum. The most striking feature is the yellow ground colour of the sepals and petals. A remarkable fact relating to this Odontoglot is that seldom are the flowers of two plants exactly alike in a batch of imported plants. Some time ago we noted three plants in bloom in the nursery of Messrs. Charlesworth, Shuttleworth & Co., 213, Park Road, Clapham, and all three were entirely different. The other day they sent us two spikes of bloom, and they too were quite distinct from one another and both good. One of them having two flowers on the scape has been in bloom for two months. The sepals were heavily blotched all over with chocolate brown, leaving only thin lines of yellow. The petals when fresh were of a beautiful chrome yellow, but were even darker when we had them and blotched with deep chocolate brown on the lower third of their length. The lip on the contrary was primrose yellow with a deep bright yellow crest. The other flower scape carried four flowers of large size—an unusual number. The sepals were almost of a deep chocolate brown, the yellow lines being very faint. The petals were sulphur yellow with a few large reddish brown blotches at the very base. The lip was pure white with exception of the prominent bright yellow crest, faintly marked with red on the inside.

Trichopilia suavis.

Few if any of the Trichopilias are more floriferous or produce a finer effect than this one when in bloom. This effect is also due to the great size of the flowers as well as their clean and pleasing colours. The sepals and petals are lanceolate, and white, spotted with faint rosy markings. The lip is the boldest and most conspicuous organ of the flower, and is folded round the column, but with an open, somewhat funnel-shaped lamina, richly spotted and marked with deep rose all round the base on a pure white ground. A large number of flowers are produced from each pseudo-bulb, so that a plant possessing a few pseudo-bulbs of a suitable age presents a handsome appearance when in full bloom. It is a capital subject for cultivation in pots or small Orchid pans and suspending from the roof of a house so as to be on a level with the eye or nearly so. We noted a handsomely flowered piece of it in the nursery of Messrs. J. Veitch & Sons, Chelsea.

Dendrobium Harveyanum.

Although the flowers of this species are much smaller and perhaps less striking in their way than those of D. Brymerianum, yet a well-flowered plant is equally pretty and as interesting. The stems are fusiform and 12 in. to 18 in. long. The flowers are produced in short, lateral, drooping racemes of four to six flowers from the old or leafless stems, and are of a rich golden yellow. The sepals are oblong-ovate, and possess no special characteristic beyond what is the case with many other Dendrobes. The petals are very remarkable however, inasmuch as they are

deeply fringed all round the margins, while the fringes themselves are branched and present a frizzled or mossy appearance. The small orbicular lip is also fringed in a somewhat similar way, to the very base, although the fringes are perhaps shorter, and both surfaces are rather roughly pubescent. A well-flowered plant may be seen in the nursery of Messrs. J. Veitch & Sons, at Chelsea.

Cypripedium Hera: C. Adrastus.

On Feburary 7th, Messrs. James Veitch & Sons, exhibited at the meeting of the Royal Horticultural Society, a hybrid Cypripedium under the name of C. Hera, and for which they received a First-Class Certificate. They have since ascertained that another hybrid had been previously put into commerce under this name, and of which, of course, they were not aware. They have therefore requested the Orchid Committee to agree to the name of their plant being changed to that of Cypripedium Adrastus and to alter the list of awards accordingly.

WHAT TO DO IN THE GARDEN.

Passion Flowers, Plumbago, &c.—Even in the coldest houses, roof climbers will soon be in active growth again. It behoves the cultivator therefore to have the pruning back completed as quickly as possible, otherwise the young growths will be late and back ward. Flowers are produced on the young wood of Passion flowers, Tacsonias, and Plumbagos as they grow. Last year's wood should be pruned back close to the base, leaving only a portion with a bud or two. The young growths then get an equal start and come away regularly.

Hardenbergias and Kennedyas.--Evergreens of this class flower early in summer from the old wood, and should not therefore be hard pruned back; in fact all that they need now, if it has not already been done, is to thin out and regulate the branches, allowing the free ends to hang down loosely and in an informal way, after tying up the principal ones and main stems to the wires provided for them.

Coæba scandens.—This appears to best advantage when trained up the rafters or girders of a lofty house, so that the shorter lateral branches may be allowed to hang gracefully from the roof. Those should be regulated and thinned out so as to prevent crowding. C. scandens may be grown in low-roofed houses, but it never flowers as freely as when it is allowed plenty of room to attain its perfect development. The variegated form (C. s. variegata) is very ornamental from the foliage alone, and might be more frequently grown in low-roofed houses.

Camellias.—The plants will recommence growth after the flowers drop. This should be aided and encouraged by a higher temperature and a light syringing twice daily. If the plants have outgrown the space allotted them they may be pruned back immediately the flowers have dropped, and then treated as above recommended. After they get fairly into growth, weak liquid manure given twice weekly will assist them greatly. The old practice of tying down the branches to keep them within limits spoils their appearance and should be avoided.

New Holland Plants.—Many of these are now in bloom or just approaching that stage. Close attention should therefore be given them in the matter of watering, and keeping them cool, freely ventilated, but not exposed to draughts, and as near the glass as possible so that they may have plenty of light.

Peaches.—Now is a critical time with the trees in the early house, where the fruits are now stoning. Examine the inside borders, and, where at all dry, give a good watering with water that has been slightly warmed. The tying down of the young shoots should be completed at once. The foliage may be syringed twice a day, doing it sufficiently early in the afternoon so that the foliage may get dry before night. The trees in the second house should be attended to regularly in the matter of disbudding.

Melons—We may reasonably expect warmer weather presently, so that those about to plant Melons in frames heated with fermenting manure may now get ready for it by getting the manure properly fermented before making up the bed. The latter should be 5ft. high at the back and 3 ft. in front, so that the frame, when placed upon it, will slope towards the sun. A warm and well-sheltered position should be selected for this work. Put the soil in the frame, and also the mounds in which the Melons are to be planted, so that they may get heated up before planting is undertaken.

QUESTIONS AND ANSWERS.

**** Correspondents are requested, in order to avoid delay, to address all communications to "The Editor" or "The Publisher," and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa London."*

Climbers for Garden Fence.—*Tyro*: Ampelopsis Veitchii would we believe do very well, but we doubt if it would cling to a wire fence. The shoots would, however, support themselves to some extent by interlacing themselves in the meshes of the wire. This might be encouraged while the young shoots are growing. You could also tie them to the fence here and there till the fence is completely covered. Then a strong tie to the larger stems here and there would last a long time if done with tar-cord or string. The Virginian Creeper (Ampelopsis quinquefolia) is a stronger and coarser grower, but would answer your purpose very well. You could also use the broad-leaved Ivy (Hedera Helix latifolia) to great advantage, as it would remain evergreen during the winter. Several other broad-leaved and strong growing kinds would also be suitable, including H. H. Rægneriana, H. H. dentata, H. H. palmata, H. H. digitata, also the variegated H. H. madeirensis and H. H. latifolia maculata. Evergreen shrubs you could use are Cotoneaster microphylla, C. Simonsii, Jasminum officinale, J. revolutum, and Rosa sempervirens. Deciduous kinds are Aristolochia Sipho, Lonicera flexuosa, L. flava, L. Periclymenum (common Honeysuckle), Clematis cœrulea, C. Flammula, and others.

Choice Cactus Dahlias.—*Louis Morhardt*: The following is a selection of eighteen of the leading varieties of Cactus Dahlias now pretty common in commerce, exclusive of those which are more correctly described as decorative varieties. They are selected for variety of colour, size and shape, while conforming to the old Juarezi as nearly as possible. They are as follows:—Juarezi, Yellow Juarezi, yellow, H. Cannell, maroon-crimson, Cannell's favourite, bronzy-orange, Mr. A. W. Tait, white, Yellow A. W. Tait, yellow, Beauty of Brentwood, purple-magenta, Mrs. Douglas, pinkish-salmon, Professor Baldwin, orange-scarlet, Prince Albert Victor, crimson-red shaded orange, Kentish Sun, brilliant scarlet tinted oranged, Lady M. Marsham, salmon, Panthea, reddish-salmon, Robert Maher, yellow, Mrs. Stanley, rosy-purple, Delicata, small, rosy-pink, Catherine Proctor, small, bright crimson, and Black Prince, blackish-maroon.

Imported Odontoglossum.—*Ayrshire*: The flowers you sent us were those of a variety of Odontoglossum odoratum, evidently an extreme form of O.o. baphicanthum. The latter is distinguished by its pale canary yellow flowers, and Reichenbach even described it as a species. On the other hand horticulturists usually give the pale-coloured forms of O. odoratum a different name, namely O. gloriosum. At all events, speaking from memory, it is distinct from any that we remember, and might receive a distinct varietal name. The sepals exhibit only the faintest tint of creamy yellow on which there are two or three large bright chocolate blotches. The ground colour of the petals is pure white marbled with reddish-brown in the centre. The lip is also white with exception of the yellow disc and the red lines on each side of the base, and one or two small red spots in front of the crest.

Making an Asparagus Bed.—*Tyro*: Should your soil be of a light and sandy or gravelly character, no artificial drainage will be required. On the contrary a heavy clay soil must get special preparation. The natural soil should be taken out to a depth of 18 in. to 2 ft., and the bottom well loosened up with a pick or fork. Some cultivators then place a layer of brick rubble in the bottom and connect this with a drain; but unless the clay is very heavy and wet this kind of drainage will not be necessary. Then the natural soil must be improved or altogether replaced with rich rather sandy soil, old potting bench soil, roadside sweepings, or other material of a gritty nature. When this is filled in a good dressing of well-decayed farm-yard manure should be laid on the ground and dug in. All this should be done at once so as to allow the bed to settle before planting time. The month of April or the beginning of May is the best time to plant. Keep the roots covered up so as to prevent them getting dried up till planted.

Rhubarb for Exhibition.—*Tyro*: If you want a strong and vigorous kind for exhibition, Victoria with large red stalks of good quality is the best. A stronger growing kind is Goliath or Monarch, but the stalks are much greener. Useful kinds for early work are Champagne, Linnæus, and Early Red, all of which have smaller stalks of a deep red and of good quality. If stalks of the largest size are wanted, then the two first-named are the best, giving preference to Victoria on account of its rich red colour, flavour and weight combined.

Communications Received. — Veritas (next week).—V. & S.—Betts-y-Coed (next week.—W. H. E.—A. O.—F. & S.—A. V.—W. C.—A. P.—A. M. —D. M.—S. & S.—S. C.—W. K.—W. B.—G. F.—W. D.

LONDON SEED TRADE.

March 14th, 1892.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Mark Lane, E.C., report a brisk enquiry for Clover seeds, and owing to American purchases of Red Clover for re-shipment to America this article is again dearer. White Clover Alsike and Trefoil steady.

COVENT GARDEN MARKET.

March 16th.

Fruit.—Average Wholesale Prices

	s. d	s. d.		s. d.	s. d.
Apples... per ½-sieve	1 0	5 0	Grapes .....per lb.	1 9	3 6
Canadian and Nova Scotian Apples per barrel	12 0	25 0	Pine apples. —St. Micbael's, each	2 6	6 0
			Cobbs... per 100 lbs		45 0

Vegetables.—Average Retail Prices.

	s. d.	s. d.		s. d.	s. d
ArtichokesGlobe doz.	3 0	6 0	Horse Radisb, bundle	2 0	4 0
Asparagus, Eng.bun.	10 0	13 0	Lettuces ...per dozen	1 6	2 0
Beans, French, perlb.	1 6	2 6	Mushrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per buncb	0 6		Radishes... per dozen	1 6	
Cauliflowers, Eng.dz.	3 0	6 0	Smallsalading,punnet	0 4	
Celery.....per bundle	2 6		Seakale ...per basket	2 0	3 0
Cucumbers .....each	1 0	1 6	Spinach, per strike ...	1 6	
Endive, Frencb, doz.	2 6	3 0	Tomatos..... per lb.	0 6	1 0
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Azalea .....per doz.	18 0	42 0	Genista .....per doz.	9 0	12 0
—Mollis.....per doz.	24 0	36 0	Hyacinths,...per doz.	6 0	9 0
Cyperus .....per doz.	4 0	12 0	Lily of the Valley, doz. pots	12 0	18 0
Cineraria ...per doz.	6 0	10 0	Marguerites, per doz.	9 0	12 0
Daffodils ...per doz.	9 0	15 0	Palms in variety,each	2 6	21 0
Dracæna term., doz.	24 0	36 0	Primula Sinensis per doz.	4 0	6 0
Dracæna viridis,doz.	9 0	18 0	—scarlet .....per doz.	4 0	6 0
Erica Hymalis, per	12 0	18 0	Solanums...per doz.	9 0	12 0
— various, per doz.	9 0	12 0	Tulips.....per doz.	6 0	9 0
Evergreens,invar.doz	6 0	24 0			
Ferns, invar.,per doz.	4 0	18 0			
Foliage Plants, doz.	12 0	60 0			

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Acacia or Mimosa French per buncb	1 6	2 0	Mignonette... 12 bun.	1 6	3 0
Anemone various, French, doz. bun.	2 0	4 0	Narciss, var., Scilly, doz. bunches	2 0	4 0
Arum Lilies, 12 blms.	2 0	6 0	Narciss, French, paper whit-, doz. bs	3 0	6 0
Bouvardias, per bun.	0 6	1 0	Pelargoniums, 12 sps.	1 0	1 6
Carnations. 12 blooms	2 0	3 0	— scarlet.....12 bchs.	6 0	9 0
Daffodils, double, doz. bunches	4 0	6 0	Primula, double, bun.	0 9	1 0
—Single, doz. bchs	5 0	7 0	Primula single, doz. sprays	0 4	0 6
Eucharis ...per doz.	3 0	6 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Freezia .....doz. bun.	2 0	4 0	Roses, yellow, dozen	3 0	6 0
Gardenias 12 blooms	4 0	9 0	— Red..... doz. blms.	4 0	8 0
Heliotropes,12 sprays	0 6	1 0	— Saffrano...per doz.	2 0	3 0
Hyacinths, Jonquils, doz. bnches	1 0	2 0	— Tea ..... per dozen	1 0	3 0
doz. sprays	3 0	4 0	Snowdrops, doz: bn.	1 0	2 0
Lilac, French, per bunch	4 6	6 0	Tuberoses, per doz.	1 0	2 0
Lilium Harrisii, doz. blooms	6 0	9 0	Violets, Parme, Frnch per bunch	2 0	3 0
Liliumsvar.,doz.blms.	1 6	3 0	— Czar, French bch.	1 6	2 0
Lily of the Valley, doz. bunches	6 0	10 0	— Dark, Frencb, doz. bunches	1 6	2 0
MaidenhairFern,12bs	6 0	12 0	—English, doz. bcbs.	1 0	1 6
Marguerites, 12 bun.	2 0	4 0	Wallflowers, French, doz. bunches	1 6	3 0

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GARDENING BOOKS.

VINES AND VINE CULTURE.—The best book on Grapes. By Archibald F. Barron, Superintendent of the Royal Horticultural Society's Garden, Chiswick; Secretary of the Fruit Committee.—A New and Cheaper Edition, Revised and Enlarged. Demy 8vo, Handsomely Bound in Cloth *Price, 5s.; post free, 5s. 3d.*

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, March 28.—Sale of Hardy Plants, &c., at Protheroe & Morris' Rooms.

TUESDAY, March 29.—Brighton and Sussex Horticultural Association Show (2 days). Sale of imported Odontoglossum crispum at Protheroe & Morris' Rooms.

WEDNESDAY, March 30.—Sale of Lily Bulbs, Roses, Hardy Plants, &c., at Protheroe & Morris' Rooms.

FRIDAY, April 1.—Sale of established Orchids, &c., at Protheroe & Morris' Rooms.

The Gardening World.
Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, MARCH 26th, 1892.

HORTICULTURE IN SCHOOLS.—We learn that at length the Education Department of the Government has arranged for the teaching of elementary horticulture in the rural schools of the kingdom, as a specific subject. There is now hope that ere long we shall see some knowledge of the first principles of gardening a product of popular education. Of course there is yet much to be done in relation to the production of teachers who have some knowledge of the subject, but just as it has been found needful to insist upon a general knowledge of drawing by all elementary teachers, so will it become imperative that they should obtain some knowledge of elementary gardening.

It by no means follows that only those who have practical knowledge make the best teachers. Too many of these have neither training nor aptitude and cannot teach at all. Teaching is a special vocation, and the trained teacher possesses a faculty for seizing upon the salient points of a subject, then mastering them, and finally impressing them upon the minds of the children. Following the theoretical course in the schools must presently come practice gardens, which should be easily furnished in rural districts when the schools come, as presently they no doubt will, under the control of parish or district councils.

In the meantime children may learn much respecting the nature of soils, methods of working them beneficially, something as to manures, their forms and constituents, seeds, plants, trees, sowing and planting, distribution of weeds; also the habits and natures of weeds, of insects, etc.; indeed there is a very wide as well as an attractive field open to children in connection with gardening, which would form for them a delightful variation from their ordinary academic courses of study, which are too often dry and uninteresting.

GRAFTING.—We are near to the usual period of the year when the process of grafting trees, etc., especially of fruit trees, must be applied. We may bud plants or trees at different periods of the year, but ordinarily the grafting of all hard-wooded things must be done in the spring. Chrysanthemums and zonal Pelargoniums have been grafted during the summer, with varying degrees of success, but we can only hope to succeed with most things when grafting is performed in spring. April is the favoured month for the operation, and anyone contemplating work of this very interesting nature, should lose no time in securing grafts or scions, raffia for ties, and clay for enclosing the grafts until the needful union has been effected.

It is a matter of comparative necessity that the grafts should be a little behind the stock in regard to the flow of the sap, and it is easy to have such diversity by having the scions cut early and laid in by the heels in soil, ready for use at the right moment. Grafting is a very ancient art, for it was well understood by the old Roman gardeners, and Pliny described it some 1800 years ago. In the same way what has recently been regarded by plant physiologists as a new discovery, namely that leguminous or pod-bearing plants can as it were abstract nitrogen from the atmosphere and manufacture it in the soil through the agency of the nodules on the roots, is referred to by Virgil, one of the most ancient writers on agriculture.

No old writer has, however, more pleasingly described the art of grafting trees than has our great dramatist, Shakespeare, who in the "Winter's Tale," puts into the mouth of Polixenes, "You see, sweet maid, we marry a gentler scion to the wildest stock, and make conceive a bark of baser kind by bud of nobler race; this is an art which does mend nature: change it rather; but the art itself is nature."

POTATO EXHIBITING.—It is a matter for congratulation so far as our famous esculent the Potato is concerned, that we may look forward to one good exhibition of the noble tuber at least during the present year. The promoters of the series of Great Horticultural Exhibitions at Earl's Court have promised us a big Potato Show next October, and we may hope to see the old glories of the International Potato Shows at the Crystal Palace revived. Whether, remembering how long a period it took from the origination of these exhibitions to create that high conception of

exhibition quality which eventually grew up from them, it is possible in the space of one season to reproduce the wonderfully fine examples seen at the later of those shows has to be proved.

Doubtless we still have some high-class exhibitors, but the two or three very best men who have literally swept the boards, as it were, with tubers for several years at the Royal Aquarium and elsewhere have removed from their old habitations, and may not now have those great soil advantages they once possessed. That, however, should make the competitions all the more open and attractive to the general body of cultivators. Growers of Potatos are, perhaps, more handicapped by soils than by anything else. We have few garden crops which are more subject to the character or constituents of soils than are Potatos, and those who are favoured with deep, soft, sandy, well-drained soils have a great advantage, especially if they will add as fertilizing agents, phosphates, rather than nitrogenous or ammoniacal manures.

Still there is something to be done in the selection of sorts, in the preparation of the tubers, and of the soil and methods of planting. On the whole there is ample time for the planting, as early in April in the south, and the end of the month in the north, is amply early enough for Potato planting to produce October exhibition samples.

Provident Gardeners.—It would not be gracious or courteous to a society established so long since, and so particularly in the interests of gardeners, as the United Horticultural Provident and Benefit Society, that its annual meeting should be held without notice being taken of its prosperity and usefulness. Whether or no it may in all cases be wise to establish provident societies for the particular benefit of one vocation, certainly it would seem that the success which has attended upon the formation of this particular association had fully justified its founders. When success follows upon efforts of this description it becomes evident that there are virtues or merits in the course adopted, which have largely been overlooked or ignored, and we may find in the success found in this instance proof, as the report of the society sets forth, that gardening is not an unhealthy vocation; whilst still further there is a clanishness, although not nearly so much as we desire to see, which makes them cling somewhat to purely gardening associations, and find in them elements of satisfaction not to be discovered in other benefit societies.

The figures given in our report last week, so far as figures possess speech or eloquence, tell their own tale. There is no need whatever that we should recapitulate them. No wonder is it now to find many a good gardener who has reached middle life and has either refrained from associating himself with a society of this description, or has become a member of some body not so financially sound, lamenting that his knowledge of the value of the Horticultural Benefit Society comes to him so late. Young gardeners may, however, take warning and start their association with it early and whilst yet comparatively free. We trust no amount of success or of confidence will ever cause the committee of the society to become lax in their control over all financial matters. With so many evidences about of what follows in such cases it is needless to add that laxity may sometimes become little less than a crime.

Wanted.—To know when the Royal Botanic Society of London intends to pay its last year's prize money.—*X.*

Mr. E. Chadwick, who has resigned his position as gardener to E. M. Nelson, Esq., Hanger Hill House, Ealing, on the ground of ill-health, and with a view to going out to one of the colonies, has been succeeded by Mr. D. Cooper, who has been foreman to Mr. Hudson, at Gunnersbury House, Acton, for the last six years.

Orchid Sales.—We note that the late Mr. E. G. Wrigley's collection of Orchids is to be sold by Messrs. Protheroe & Morris, at Howick House, on April 5 and three following days; and that the late Mr. J. Statter's collection will be sold at Stand Hall, by the same firm on May 3rd, and three following days.

The Sevenoaks and West Kent Chrysanthemum Society will hold its next exhibition in the Club Hall, Sevenoaks, on November 8th and 9th.

Fruit from South Africa.—The Union Steam-ship Company's R.M.S. "Scot," which arrived at Southampton on the 17th inst., brought a further consignment of Grapes and Peaches from South Africa. This fruit was placed on sale at Covent Garden Market, on Monday, when boxes containing about 20 lbs. net of white Grapes fetched 10s. to 10s. 6d. each, and similar boxes of black Grapes realised 12s. 6d. to 15s. 6d. per box. These Grapes were packed in cork dust and arrived in very good condition. The Peaches realised from 8s. to 14s. per box.

Exeter Gardeners' Society.—At the meeting of this Society held on the 16th inst., a paper was read by Mr. G. B. Lansdale on "The Cultivation of Carnations and Picotees, from an amateur's point of view." Mr. G. B. Carlile presided, and Messrs. Veitch & Son exhibited some beautiful specimens of tree Carnations, among them being Catherine Paul, a white variety flaked with purple; Edith, a charming purple variety; and Mrs. Llewellyn, a dusky red. After a brief discussion, votes of thanks were passed to the essayist and the chairman.

Mr. Samuel Barlow, J.P.—The many floricultural friends of this popular and greatly esteemed amateur florist will be gratified to hear that the Lancashire County Council has just conferred upon him the dignity of an alderman. During the last three years Mr. Barlow has represented the Milnrow and Castleton Division of his native county, and at the recent election was returned without opposition. Mr. Barlow was also last week unanimously elected a vice-president of the National Chrysanthemum Society, and we congratulate our friend on the receipt of honours which no man better deserves.

The International Horticultural Exhibition at Earl's Court.—Already some of our would-be "funny" contemporaries—would that they really were "funny"—have been striving to find some concise and expressive appellation for the exhibition above referred to. One thinks the "Garden Stufferies" a suitable term, but that is both long and vulgar; another thinks the "Celeries" a proper appellation, but that is both saladaceous and bibulous in expression, and would soon be converted into "Sallyries." If it be really contemplated to give this horticultural exhibition a short and expressive name, none could be more appropriate than the "Floweries." It may save the plagiarists some trouble if we add that this term is not copyrighted.

Birmingham Gardeners' Association.—At the meeting on the 16th inst., a paper on "The Cultivation of Pears in Edgbaston" was read by Mr, F. M. Mole, who for several years has devoted much attention to the cultivation of this fruit in his garden in the Edgbaston district which is a part of Birmingham. He advocates Cordon training with four upright shoots as sooner filling a wall, and in case of failure, not leaving so large a gap as in the removal of a large fan-shaped tree. Doyenne de Comice and Buerré Diel were especially recommended as first-class varieties for town gardens, such sorts as Jargonelle, Marie Louise, and others also being grown. Mr. Mole practices thinning out the bloom buds by the removal of whole bunches when so close together, and the thinning of fruits so as to secure a moderate crop of really fine fruit, and this he succeeds in doing. A good deal of sound practical information was given and a hearty vote of thanks accorded.

Adulteration of Manures.—Mr. Chaplin has appointed a Departmental Committee of the Board of Agriculture to inquire into and report upon the adulteration of artificial manures and fertilisers, and to consider whether special legislative provisions for the prevention and detection of such adulteration be necessary, and if so, the nature of those provisions.

THE ROSERY.

Roses near Big Towns and Cities.

In the Rosarian's Year Book last published there is a cheery article by Mr. Bateman on growing Roses for exhibition near large towns and cities, and the writer bases his experience upon what he has been able to do at Highgate. He advises that those who attempt to grow Roses in such districts should select only those varieties which have the largest and most leathery foliage and a good habit of growth; and for a select dozen to begin with he names Ulrich Brunner, which he terms "the finest Rose for suburban gardens yet introduced," Charles Lefebvre, Dupuy Jamain, Mr. John Laing, Earl of Dufferin, Marquise de Castillane, Pride of Waltham, Her Majesty, Etienne Levet, Madame Gabrielle Luizet, Clara Cochet, and Madame Charles Wood; certainly the most vigorous growing among the hybrid perpetuals. These, Mr. Bateman states, should be on the Briar cutting, and he strongly advises growers to plant and bud their own stocks in their permanent position, as some of the best varieties are impatient of removal, and under the head of cultural directions he states—"Prune right down to the ground so as to get completely new growths every season. Manure heavily, and make liberal use of liquid manure when the buds are swelling. Disbud severely, never leaving more than one bud to a shoot, or six or eight on a plant. In dry seasons freely syringe every leaf at frequent intervals." And, he adds, that if these points are carefully attended to, it is possible to produce Roses in abundance in the suburbs of our great cities, and of sufficiently good quality to hold their own at any ordinary shows, and occasionally to win at the National Rose Show and similar great exhibitions. At any rate, Mr. Bateman asserts this has been done.—*R. D.*

ODONTOGLOSSUMS.

(*Concluded from p. 455.*)

Odontoglossum vexillarium and O. Roezli are heat-loving plants; they seem to grow best in any temperature over 60°, but are at a standstill below that, although they struggle along at 50°: Thrips are fond of them. If there is one in the house it will be amongst them, causing the foliage to look speckled with black. They do not like being wet and then dry, and the foliage being tender they lose their leaves at the slightest check. I had a few plants with the thrip amongst them, so I concluded to try an experiment with them. I put them in a cool portion of the greenhouse where the heat was 40°, and kept them dry at the roots during the last three months. I went to examine them last week, and found all the thrips dead and the plants also. The cold had killed the lot, while a batch of Lycaste Skinneri were in the picture of health and flowering freely just against them.

Newly-imported Odontoglossums should have all decayed bulbs and withered leaves cut off; then washed in clean water to take off all mould and the rot which generally is of a spreading nature. Spread them out in a cool place to get perfectly dry till they begin to show eyes, then pot them, and give very little water, trusting to the dampness of the house for a week or two to plump up the bulbs. The florists' properties have never yet been definitely defined in the various forms of Odontoglossum; they are grown simply for their bright colours, which together with substance in the various sepals, petals, and lip, are the points most regarded. By substance I mean thick petals, not of the thin, flimsy, tissue paper style. The petals should be broad, the lip large and flat if possible, and the whole of the flower to be flat and not half open, but so that the whole of the flower may be seen at once. The flower with these properties may be as large as it is possible to get them. The brilliant marking and bold spotting of O. Alexandræ and O. Pescatorei being the scarcest, are consequently the most coveted and the highest in price.

The difficulty of raising hybrids in the Odontoglossum family seems to be greater than in other species of Orchids. The seeds do not germinate so freely, and I expect the climatic conditions under which it would germinate do not often occur in greenhouses in this country. Several pods of seeds which I have sown when ripe have not shown any sign of life, nor has any seedling ever appeared however minute. The strain of pod bearing is also very great, as nearly every Odontoglossum which has

ripened pods of seeds with me has died. The one exception is a plant of O. triumphans which took two years to recover, so that a valuable plant as far as seed is concerned is best left alone.

The lasting properties of the flowers of the Odontoglossum family is very great, and the great beauty of the individual flowers have a charm that seem to be appreciated by most people, although one visitor kindly informed me he would sooner have a good Cucumber plant than any Orchid flower he ever saw. At some future time I may have the pleasure of giving you some detailed account of the various varieties, etc., of this family.

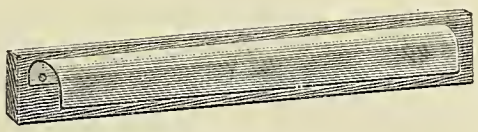
To ensure success in the cultivation of this class of Orchids, insect pests must be given no quarter; they must be kept under. The first and greatest enemies belong to the snail family; they feed on the roots, foliage, young growths, flower spikes, and even on the bulbs. It is very pleasant to grow a fine bulb, have a nice flower spike about 3 in. long, and to find one morning the spike eaten nearly oft and hanging down with a little skin that the snail won't condescend to eat. I have found several species of snails among my Orchids, and the worst seems to be a thin-skinned one of a sooty-brown colour, about three-quarters of an inch long, whose particular food is either the end of new roots or a young flower spike. Another is the stinking shell snail, an old Orchid enemy, that seems to be fond of decayed sphagnum, with an occasional meal of Orchid roots and spikes. The small, black, tough, leathery-skinned common garden snail that creeps into the houses through a crack in the brickwork or under the door, has an especial fondness for all new bulbs of such as O. grande, etc. It bores a round hole in them until it has had enough, very seldom troubling itself to look after the spikes or roots except they get in his way first. The small, common white garden snail that gets in with empty pots or so, is generally caught around the outside of the pots eating any green moss, or young Ferns that may be growing on them. A little, white, tough-skinned snail, about half-an-inch long, I found amongst some roots of O. Rossii majus, eats every living eye out of the bulbs as well as all roots. The large black and and the large white field snails I have not yet found in my houses. They might eat a plant off at once, as I heard of one of my friends having his plants sadly spoiled by some of this type. There is nothing for this enemy except traps, such as Lettuce leaves, Turnips, and Potatos, although I find they prefer the leaves of Aponogeton distachyon to all others, which seldom fails to catch them. I have never found any snails eaten by green tree frogs except the stinking shell snail, and then only once. It requires plenty of patience and constant vigilance to catch them at dark or just getting dusk, and when caught there is nothing for them but complete extermination. Woodlice are another pest, but unless they are very numerous they are not mischievous, as they prefer decayed vegetable matter. The green frogs give a good account of them when they find them. Thrip is only found when the atmosphere is too hot and too dry. It is an insect that I have not been troubled with amongst cool Odontoglossums; nor red spider. Ants are troublesome by carrying scale about and protecting green-fly, as they seem to be fond of the juices of both, which I have no doubt they use as food. Green-fly is not troublesome with me as healthy plants are seldom bothered with it. I never use either tobacco or soft soap or any mixture whatever, trusting principally to healthy plants and constant watching of young growths. Cockroaches are one of the most dreaded enemies of the Orchid family, as they seem to be fond of the sweet soots, spikes, etc.; the plants are never safe when they are about. Green tree fogs will destroy all this family, except the full-grown ones which must be caught. Centipedes I never destroy, as they live upon all dead insects and insects' eggs. They are ugly things, still I have got used to them. I find I have four varieties, but my favourite is the quick-moving red one—my old Auricula friend. I never destroy a small black beetle, one that is very common. I had a great veneration for it since one night I discovered one running about with a purse of eggs of the Indian cockroach, which had been imported amongst some Dendrobiums, etc. All the weevil family of beetles are enemies. I found one eating the foliage of O. crispum, and took it to a friend, who kindly informed me it was the Peach tree weevil. Of course I was sorry it had not stuck to the Peach tree.

Amongst some imported pieces of O. grande I found a lot of the old bulbs with peculiar round holes in them. I kept a look out for new ones but was always too late, the insect had escaped. I have no doubt the green frogs had given a good account of them, as they are fond of all winged insects. These frogs I have had now two years; they seem to be long-lived, but never breed, although I have plenty of water about. Earwigs in autumn are troublesome if they get very numerous; but I try to keep all the "Devil's Coach Horses"—as an ugly insect is called about an inch long, which when disturbed turns its tail up over its back. I have found this insect eating earwigs, catching them upon the woodwork of the greenhouses, and even in the spouts on the top at night. There is one rule I follow in growing these and other plants, that is "if a thing is worth doing at all it is worth doing well." Nothing is to be left to chance, neither watering, shading, firing, or even insect hunting.—*W. Bolton, Warrington.*

EARWIGS IN PANSY BEDS.

Mr. J. D. Stuart, in his most interesting communication on the fertilization of Pansy blooms in your issue for March 12th, alludes to the annoyances which Pansy growers experience from the ravages of earwigs. I too used to suffer terribly from the depredations of these insects, so much so, that from the beginning of August to the end of the season—although I had many hundreds of plants—I found it very difficult to get a stand of undamaged blooms for exhibition. They seem to be very fond of eating the points of the young flower buds, and the consequence is that when the blooms open there is a bit wanting in every petal.

Three years ago I adopted a plan which I have found to be a perfect cure, and of which I send you a description in the hope that it may benefit other



Edging for Pansy Beds.

Pansy growers similarly situated to myself. Assuming that the beds are bordered with wood, get some strips of zinc 4 in. wide to go round the bed or beds, and with strong tacks fix them along the outside of the top of the edging. Then curve the zinc downwards, as shown in the accompanying sketch, and you will have a barrier which no earwig will pass. It also keeps snails from getting on to the beds, although one cannot help a few getting in when adding fresh soil or manure. Once, however, get rid of those inside and there will be no more trouble with snails for the season.—*M. C.*

GREENHOUSE NOTES.

Where there is a brisk demand for choice white flowers, there is none which forms a more acceptable variety than Lily of the Valley. With a mild steady and moist atmosphere such as a well-made hot-bed with a preponderance of leaves affords, where the plants can be encouraged into growth gradually at the dead of the year, together with a command of crowns well prepared for the purpose, a more or less abundant supply of bloom can be had early in the year. From the middle of February, however, onwards, it is not a very difficult task where an ordinary forcing house or warm vinery is available to get good crowns into a profuse flowering condition. When roots are abundant, flowering spikes may be cut almost constantly from the period indicated till they come into bloom outside by introducing a batch about once a fortnight.

In performing this work we break up the clumps and select the strongest crowns only, and the smaller sizes are useful for making fresh plantations. The crowns intended for potting are packed together and tied firmly with cord before commencing the former operations. When they are placed in heat and immediately covered up with Moss, Cocoa-nut fibre, or other available material, in a few days free growth will take place, and much finer and more uniformly flowered specimens will be secured than is possible by merely potting unassorted clumps from plantatians where the strength of the crowns vary considerably.

In the case of plants not subjected to hard forcing there is a practice followed by some growers of restricting them to pot-culture after being lifted from the beds, and under good culture larger and more erect spikes and also finer individual flowers are said to be produced, and a recent trial of this system enables me to endorse the experience of others who have also put it to the test. In common with Deutzias and other plants the development and ripening of the growth must be well attended to in order to ensure success.

Besides the sources of supply in such white flowers as Lily of the Valley, Deutzias, Pelargoniums and Hyacinths, not the least notable are the Chrysanthemums. Some late struck plants of Ethel kept on flowering freely till about February 15th. The plants are now, after being cut down, making strong shoots, which will be taken off now (March 12th) and rooted. These will be grown on till placed in 10-in. or 12-in. pots according to size of the plants. In these pots they will flower for five or six weeks after the January 1st, provided they suffer no accidental check from being root-bound, want of water, or other causes. Smaller though very useful flowering plants of the above and other white varieties suitable for late decoration may be got forward in good time though not rooted till April if all goes well afterwards.—*D. M., Ayrshire.*

SCOTTISH NOTES.

Formation of Protective Union by Aberdeen Gardeners.—A largely-attended meeting of gardeners was held in Aberdeen on Friday evening, 18th inst., for the purpose of forming a trade protective association. Mr. Thomas Nicol, president of the Aberdeen Trades Council, occupied the chair. In his opening address, the chairman said that from what he had recently learned he had come to the conclusion that gardeners were a long-suffering and much-oppressed class of men. It was now fourteen or fifteen years ago since the last attempt was made in Aberdeen to form a union, and the effort was futile. The state of matters in the gardening trade was bad then, but now it was ten times worse. Market gardeners' wages ran from 18s. to 20s per week, with a half-holiday, but they were the best paid men in the profession; jobbing gardeners had no half-holiday, and, leaving broken time out of account, only received from 16s. to 17s. per week. But the nurserymen were worse still, as they wrought sixty hours per week and received from 14s. to 16s. per week in wages; and, although they had a half-holiday, they were required to make up the time thus given in their meal hours. If they were to better their position, they must combine and have some recognised method by which they might approach their employers. They must also arrange matters so that everyone who desires to become a member of the profession must serve a period of apprenticeship, as was the practice in other professions. There was no organisation among the employers, but he did not wonder at that, as the men had been at their mercy since ever they were men. The private gardeners' wages were not as a rule so high as labourers' wages, and it was such men whom they had to fear, because they were ever ready to come into the town and take a situation at any wage. There was no blinking the fact that it would be an uphill fight to better their position, and it could only be done by the combination of a large majority acting together for one end.

The subject was then submitted for discussion, and several gardeners expressed their opinions. One jobbing gardener said that, although he had been all his life at the profession, he earned on an average about 12s. per week. Another jobbing gardener said he differed from a previous speaker in respect to the high rates which the employers charged; as a matter of fact some employers only charged 5d. per hour, but that was only another reason, he contended, why the men ought to have a protective union in order to better the position of both employers and employed. Mr. John Anderson then addressed the meeting on the "Healthy Influence of Trades Unionism." The motion that the gardeners present should form themselves into a protective union was then put to the meeting, and was unanimously adopted. The election of office-bearers was then proceeded with, Mr. Wm. Slorach being elected president; Mr. Alexander Fraser, secretary; and Messrs. Florence, Kinnaird, Gray, Duncan, Lawson, Smith, and Kenman as members of committee. About fifty members were enrolled at the close of the meeting.

FLORICULTURE.

Cinerarias for late flowering.

Where shade from strong sunshine can be afforded, without being prejudicial to the growth or flowering of other subjects, the show of these admirable spring flowering plants may be prolonged for a considerable time yet; indeed, in one conservatory which I remember, where fully the half of the building consisted of masonry, a good display was maintained till well into June, the maximum of shade which such a structure affords being of course largely conducive in preserving the plants in good condition for a lengthened period. Seedlings raised last autumn, which have occupied 5 in. pots for some time past, may now be shifted into 8 in. or 9 in. sizes, well draining the pots and using a compost of rich turfy loam, adding about a third part of old cow-dung or horse-droppings, the remaining parts ½ in. pieces of charcoal, silver sand, and half-decomposed leaf soil.

When potted, stand them in a cool, shady position not far from the glass, care being taken that they are never in danger of being injured by frost, to which they are very susceptible. Extra care will be needful that they are not allowed to suffer from want of water during the dry spring months. Green-fly must also be sharply guarded against by fumigating lightly once or twice a week. Large floriferous specimens of Cinerarias during May and June associate well with Herbaceous Calceolarias, Fuchsias, Azaleas, and numerous other subjects which are amenable to greenhouse treatment during the period indicated, but they should be allotted a position on one side of a house among such plants as are also benefited by more or less shade, and which ought to be provided for them if necessary.—*D. M., Ayrshire.*

Pansies and Violas.

It will now be the time for planting these out from their winter quarters, and beds should at once be got ready for them if not already done. Before planting out, the frames should have a good watering so that all the earth possible may hang about the roots. Plant with care and press the plants firmly into the ground. Watering beyond a sprinkling now and then overhead in fine weather is not necessary until the soil is found to be getting too dry. The plants will soon make root and then top growth, and a little pegging down of long shoots is advisable to prevent their being blown about by the wind. A watchful look out should be kept for the brown aphis, and the moment it is detected steps should be taken to exterminate it.

There are now so many grand varieties of new fancy Pansies and Violas that it is not easy to give a list of say two dozen as the best without excluding a lot of others equally as good. In Violas also we now have so many very beautiful varieties, and some of the best known and most lovely are, Beauty (new), Duchess of Fife, Countess of Wharncliffe, William Neil, Bridesmaid, Master of Arts, Mrs. Grant, Cottage Maid, Ethel Baxter, Golden Gem, Princess Beatrice, Wonder, Bessie Clark, Bullion, Lady Amory, The Mearns, and Sir Joseph Terry. These should be in every collection.—*W. Dean.*

The Fertilization of the Pansy.

I am glad that my remarks in your issue of the 27th ult. on this subject have been the means of drawing out the very interesting article from Mr. J. D. Stuart which appeared in your issue of March 12. Although I cannot endorse all his conclusions I can see eye to eye with him on many points. One of the points of difference is that Mr. Stuart does not think a scarlet pansy would be a great acquisition if we had it. I can assure him that I know a good many pansy enthusiasts who think differently, and who believe that it would be a very great gain if we could get the colours prevalent in the Begonia added to the already extensive range of colours in our fancy Pansy. I quite agree with Mr. Stuart that there is much to do in the way of attaining more perfect symmetry in the form and marking of our flowers; at the same time size should not be lost sight of, for weight always tells on a competition stand, and many of our Pansies are none too large, in fact one of the greatest difficulties competitors have to contend with is to get flowers up to the proper standard of size before the colours begin to fade.

My experiments with the Pansy have not been conducted over so long a period as Mr. Stuart's—only some six or seven years—and my principal object has been to raise new varieties fit for the show table quite regardless of what the habit of the plant might be, and my aim, in keeping as far as possible a correct note of every pod of seed saved, was to ascertain which varieties were best for breeding purposes, or in other words were the best to take seed from for the purpose of raising new varieties. I had observed in cattle breeding that a very superior animal was sometimes got from a very inferior sort, but such animals were invariably very unreliable breeders, that is to say they did not produce good offspring, not nearly so good as a much plainer animal of a good breed would produce. So far as my experience goes I think a similar law holds good amongst the Pansies. Seed from some varieties produced nothing but weeds, nothing even approaching the original, while the seed from others produced a large proportion of good flowers, and if with a change of crossing the same results followed a second season, I discarded the bad breeders and stuck to those that bred best.

I cannot say that I have noticed generally a very decided tendency in the offspring to follow the seed-bearing parent in form and habit, or the fertilizing parent in colour. I have noticed that this tendency is very marked in some varieties, but not only not at all, but the very opposite in others. I noticed that seed from James Gardner as a rule produced tall straggling plants like itself, and seed from Mrs. E. P. Frame produced short bushy plants, but most of the flowers retained the colour of the seed-bearing parent, as well as the habit; on the other hand I fertilized Dan Brodie with pollen from a very tall growing seedling from James Gardner, and most of the offspring took the habit of the fertilizing parent, and very few the colour. But then the utter impossibility of proving paternity comes in to upset our deductions; besides, Dan, although not very tall himself, may have been descended from a leggy race, which would in some measure account for his tall offspring.

I cannot see that fertilization by bees can be other than chance work. I think nobody will seriously hold that the bee has any intention of fertilizing the flower when it alights on it, but that it goes there to extract the honey and collect the pollen, and its legs, laden with the pollen from other flowers, accidently come in contact with the stigma and fertilization takes place. The bees may sometimes make happier matches than we can, for the simple reason that the pollen collected on their legs may have been taken from a good many varieties, and one of these varieties may be a suitable cross, and one or two good flowers out of the lot may be the result, whereas we generally fertilize with the pollen of only one flower, which may or may not be a suitable cross, with the result that we may have a number of good flowers from one pod of seed or none at all. It is surely too great a stretch of the imagination to think that the bees have an instinct that enables them not only to fertilize the Pansy flowers but to mate them better than we can. I have heard and read a good deal about the wonderful things the bees can do, but I have never heard that they could judge Pansies, and unless this be the case their work among the Pansies must certainly be treated as chance work.—*Veritas.*

STOKE PARK, SLOUGH.

At a distance of two miles from Slough is Stoke Park, the residence of T. B. Bryant, Esq., in the midst of a park of 300 acres in extent, and well stocked with large old Oaks, Beeches, Elms, and other giants of the forest. A fine herd of deer gives character to the surroundings, and adds considerable interest to the sylvan scene. The better kept pleasure grounds comprise about 9 acres, and are beautifully laid out with ornamental trees and shrubs. The mansion is a fine building of great size and somewhat quadrangular, with a large wing on either end. The front facing the garden is surrounded by a balustrade, and another forms part of the basal portion of the building. About half way up is a terrace protected by a balustrade, and on the top along the whole front is another balustrade, while a dome occupies a central position on the top. The whole is painted white. Fine views are obtained here and there amongst the trees, and from a rustic house on one side of the pleasure grounds a view of Windsor Castle is obtained by means of a vista annually trimmed on purpose through the trees.

Large beds of Rhododendrons of great height and well set with buds must be a handsome sight presently when they come into bloom. Azaleas, standard Roses, and other shrubs are also plentiful. Amongst the trees are some fine old Cedars of Lebanon; also two trees of Abies nobilis, 50 ft. to 60 ft. high; the Douglas Fir (Pseudotsuga Douglasii), 45 ft. and 50 ft.; Thuya gigantea, 35 ft.; Araucaria imbricata, 36 ft.; two specimens of Abies Nordmanniana, 40 ft. to 45 ft.; and two of Cupressus Nutkænsis, about 40 ft. high. The gravel of the lower London tertiaries, here of some depth, seems to suit them well. Two giants of Libocedrus decurrens, about 40 ft. high, have six and two leading stems respectively. Two trees of Sequoia sempervirens, 50 ft. to 60 ft. high, suffered considerable injury from the severe winter of 1890-91; but one of them has partly recovered. S. gigantea is, however, in robust health, forming a beautiful tapering pyramid. Many of the trees were top-dressed with rich material a few years ago by Mr. David Kemp, the gardener, and the trees rooting abundantly into this have shown a marked improvement, particularly in the case of the handsomest specimen of Cryptomeria japonica we have seen. It stands about 40 ft. high, and is very broad at the base, with numerous ascending growths around it resembling young trees, while the old branches at the base are breaking beautifully into fresh growth. About six or eight cart loads of fresh material were put over the roots. We cannot omit mentioning some fine trees of Abies concolor, A. Pinsapo, 45 ft. high, A. cephalonica, 80 ft. to 85 ft. high, and a massive tree of Pinus insignis, 50 ft. high, and which was greatly injured by the sudden and heavy fall of wet snow at Christmas, 1886, as were several others at the same time.

The Hothouses.

The conservatory is the only plant house in the vicinity of the mansion, as the rest are in the kitchen garden, about half a mile from the mansion. The old mansion, built in the Elizabethan style, and in which Queen Elizabeth is said to have slept, stands just outside the garden wall. Other features of historic interest is a monument in the park to the judge who sentenced Guy Fawkes, and another to the poet Gray. The conservatory is a high building, the roof of which internally is covered with a large Bignonia, while two of the sides are clothed with Camellias. The flowering plants varying with the season are arranged in a large group upon the floor chiefly. At present a fine piece of Dielytra, about 4 ft. in diameter, occupies the centre, while Azaleas, Deutzias, Hyacinths, and other forced subjects are grouped round it. Amongst them were plants of Richardia africana, and the new dwarf R. a. Little Gem. There are some trees of Araucaria excelsa in tubs. The spring bedding surrounded by the balustrade is not yet in bloom.

In the kitchen garden the chief feature of attraction at present is the display of Cattleyas and Dendrobiums arranged in the Melon and Cucumber house—a low, span-roofed and well lighted structure. The Cattleyas consist chiefly of C. Trianæ and its numerous forms, which have been in bloom for the past five weeks. One form of C. T. alba had petals over 2½ in. in diameter, and the usual shade of blush on the lip. Others were C. T. delicata, some with a dark lip surrounded by a pale lilac or almost white border, and some having a rich crimson-purple lip. The old C. labiata from the collecting ground of Swainson has found its way here in some quantity, and one plant curiously enough was in bloom, with rosy sepals and petals, and the lip lined and suffused with rich purple. Amongst the Dendrobiums here are seven huge pieces in pans and five others in baskets in a most floriferous condition. Besides the type the varieties D. n. elegans, D. n. pendulum, D. n. cœrulescens, with dark flowers especially in the younger stages, and D. n. Wallichi are grown. In another house close by is a magnificent specimen of the last named in a pan and carrying between 450 and 500 flowers. Here also were Cœlogyne cristata, C. c. lemoniana, and Dendrobium Wardianum. D. Ainsworthi and Odontoglossum Rossii majus are also ranged with the Cattleyas

A similar house to the last contains a grand lot of Chinese Primulas, which were sown last May, came into bloom in October, and have remained so ever since. They are mostly in 32-size pots, and furnished with pyramidal masses of bloom in numerous trusses from the same plant. Ruby King, Gipsy Queen, and Alba magnifica are still prominent amongst the

numerous kinds. Another division of the same house is occupied with cool Odontoglossums, amongst which O. crispum guttatum, O. c. Ruckerianum, O. Pescatorei, and Cochlioda rosea, otherwise known as Odontoglossum and Mesospinidium roseum, were flowering. Some highly improved seedlings of Clivias were stood about amongst them.

A large and wide lean-to house, divided into several compartments, contains a great assemblage of plants of various kinds. One of these divisions is filled with Ferns, including fine pieces of Adiantum curvatum brasiliense, A. formosum, A. trapeziforme Sanctæ Catherinæ, A. diaphanum, A. hispidulum, Davallia pallida (D. Mooreana), and a huge piece of Asplenium Belangeri. The narrow front bench is occupied with flowering Begonias, and other subjects, prominent amongst them being B. manicata, B. hydrocotylifolia, B. erecta Grayi, and B. Veitchi, the latter two being notable for their foliage. Another division contains a large batch of Gloxinias intended to take the place of the Primulas. Many of them are well advanced and showing flower. A large piece of Clerodendron Balfourianum is nearly always in bloom. Some finely-coloured specimens of Acalypha constitute a conspicuous feature in this house. Crinum Mooreanum has flowered the third time since last June.

The Cattleya division of the house is occupied with batches of C. Trianæ, C. Mossiæ, C. Mendelii, C. Gaskeliana, C. Lawrenceana, and C. labiata. We noted a fine and vigorous piece of Cypripedium bellatulum showing well for flower. The end division is filled with a great variety of Crotons and Dracænas with finely-coloured foliage, all arranged in the most effective way. The leaves of Croton Youngi are often over 2 ft. long. The variegated Pineapple was also finely-coloured with a red margin. Near by is a large span-roofed house being repaired for Pelargoniums and Begonias.

The vineries, four in number, are filled with Black Hamburgh, Muscat of Alexandria, Lady Downes, and Gros Colmar Grapes, and have been started in succession. A great improvement in the vigour of the vines has been effected since Mr. Kemp took them in hand. The four Peach houses are in a similar state of progress. The Peaches grown are Noblesse, Princess of Wales, and Crimson Galande; while the Nectarines are Lord Napier, Downton, Pineapple, Humboldt, and Elruge. Figs are grown on the back walls of some of them. On the north aspect of the wall of this house is another, also divided into compartments. The Victoria Nectarine and some Figs in tubs find a place here. One compartment contains forced subjects; another has Azaleas and a piece of Rhododendron Veitchi in bloom; while a third is filled with Camellias planted out and well laden with flower buds.

HARDY TREES & SHRUBS.

The Pavias.

The old genus Pavia is sometimes included under Æsculus. The chief distinction lies in the fruit of Pavia being smooth, whereas that of the Horse-Chestnut (Æsculus) is spiny. But in reality the distinction often breaks down, for the fruit of the common Æ. Hippocastanum and Æ. rubicunda is often almost smooth. The leaves of the Pavias are generally smaller and smoother, that is, not wrinkled as happens in the true Horse-Chestnuts. The few species in cultivation are all highly ornamental, and ought to be more frequently planted in parks and pleasure grounds than they are at present. Although in no case are the flowers so conspicuous as those of the Horse-Chestnuts, yet they are highly ornamental, and serve to give variety to a collection of trees and shrubs in early summer, and in the case of Pavia alba, late in summer. All are perfectly hardy, and are readily increased by layers, budding, grafting, and by seeds when the latter are produced. The larger growing species are generally budded or grafted upon the common Horse-Chestnut, and as P. alba produces underground stolons or suckers, it can be quickly enough increased by removing the rooted suckers or by layering.

P. rubra.—Of this species there are several forms, but the typical one is a tree varying from 20 ft. to 40 ft. in height, and when in full bloom constitutes a very conspicuous object in the landscape. It flowers in May, and has deep red flowers produced in a moderately close, upright, oblong panicle. It was introduced from North America in 1711, but is not very common at the present day, although a few fine trees are to be met with here and there. The competition between it and Æsculus rubicunda is keen and rather overpowering, owing to the greater size of the flowers of the latter. There are forms of P. rubra noted for their dwarf habit, and others have laciniated or deeply cut leaves.

P. flava.—The yellow Pavia, or Sweet Buckeye, is a smaller tree than the last, generally varying from 10 ft. to 20 ft. in height, and is both distinct and beautiful. The flowers are pale yellow, with a red blotch on one or two of the petals, and this varies so much in some individuals or seedlings that the two upper petals are sometimes of a lively red hue. The latter is distinguished under the name of P. f. purpurascens, and has received various other names at different times. It was introduced from North America in 1764, and flowers freely in this country during the month of May. It appears to be equally if not more common in British gardens than P. rubra, and where a number of trees are grown—the produce of seeds—there is a considerable range of variation both in the colours of the flowers and the time of blooming.

P. alba.—Without exception this is the most suitable Pavia for small gardens, as it forms a close-habited bush, 3 ft. to 9 ft. in height, and flowers during the months of July and August. The flowers are white, and are produced in long racemes terminating the shoots of the current summer's growth. They are rendered the more conspicuous by the long stamens which project considerably beyond the petals, and are tipped by pink or red anthers. The leaves consist of five to seven oval-obovate, smooth leaflets arranged in the usual digitate or radiating manner, as may be seen by reference to our illustration. It was introduced from North America in 1820, and is getting tolerably common. Although it looks very effective in a shrubbery mixed with other subjects, yet the finest effects are obtained by planting it on the lawn so as to be isolated from everything else so as to get the full advantage of light. If planted on grass, its habit of producing suckers may easily be corrected by pulling up the shoots which appear at a distance from the parent plant, if they are not wanted for increasing the stock. In that case they might be left to complete their growth and then be carefully dug out with as many roots attached to them as possible. The species rejoices in a number of synonyms, including P. macrostachya and Æsculus macrostachya, in allusion to its long racemes of bloom, and Æ. parviflora, in reference to the small flowers.

Pavia alba.

P. californica.—As the name indicates this is a native of California, and is, perhaps, the least common of the Pavias, while, nevertheless, one of the most ornamental. The flowers are white or pale rose, with orange-coloured anthers, and are produced in great quantity in dense oblong panicles all over the head of the tree, which is of no great height but has widely-spreading branches. It varies from 10 ft. to 20 ft. in height, or even more in specimens that have grown well, but is generally much broader than high. The broad-fingered leaves of all the species give them an ornamental value that should not be overlooked in the landscape.

THE VEGETABLE GARDEN.

The Cheltenham Greentop, and other Beets. I do not know to whom we are indebted for this selection, but I can heartily recommend it for its distinctive character, and what is better still, its high quality. I take it to be a selection from the type known as Henderson's Pine Apple; the root is large, handsome, rich in colour, and the flesh tender, while the top is green and quite destitute of colour. There is a danger in sowing Beet seed too early, and if a dry time sets in, the plants throw up an inflorence, and become valueless. As a matter of course if it is desired to have Beetroot for exhibition in July or early in August the seed should be sown at the end of this month or early in April on a warm border where the soil is fairly light: but fresh manure is not desirable, and is indeed injurious; it is best to sow seed of Beet on land manured last autumn. For early shows, the Egyptian Turnip-rooted is best, it makes a large and handsome bulb, and it will do well on fairly heavy land.

In the case of the long Beets, it is found that too rich soil produces forked roots, and then they are spoiled for exhibition. Seed of Beet should be sown in drills 1 in. deep, the drills 21 in. to 24 in. apart; as soon as large enough the plants should be thinned out until they are 12 in. apart. It is curious to notice how gardeners differ in opinion as to the expediency of watering, but some say it is of little value, and some that it is highly advantageous. I should certainly water if the crop is growing on light shallow ground, but on deep and fairly heavy soil, water is scarcely needed, unless the drought be unusually severe. I think a little weak manure water might be given with advantage to roots being grown for exhibition. In selecting Beet for this purpose, the roots should be of uniform size and length, but they should not be taken up from the ground until before the evening, if it can be avoided, as the roots lose their appearance if removed from the soil too long before the time they are required. What washing is required should be done with the greatest care, as if the skin becomes broken through rough usage the handsome appearance which is such a marked quality in good Beet is sacrificed to some extent.—*R. D.*

Potato Sets.

We have much to learn in the way of selecting Potato sets, and it is quite time the old barbarous practice of pitting Potatos in autumn, picking out the largest to eat, and then planting the small ones in spring, after they have shrunk to half their size, was altogether abolished. I find that the allotment-holders about here who grow excellent Potatos for exhibition by the second week in July are fully alive to the importance of the preparation of the sets. They make boxes by using some ½ in. boards 6 in. in width. Some of these are cut down the middle, and some to 18 in. lengths. Then they are nailed so as to form shallow boxes, 3 in. deep and 12 in. wide. Advantage is taken of a late autumn or early winter evening to fill these with seed Potatos, with the crown or broad end upwards. Then they are placed on shelves or any cool place, where there is light, but where frost cannot reach them. If on mild, drying days the boxes can be taken to the open air, and have a sprinkling overhead, and then be returned to the shelves when the drip has ceased, the tubers are benefited. I find in speaking to cottagers on vegetable culture the Potato interests them as much as any vegetable, and they are pleased to get hints as to the preparation of the soil and the sets. I think in my experience as a lecturer there is no audience so appreciative as the cottagers of a country village, and the enjoyment is all the greater when they can be induced to ask questions.—*R. D.*

COSTUS IGNEUS.

Several of the species of Costus are grown for the sake of their foliage, but this may be grown for the beauty of its flowers, which are of a bright orange-scarlet or fiery orange. The whole plant does not as a rule exceed 12 in. to 16 in. in height; the stems being amply clothed with elliptic, and smooth leaves of a rich green. The species was introduced from Bahia in 1822, and requires stove treatment in this country. The flower consists of several small segments, completely covered by one large, obicular piece which is jagged at the edge and which constitutes the ornamental part of the flower.

ALPINE PLANTS.

(Concluded from page 451.)

THE BUILDING OF ROCKWORK.

ROCKERIES depend upon taste, and no hard-and-fast rule can be laid down for their shape, except that they should resemble Nature, and, at the same time, furnish the conditions necessary for the growth of Alpines. That it is possible to do both I have tried to prove in the illustrations now before you, depicting rockworks in various parts of the country. In building a rockery begin with the stones, and not the soil. The next sketch before you represents a crevice prepared for choice Alpine plants, as, in my opinion, it should be. The fissure should be narrower at the bottom to allow for the soil setting firmly against the sides of the stones, but it should communicate also with the main body of soil and with the drainage of stones, which is of great importance in every rockery. In filling such a crevice do not use manured garden soil, but a mixture of leaf-soil, peat, and loam, with an abundance of limestone chippings and coarse gravel or gritty sand, unless the crevice should be intended for one of the few varieties which do not thrive so well on limestone, and would prefer granite or flint. If the crevice is intended for a moisture-loving plant add a little. Sphagnum Moss. After almost every handful of soil ram it with and small stick, a every now and then add broken stones of all sizes, placing them in such a way as not to obstruct the passage of the roots into the soil below, but, at the same time, compelling them to touch the stones on their way down. When the crevice is nearly full insert the plant, surrounding the roots with the same kind of soil, but pressing around them small stones which will prevent the roots from spreading sideways and force them to grow downwards, where the soil would be cool and moist.

Small stones should also cover the surface of the soil around the plants. This is of the greatest importance for all plants from the higher altitudes, as the stones not only absorb excessive moisture but also on dry, sunny days evaporate the same, and surround the plants with the moist atmosphere so essential to their growth. Before the plants are fully established it may be well to sprinkle the stones with water on the nights and mornings of dry summer days for the purpose of evaporation more than actual watering of the plants. But when fully established, hey will take care of themselves, no matter what the weather may be in this changeable climate, requiring no other attention than being kept free from weeds and the ravages of slugs and snails. Plants which have their leaves arranged in the shape of rosettes, like Ramondia pyrenaica, Androsace sarmentora, or Saxifraga longifolia, should not be planted upright but sideways, so that the water cannot rest in the centre of the rosettes.

While speaking of Ramondia I may mention that this beautiful plant requires a moist position and north aspect. The soil, therefore, should contain plenty of Sphagnum Moss and should not be pressed too tight around the plant. Other plants again prefer to have the soil very firmly pressed around the roots. The beautiful Gentiana verna, for instance, prefers a very firm stony loam, while its companion, Gentiana bavarica, loves a moist and spongy soil Plants with spreading stems should be planted so as to allow the pendant shoots to droop over the stones, and thus allow them to be seen to their best advantage. Many people object to Alpine plants on account of their being small in size, but it is this very circumstance that makes them so valuable for our gardens. What other plants would be so permanent and require so little attention? Some ten years ago, I planted a piece of projecting rock with Androsaces, Silene acaulis, Saxifraga juniperfolia and others. Nothing whatever has been done to the plants since, and yet they become more beautiful every year without crowding each other, and are likely to remain for 10 or 20 years longer without getting too large for their position. Any of the coarser kinds of plants would have overgrown everything, and required renewing a dozen times within the same period. I do not maintain that every rockwork without exception should be planted exclusively with these small Alpines only, but the latter should certainly predominate, and where here and there larger plants or creepers are introduced for effect, this should be done in such a way that they can never intrude upon the select part of the rockwork set apart for choice Alpines. Beware especially of Ivy, which soon kills all Alpine plants and monopolizes the whole rockwork if allowed to spread. In conclusion, I should like to say just a word or two about

THE BEST SORTS.

I should like to have given a list of names of choice Alpines specially worth recommendation, but there are so many hundreds, and I may say thousands, of kinds, that I should tire your patience before the list would be half exhausted. I will, therefore, only mention a few of the principal families collectively. Among the best are the Androsaces, of which at least a dozen species do well in this country, and which contain early as well as late flowering kinds. The Soldanellas, prefer a sunny but moist situation and an east or west aspect. The genus Dianthus contains more than a score of lovely dwarf gems, well adapted for our rockworks, noteworthy being Dianthus alpinus, D. glacialis, and D. neglectus, which is far more brilliant in colour than represented in the illustrations. The Gentians also comprise a score or so of species, most of them being of a brilliant blue, but a white and a yellow variety (Gentiana thibetica and Gentiana lutea) are doing equally well in this country. Cyclamens, Ramondias, many Anemones, Linnæa borealis, and other plants thrive well in a moist and shady position. Sedum sempervivum and Saxifrages contain hundreds of species, mostly adapted for the fully-exposed sunny side of the rockwork, with the exception of the charming Saxifraga oppositifolia, S. Fortunei, S. aspera, and one or two others which prefer a north aspect. The Campanulas, the Primulas, Ranunculus, and Silene all contain varieties from the higher mountain ranges, which in exquisite beauty and form far surpass the better known larger varieties of the same genus, and should be grown in every garden. Let us remember that it is not at all necessary to posess a large rockwork to be able to grow choice Alpines. Let us remember that a simple rocky bed, even in the smallest graden, if properly constructed, is better than the most expensive and most elaborate structure that does not furnish the conditions required. Those who have tried the experiment and have given the small plants a fair chance assert that no other class of plants has for them such fascination, or has been so interesting and so well adapted for permanently beautifying their gardens as the select Alpine plants from the higher altitudes.—*F. W. Meyer.*

THE CULTIVATION OF WINDOW PLANTS.*

I OBSERVED in the letter Mr. Whitborne wrote to me asking me to speak to you on Plant and Flower Culture within rooms and in Jardinettes, that he stated it was to be preparatory to "Our Annual Cottage Flower Show in the Oakley Mission Rooms." I was glad to find he could use the term cottage in relation to that portion of the thickly-populated borough of Chelsea. It is pleasant to think that a cottage dwelling, or something answering to that description, can be found in the locality lying between the Fulham Road and the Thames. And if there is any one thing that can be said to lend encouragement to the band of workers among the labouring classes provided in connection with Mr. Webb Peploe's mission, it is the steady advance being made in the improvement of the homes of working men and women and their families what are little better than hovels are giving place to commodious, elevated, airy blocks of buildings, in which the necessary sanitary arrangements are carried out under strict supervision, and health-preserving appliances are provided for the good of those who inhabit there. I have often thought how much could be done in the way of plant culture in these blocks of buildings if only the time, effort and money expended with but the barest return of good in a dozen public houses in Chelsea during one day only, could be devoted to the extension of flower culture in those places. How many a window sill and balcony might be made gay with touches of floral beauty, and human hearts be gladdened by a glimpse of some of the prettiest objects to be seen in creation. Flowers fulfil many purposes, divine and human. Give me a cottage home that shows pride is taken in the plants that grow inside and outside of the windows, and I am satisfied that within it there are some good influences at work, leading men and women to higher conceptions of life and duty.

An old gardening acquaintance of mine, the Rev. Canon Hole, has said "He who would have beautiful Roses in his garden, must first have beautiful Roses in his heart." What he means is, that it is only those who have a love of flowers in their hearts that can be expected to give to them all those little attentions, tender and constant, that go so far to make up the sum of success in plant culture. I can understand a man or woman very carefully tending for the space of two or three months a few plants for the purpose of winning a prize at your annual show, and then leaving them neglected for the remainder of the year; but that is working according to a low and sordid motive. What the ladies and gentlemen connected with this Mission want to do is to waken and keep alive within you a true, gentle and lasting love for flowers, that will lead you to take them to your hearts and tend them with a simple devotion that will last as long as there is something in the life and development of the plant, that arouses and keeps alive your regard. I will assume this love is warm in the breasts of some of you, and it is now my duty to tell you how you can best so cultivate your plants as to make them ministering angels in the house.

"God made the flowers to beautify
The earth, and cheer man's careful mood;
And he is happiest who hath power
To gather wisdom from a flower,
And wake his heart in every hour
To pleasant gratitude."

WINDOWS.

Plants in pots may be grown inside or outside of a window; if outside and in exposed positions something should be placed in front of the sill, stretching from wall to wall on either side, to prevent the plants being blown about by the wind, and toppling over on to the head of some luckless passer-by below. A piece of galvanized wire costs but little and will last for a long time. Then if a piece of board a few inches square be fastened against the wall on either side, and projecting like two wings, there is afforded protection from keen winds passing up and down the street, and especially those from the east and north-east. Window sills invariably slope towards the front, and so in order to make this quite level so that the pots can stand in an upright position, a thin plasterer's lath, or narrow thin strip of deal, should be laid upon it towards the front, so that a level bottom be provided for the plants to stand upon. And unless the pots are level, water cannot well be given, it will run off at one side instead of penetrating to the soil and nourishing the plant. It is an excellent plan to have a box, a common deal one, six inches deep, that is wide enough to project two inches over the sill; in this the pots can be stood and be buried up to their rims in sand, fine ashes, or Cocoa fibre refuse, and it will be found that they cannot possibly be blown over, and as the sides of the box will ward off wind and sun, the soil in which the plants are growing does not dry nearly so fast as when the pots are fully exposed to the sun. Some creeper, such as the Ivy, or some flowering plant, such as the Climbing Nasturtium or Major Convolvulus might be trained along the front of the box in summer, and so add to the attractiveness of the window garden.

Then the inside sill can be utilized also, and it is in this position that the larger number of window plants are grown, and especially so during the autumn, winter, and cold early spring months. Plants require sunlight, and especially so those which are grown in towns; indeed without some sunlight it is almost impossible to get plants grown in the dull, dense atmosphere of towns and cities to flower at all. Ventilation is also a prime necessity if plants are to do well. Those are the best windows for plants that open at the top as well as at the bottom; when only the lower sash can be pushed up, cold draughts will play across the plants, and do them harm. If the weather be mild, close the door of the room, throw up the sash, and the plants will enjoy the cool, invigorating breeze. If it is necessary to remove the plants out of the window during the night of summer, they will be benefited by being placed anywhere in the open. The cool, refreshing dew of heaven is, in the absence of rain, nature's great restorer of exhausted energies. Leaves exercise during the day the power of evaporating or giving forth moisture; but they have likewise the power of absorbing or taking in moisture at night. With the coolness then prevailing the moisture becomes condensed on their surface and forms dew.

* A Lecture delivered by request of the Rev. H. Webb-Peploe, in the Oakley Mission Hall, Chelsea, by Mr. R. Dean

CLEANLINESS.

Plants in rooms are certain to have their leaves coated over with a deposit of dust. When the leaves are smooth or shiny, dust may be readily removed by washing, but when they are soft and woolly, and covered with hairs, a piece of sponge should be used and applied very gently, to prevent injury. As it is much easier to keep one's own face thoroughly clean by washing it every day, so with plants, and especially so if they are kept in a room where fires are in constant use, the leaves should be well washed, at least once a week, and before they become dry it is a good plan to sprinkle them with a little clean water; a small syringe or a large squirt can be obtained at a small cost. In syringing a plant, lay it on its side, say on a tea tray, and then the water used will not run into the flower pot, or it may cause the plant to become water-logged. In the summer time a gentle summer's rain—nature's own shower-bath—will prove more effectual than sponging and syringing, even by the most loving hands.

INSECTS.

Insects will gather on plants that are kept in confinement within doors. The most tiresome pest is what is known as the green-fly, and the usually dry air of a dwelling room assists their increase; and when I say that they live on the juices of the plant, which juices they pump out in a most methodical fashion, it must be obvious they are hurtful to plant life. A small paint or artists' brush will sweep away many of them. Take it as a broad principle that they hate tobacco, whether in smoke, water, or snuff; but it will not avail to get the master of the house to merely puff smoke among these depredators as he is enjoying his pipe of an evening. To dislodge them something stronger is required. If you have a washing tub, lay the plants carefully on their sides in it, over it stretch a wet towel wrung out, but there should be no holes in it; then let the master take a pipe with a long stem to it—what is known as a churchwarden will be the best—fill it with tobacco, pass the stem through to the tub under one corner of the cloth, light it in the usual way, and then blow on to the burning tobacco through two or threefolds of an ordinary pocket handkerchief, and I shall be very much mistaken if the enemy are not completely destroyed. Two points are important, the leaves of the plants should be thoroughly dry when they are fumigated, and the pipe-stem should reach to the bottom of the tub, so that the smoke may ascend among the leaves.

STAKING.

Plants that make long shoots should be supported by slight stakes. But it is better to put three or four stakes round a pot so that the branches can be tied out and air admitted freely among them, than tying them all up to one stake, and huddling them close together. Plants kept in a confined atmosphere will become what gardeners term "leggy," therefore, aid should be given on all suitable occasions in order to promote a tough and stocky growth as far as possible.

SOIL.

Soil is a matter of the very first importance, and it is very difficult for such ones as you who are before me to-night to obtain suitable soil. If Mr. Whitborne could induce Mr. Harry Veitch to send a cartload of good plant soil to each Mission Room, it would greatly assist you in the growth of your plants. What you want is some good yellow loam or mould. Some leaf soil, that is, mould from rotted leaves and silver sand; that would grow any kind of plant suitable for your show. But for a few pence a florist or nurseryman would sell you enough for your purpose.

POTS.

Next comes pots. There is nothing like red clay pots to grow plants in, but a good deal can be done in small boxes. When a few years ago we held the City Flower Show in Finsbury Circus plants were brought in jam pots, cracked basins, and many singular things, and especially was this the case in regard to the contributions from the narrow courts of Bishopsgate Street. Some pots are glazed on the inside, but unglazed ones are decidedly the best, and especially for plants grown in towns. And be quite sure the pots are clean before plants are put in them. If they have been previously used for this purpose, wash them thoroughly before plants are again put in them.

STIMULANTS.

Some may be disposed to ask "Are stimulants necessary for window plants?" I think that if the plants are potted in good soil, it will carry them through, if they are well looked after in the matter of watering. But the housewife can help by saving a little soot that falls down the chimney, and spreading a thin layer of it over the surface of the soil in the pot, and when water is given some of it is carried down to the roots, and the plant is benefited. Guano and suchlike powerful manures or stimulants should be employed only by those who are well acquainted with the culture of plants. Even soot must be sparingly employed.

GARDENING MISCELLANY.

PHEŒNIX ROEBELENI

WHEN this Palm first appeared before the public, its value as a decorative plant was doubted on account of the slow growth of the old plants exhibited. Since then many young plants have been obtained and grown on evidently under more favourable conditions, the growth appears to be more rapid than one would at first have expected. There are some young plants of it in the nursery of Messrs. J. Veitch & Sons, Chelsea, some in 60 and some in 48-size pots, and each plant is furnished with six to twelve leaves. They are of arching habit and of a rich dark green with linear, channelled pinnæ, the lowermost of which are spiny-pointed, but not to the same extent as is seen in P. rupicola or P. reclinata. Its slow-growing character should moreover be a recommendation to those whose space is limited and who may therefore grow the same plants for a great number of years before it is necessary to replace them with younger plants.

THE DOUBLE CHINESE CHERRY.

THIS name is applied to Cerasus serrulata, a semi-double Cherry which was introduced from China in 1822, and may sometimes be seen in gardens under the names of C. Sieboldii or C. Watereri. The flowers are much larger than those of two other double Cherries grown in British gardens, but not nearly so full in the centre, and, instead of being pure white, they are of a pale rose or pink hue. The leaves are drawn out into a long point and finely serrulated. It forms a dwarf tree 10 ft. to 15 ft. in height with thinly disposed stout branches, and flowers in the open gronnd in April. It is also useful for forcing purposes, and is then grown as a standard on stems about 4 ft. high, so that it proves serviceable in large conservatories, where it may be stood amongst other tall growing plants.

GALANTHUS FOSTERI.

IN general appearance this Snowdrop resembles G. latifolius, but comes into bloom much earlier than the last named kind. It commenced flowering about the beginning of February, long before the other showed a bloom. Flowers are also much more freely produced by G. Fosterii; and it is interesting to note how they vary in shape, some having the outer segments very much elongated, and others again having them shortened so as to appear globose. The leaves are broad and of a bright green, not glaucous as in most forms of Snowdrop. The inner segments have a green blotch at the base externally, another of horse-shoe shape round the notch, and the inner face is green, lined with white. In these respects the flower reminds us of G. Elwesi, but the other characters and particularly the foliage is quite different.

THE CORNELIAN CHERRY.

ONE of the earliest shrubs to flower is Cornus mas, to which the above name is popularly applied. It is surprising how quickly the flower buds have swollen up and expanded when the frost, snow, and cold winds gave place to the mild and genial weather, which in the London district set in on Tuesday, the 15th inst. The Cornelian Cherry when allowed to attain its natural dimensions forms a small tree 8 ft. to 15 ft. in height with a broad spreading head. When of this size and planted in front of taller trees, the background serves to show off the yellow bracts of the flowers to great advantage. A background of some of the dark foliaged and evergreen Conifers, such as Cupressus, Junipers, Pines, Spruces or Silver Firs, would answer even better than deciduous trees. The flowers themselves are very small and by no means conspicuous, but being aggregated in an umbel or cluster, and, surrounded by the bright yellow bracts, they render the tree highly ornamental in spring. It is a European plant, although not wild in Britain, and is therefore very hardy.

CUPRESSUS NUTKÆNSIS.

THE number of synonyms with which this tree is loaded is surely a disgrace to botanists, to leave out of question the annoyance, embarrassment and confusion caused amongst amateurs, and even gardeners themselves, by the multiplicity of names. One of the commonest names besides the above is Thujopsis, or Thuyopsis borealis. Thuya, Thuja, and Chamæcyparis are also used by different authors and writers. The tree itself is of straggling habit in the young state, that is, when from 5 ft. to 8 ft. high, or even more, the side branches are thinly disposed and open; but when the tree gets to a height of 20 ft. or 30 ft. the side branches are then developed in much greater abundance so that the whole presents a regularly pyramidal and compact habit from top to bottom. The rich dark green hue of the branches and foliage, even in the depth of winter, is a strong argument in favour of the planting of this tree. Thuya gigantea and T. occidentalis, it is well known, change their hue to a yellowish or brownish-green during winter, but Cupressus nutkænsis and C. Lawsoniana do not. There is a fine specimen of the former about 30 ft. to 35ft. high, and forming a dense habited and perfect pyramid, in the garden of Mr. Simmonds, the School, Bearwood, Wokingham.

LAPAGERIA ROSEA NASH COURT.

FOR length of flower this variety has no competitor. There are several others which have more widely-spreading segments, but they are shorter and paler in colour in most cases. The buds are produced in succession all along the stems, and occasionally pieces a yard in length may be seen furnished in this way, a large number of the flowers being open at the same time, the rest in the bud state. The segments are fleshy, of great substance, and of an intense purple-red. The leaves are also larger than those of the more ordinary forms, ovate, leathery, and of a dark shining green. Altogether it is a very vigorous form, and should find a place as a roof climber in all large conservatories where the stems have plenty of room to develope themselves unrestricted. It is nearly always in flower in the nursery of Messrs. J. Laing & Sons, Forest Hill.

TILLANDSIA HIEROGLYPHICA.

THE dense arrangement of the leaves of this species gives the plant a greater appearance of solidity and stability than those with a few thin and straggling ones. From twenty to thirty of these are arranged in a dense vasiform tuft, with the internodes of the stem just sufficiently elongated to prevent undue crowding. Those species which soon attain the flowering stage, loose the best of their leaves soon after. That under notice, as far as we are aware, has hitherto refused to flower, so that its fine foliage remains intact for many years. The leaves are of a light green in the young stage, getting darker with age, and are banded transversely with irregularly formed deep olive green bands or blotches which have suggested the specific name. The plant is a native of Southern Brazil and does best with stove treatment.

SPRING SHOW AT LIVERPOOL.

THE ninth spring show of Hyacinths, Tulips, Azaleas, and forced hardy plants, under the auspices of the Liverpool Horticultural Association, was held on Tuesday and Wednesday of last week in St. George's Hall. But owing to the fact that the show this year was held a few weeks earlier than on previous occasions, it was not so large as it might otherwise have been, although in some classes, notably Hyacinths, the entries were unusually numerous, and this competition was, as usual, one of the principal features of the show. Mr. O. H. Williams won the first prizes for eighteen distinct varieties of Hyacinths, and for a group of twelve distinct varieties, and also for six. Amongst the specimens he exhibited, all of which were rich in bloom and of a very fine size, most noticeable were Queen of the Blues, King of the Blues, Obelesque,

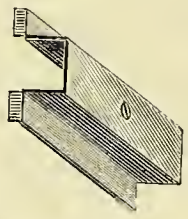
John Bright, Fabiola, Isabella and La Grandesse. This gentleman also secured first prizes for a very beautiful group, comprising six pots of Polyanthus Narcissus; for eighteen Hyacinths three bulbs in a pot; and for an exquisite bouquet of cut flowers of different varieties. In the class for eighteen, the second prize was secured by Lieutenant Colonel Gaskell (Woolton), and the third by Mr. John Aikin (Prince's Park). The comparatively few exhibits in Orchids were very good, the first prize for these plants being secured by Mr. T. Sutton Timmins, who had a magnificent plant of Cœlogyne Cristata, with as many as 520 separate blooms, etc. Other plants which were noticeable for their beauty were Dendrobium Wardianum, Cattleya Trianæ, and Cattleya labiata, the latter, which was exhibited by Mr. R. N. Dale, commanding particular attention.

Another interesting feature of the show consisted of four tables of miscellaneous plants, all of which were much admired. That exhibited by Mr. Alfred L. Jones, carried off the first prize. There were only two entries in the class devoted to Grapes, Sir A. B. Walker securing the first prize, and Mr. A. R. Gladstone the second. Azaleas and Rhododendrons were not so plentiful as sometimes is the case, although the former class was represented by some very beautiful plants. The Tulips also were only meagrely represented. Although not so good a show as last year, on which occasion the spring exhibition was one of the best that has ever been held, the show of 1892 compares favourably with most of the previous shows held in St. George's Hall at this season of the year. A word of praise is due to the excellent exhibition of flowers and plants by nurserymen. In particular the group of Amaryllis exhibited by Messrs. R. Ker and Sons was considered as one of the most attractive features of the whole exhibition. Messrs. T. Davies & Co., and the Liverpool Horticultural (Cowan) Company, also exhibited magnificent collections of flowers, and Messrs. Fishlock Brothers contributed a number of beautiful bouquets.

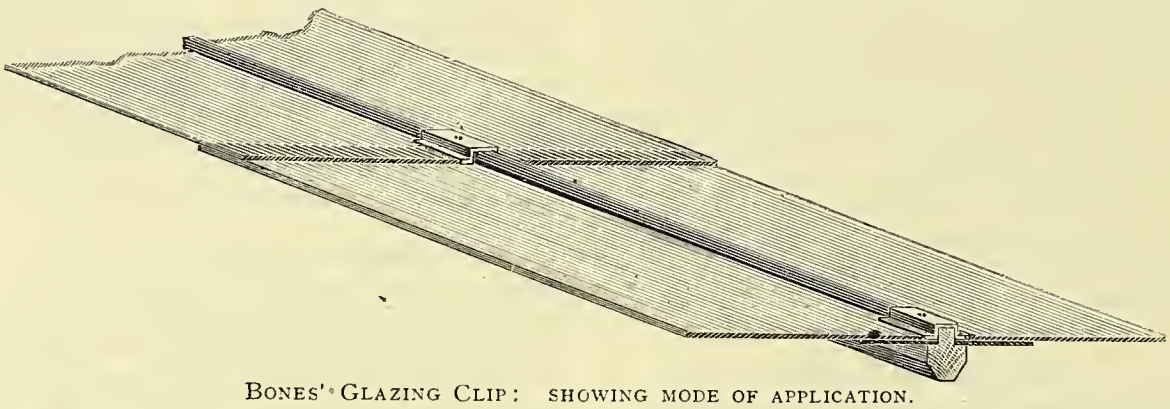
Certificates of merit were awarded to the following:—R. P. Ker & Sons, for Amaryllis Terentian, Aspasia, Imperial, Black Prince, President, Virgin Queen, Sultan, Daphne, Eurydice, and Cassandra, and for a collection of Azaleas; to Messrs. T. Davies & Co., for Basket of Mushrooms, and two tables of (highly commended) Plants; to the Liverpool Horticultural Company (John Cowan, Limited), for table of Plants; and to Messrs. Fishlock Brothers, for bouquets, wreaths, crosses, &c.

GLAZING GLASS-HOUSES.

A NEW clip for use in glazing all kinds of horticultural structures has been brought under our notice by a Chiswick gardener, and which on account of its simplicity, efficiency, and cheapness we consider worthy of bringing under the notice of our readers. The use of the clip, which is made of zinc, is of course to obviate the use of top putty (which is now generally regarded as both unsatisfactory and needlessly costly), and to save expense in regard to the first cost of labour, and time in the making of repairs afterwards. The smaller illustration shows the clip, and the larger one the manner in which it is used to hold the squares down upon the thin layer of putty underneath, and the stops to keep them in position; the clip itself being fixed to the sash bars by means of a brass screw or tack. The special advantages claimed by the inventor, Mr. T. Bones, The Gardens, Tower House, Chiswick, are a saving of 50 per cent. in the time required in glazing; no breakage from contraction or expansion; the easy replacement of squares broken by accident; and the prevention of loss of heat by the close lapping of the glass which this system of glazing permits of.



BONES, GLAZING CLIP.



BONES' GLAZING CLIP: SHOWING MODE OF APPLICATION.

SPRING FLOWER SHOW AT PRESTON.

THE fourteenth spring show of the Preston and Fulwood Horticultural Society was held on the 16th and 17th inst., in the large public hall, which proved almost too small for the occasion; and the competition in the various classes was so keen that all applications for space for subjects not for competition had to be refused. Though the Orchids and other exhibits from Howick House were absent on account of the death of E. G. Wrigley, Esq., the entries were twenty-one more than last year. The show was opened by the president, Mr. R. W. Hanbury, M.P., supported by the Mayor and Corporation, who with the committee he entertained to luncheon. The various exhibits, excluding bulbous plants, were arranged under the galleries, and in front of the orchestra were the large Azaleas, and towering above these an Acacia armata surrounded with Ferns, kindly sent by the corporation. These were flanked on either side by Palms reaching up to the gallery, the tallest being Kentia Fosteriana, exhibited by Mr. Frisby, gardener to Miss ffarington, Worden Hall, Leyland. The bulbs were arranged on tables in the centre of the hall, and were on the whole an improvement on last year. Primulas were shown in great numbers, and were really a fine lot, probably the best ever exhibited in Preston.

The groups of plants for effect, occupying 100 ft. space, were set up by Mr. J. B. Dixon, Mr. J. Whitehead, Penwortham, and Miss ffarington, and the prizes were awarded in the order named. They were composed of the usual run of things in flower at this time of the year, intermixed with Ferns, small Crotons and Palms, backed by larger Palms and Ferns. In the corresponding class for nurserymen, Mr. Payne, Fulwood, had the field to himself. For six fine foliage plants Mr. J. B. Dixon was an excellent first, with Phœnix reclinata, Kentia Fosteriana, Pritchardia Vuylstekiana, and others. Mr. Frisby, gardener to Miss ffarington, was second, with Cycas revoluta and Pandanus Veitchii as his best plants. Six miscellaneous plants, Orchids excluded, first, Miss ffarington, second, Mr. J. B. Dixon; and the latter gentleman took first for three Deutzias, which were of enormous size and well flowered. He was also first in a class for twenty 6-in. pots of "Bulbs, Corms, Tubers, or Rhizomes not named in the schedule." Mr. Frisby, who has usually captured this much-coveted prize, had to be satisfied with second honours this time. Mr. Dixon had Tritelias, Freezias, Muscarii, Fritillarias, Scillas, and Gloxinias. He was also first in all the leading bulb classes; also with single Primulas, and Mr. Frisby with doubles. He was also first for hardy Primroses, as well as in the classes for Cinerarias. For three exotic Ferns, Mr. R. Smith (Mr. C. Lamb, gardener), Longridge, was first; and a similar award was given to Mr. J. Smith, Whittingham House (Mr. P. Rigby, gardener), for six Roses, which only wanted two or three more days to bring out the numerous flower buds. For twelve cut blooms, Mr. Whitehead was first. The Azaleas were very good, Mr. J. B. Dixon being first for six and three, and Mr. Whitehead for a single specimen.

One of the nicest features of the show was a group of Orchids, arranged with Ferns and cork, by Mr. Chas. Parker, an amateur. Prizes were offered for bouquets, wreaths, and crosses, with which Mr. Troughton took the lead. Miss ffarington, Mr. Whitehead, Mr. J. B. Dixon, and Mr. J. Smith took honours in the fruit and vegetable classes.

Seeing that the schedule contained 93 classes, and that there were 360 entries, it would occupy too much of your space to name the exhibitors, to say nothing of their exhibits and the position they held. The following were, however, the names most frequently met with in the prize list:—Mr. J. B. Dixon, Mr. Frisby (gardener to Miss ffarington), Leyland; Mr. Williams (gardener to J. Whitehead, Esq.), The Priory, Penwortham; Mr. C. Lamb (gardener to R. Smith), Dillmore House, Longridge; Mr. Pino Rigby (gardener to J. Smith, Esq), Whittingham House; Miss Watson, Ashton; Messrs. Samuel Crompton, Gwenbank House, Preston; Mr. Parker; Mr. W. H. Wilding, Fulwood; Mr. J. Y. Foster, Penwortham: and Mr. S. H. Stott, Fulwood.—"*Cor.*"

SOCIETIES.

Royal Horticultural, *March 22nd.*—In spite of the cold and ungenial weather of Tuesday last there was a good display, chiefly of indoor plants such as Orchids, Clivias, Azaleas, New Holland plants, forced Daffodils, and other subjects. A Silver Banksian Medal was awarded to Messrs. B. S. Williams & Son, Upper Holloway, for a large group of Clivias, varieties of Azalea mollis, etc. A similar award was made to Messrs. Wm. Cutbush & Son, Highgate, for a group of Epacris, Pernettyas, Cyclamens, Mignonette, and other plants of that class. Mr. S. Wythes, gardener, Syon House, Brentford, exhibited a large group of Spiræa confusa, Azalea mollis, Guelder Roses, Laurestinus, Dielytra spectabilis, and other plants which had been forced for conservatory work, as well as some Acacias now in season. A Bronze Banksian Medal was awarded. An extensive group of Daffodils, some Lenten Roses, Chionodoxa sardensis and Iris was exhibited by Messrs. Barr & Son, Covent Garden. A Silver Flora Medal was awarded to Messrs. Paul & Son, for a collection of forced Roses in pots, as well as some Lilacs, Azaleas, and some Alpine plants. A Silver Banksian Medal was awarded to Messrs. J. James & Son, Woodside, Farnham Royal, Slough, for a group of Cinerarias of dwarf habit, large flowers, and rich colours, in great variety. A Bronze Banksian Medal was awarded to C. E. Smith, Esq. (gardener, Mr. J. Quarterman), Silvermere, Cobham, Surrey, for some baskets of branches of Forsythia suspensa, Double Peach, and Pyrus Malus floribunda that had been forced. Some Roses were exhibited by Messrs. Wm. Paul & Son, Waltham Cross. A Silver Banksian Medal was awarded to Messrs. Charlesworth, Shuttleworth & Co., Park Road, Clapham, for an attractive group of Oncidium sarcodes set up with Palms, Ferns, and a few other Orchids. A few Orchids were exhibited by R. J. Measures, Esq. (gardener, Mr. H. Simkins), Cambridge Lodge, Camberwell, including Masdevallia Hinksiana, and a supposed species of Odontoglossum. Messrs. Heath & Son, Cheltenham, exhibited some cut flowers of Orchids. A Silver Banksian Medal was awarded to Messrs. F. Sander & Co, St. Albans, for a group of Orchids showing considerable variety and including Cattleya labiata, Schomburgkia undulata, Phaius Cooksoni, and others. Epipendrum Frederici Gulielmi was exhibited by Mr. G.W.Cummins, gardener to A. H. Smee, Esq., The Grange, Wallington, Surrey. Dendrobium Kingianium was shown by Sir Trevor Lawrence, Bart., M.P. (grower, Mr. W. White), Burford Lodge, Dorking. A Silver Banksian Medal was awarded to E. Miller Mundy, Esq., Shipley Hall, Derby, for a small but fascinating group of Dendrobium Phalænopsis Schroderiana showing a considerable range of variety and great beauty. A small group of Amaryllis was exhibited by Messrs. J. Veitch & Sons, Chelsea. Some Clivias came from the Royal Horticultural Society's gardens at Chiswick. Some Amaryllis were shown by C. T. Lucas, Esq. (gardener, Mr. G. Duncan), Warnham Court, Horsham.

At a meeting of the Fruit Committee, a Cultural Commendation was awarded to Messrs. T. & M. Poupart, Mortlake and Mitcham, for a large bunch of Asparagus. Similar awards were made to H. Packe, Esq. (gardener, Mr. D. Roberts), Prestwold, Loughborough, for Cucumbers; and to Mr. W. C. Leach, Albury Park, for a small Tomato named Lady Bird.

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.

CATTLEYA TRIANÆ.—As these go out of flower they should, if requiring it, be repotted, using good fibrous peat alone. This I find suits Cattleyas much better, and keeps the roots in a much healthier condition than when Sphagnum Moss is mixed with it. The Moss might enable the cultivator to determine the state of the plant as regards dryness, &c., but I doubt the plants receiving any benefit from its use, and unless they are repotted every season I know of nothing that would be more likely to accelerate the growth of the Cattleya disease, which I firmly believe is brought on by allowing the plant to remain in the same pot too long. I might say that the disease is not foreign to me, but only in cases where the plants through some cause or other have been allowed to remain in a sour compost has it made its unwelcome appearance, therefore I at once admit that I consider myself to blame. Cattleya gigas and Lælia purpurata, or Cattleyas that make luscious bulbs seem to be the only ones that are affected by it, but if taken in time its progress might be arrested by cutting away as much of the affected parts as possible, and making incisions with a sharp knife where it shows itself in the bulb or leaf. The best plan is to shake the plant clean of all the old material, and thoroughly examine the roots, when they will mostly be found dead at the points, through being too long in something they do not appreciate. Here then, in my opinion, lies the secret of the disease. Cut all the dead roots away, and pot into as small pots as possible, and water very sparingly until fresh roots appear. By this means they might be coaxed back into health.

CATTLEYA GIGAS is breaking away unusually strong this year. The plants will require very little water yet, just enough to keep the bulbs plump. Ours are all grown in baskets, and should any reader grow them in pots I would advise that instead of watering the compost in the ordinary way, to plunge the pot in a pail of tepid water; this will help the roots that have gone down the inside of the pots and among the crocks without making the compost too wet, which is undesirable at this season of its growth.

ANGULOAS.—Our plants are making growth and pushing flower spikes, and will be repotted forthwith, for if left till the growths are much advanced the roots, which are rather brittle, will suffer. We use as a compost one part loam, one part leaf soil, not too much decayed, and silver sand, and pot moderately firm but not so firm as for Calanthes. Miltonia vexillaria growing in the same house is pushing up its spikes, and should receive weak manure water twice weekly to help them to properly develop. Ours have been very free of thrips this season, but will receive a dipping or two before the spikes are too far advanced. We have begun to shade this house for a few hours in the hottest part of bright days. It keeps down the temperature without having to let in too much of the piercing cold winds we are getting. The blinds should not remain down after 2 o'clock p.m.

COOL HOUSE.—Odontoglossums may be syringed overhead on bright mornings, taking care not to wet those that are in bloom. I find it necessary to syringe this house late in the afternoon, while the fires have to be kept up, or else it dries up too much during the night; this of course depends on the kind of house, ours dries up very quickly. Pay careful attention to shading and watering, etc., and do not let the shading remain down longer than absolutely necessary or the growths will be small and the spikes weak. Temperatures as advised in last Calandar will still hold good. We draw the fires entirely for a few hours in the hottest part of the day now but set them going again about two o'clock, air is admitted more freely through the bottom ventilators, and the damping of the floors done more frequently.—*C.*

Rooklands, Torquay.

VISITING Torquay recently I had the pleasure of looking through the very choice collection of Orchids formed by Morton Sparke, Esq. For excellence of culture and cleanliness it cannot be surpassed by any in the district; cleanliness to my thinking is one of the most important factors in orchid culture, and all who wish to merit success must ever keep this end in view. Mr. Medland, the indefatigable gardener, whose skill as a grower and exhibitor is well known, considers that his success is more due to the fact that he never allows a single aphis to get on his plants than to anything else. In passing through the houses I could not resist the temptation of making a few notes. The first plant calling for special mention is Dendrobium Jamesianum, a grand specimen in a 5 in. pot with bulbs like walking sticks and carrying upwards of fifty huge flowers. Hitherto I had never seen a plant in such a small pot carrying the same number of blooms; it shows what good culture can do. Then comes a fine piece of Lycaste Skinneri, with upwards of forty fine flowers, a very superior variety, followed by a grand specimen of Dendrobium densiflorum, whose thirty-six golden racemes were most effective. The lovely Cymbidium Eburneum is well grown at Rooklands, I counted on one plant over twenty-seven fine blooms. Cœlogyne Massangeana was a perfect sight, its long pendulous racemes were the admiration of all who saw it. Calanthe Veitchii and C. Sandhurstiana were passing out of bloom, but their delicate tints gave a pleasing effect to the whole. Numerous Dendrobiums were in bloom, several fine plants of D. Wardianum, D. infundibulum, D. Brymerianum, D. Nobile and D. hetrocarpum. Many Odontoglossums, Masdevallias, Cypripediums, Miltonias, Ærides, Vandas, Angræcums, Oncidiums, Cattleyas and Lælias made up a grand floral display the admiration of all who saw it.—*J. McNab.*

Odontoglossum Wilckeanum flavescens.

O. WILCKEANUM is supposed to be a natural hybrid between O. crispum and O. luteo-purpureum, amongst which it has frequently been imported. The type has the ground colour of the sepals and petals of a pale sulphur-yellow, while that of O. W. pallens is almost white. We have received a noble inflorescence of a variety for which we propose the above name, from Mr. Geo. Neil, New Milns, Ayrshire. The scape was branched at the base and bore seventeen large flowers. The sepals were lanceolate, wavy at the margin, and clear bright yellow with two to three large, but irregular reddish-brown blotches, and some smaller ones along the sides. The petals were broader, almost rhomboid, wavy at the sides, deeply toothed or lacerated on both margins at the widest part, with one large blotch above the middle and numerous smaller ones of irregular size between that and the base on a paler yellow ground than that of the sepals. The lip was similar to that of O. crispum, obovate, with an involute and cuspidate reflexed tip, and finely fringed from base to apex; it was sulphur-yellow with a large blotch in front of the prominent crest, and several smaller ones on each side. The magnificent appearance of the whole spike, and the number of flowers on the arching scape gives ample evidence of the high culture the plant must have enjoyed under Mr. Neil's care.

WHAT TO DO IN THE GARDEN.

Allamandas in pots.—If these are required by any given time, the young shoots should be stopped about twelve weeks previous to that date. All the shoots then start away equally, so that they come into bloom with more regularity than when the buds commence to push at different times. Ixoras will require sixteen weeks to come into bloom after they have been stopped, unless a very high temperature is maintained.

Epiphyllum truncatum.—Those who desire their plants to flower in the early part of winter should now place them in heat to encourage an early development of young wood, which will therefore ripen early, and develop their flower buds at a correspondingly early period. Epiphyllums can be propagated at this time by means of cuttings, or if standards are desired then they may be grafted on the stems of Pereskia at the desired height.

Old Fronds on Ferns.—Evergreen Ferns should not have too many of the old fronds taken off at one time. It is advisable however to remove them when getting shabby and more especially if infested with scale. This need not be done till the young fronds are pretty well advanced, but before the latter get infested with scale from the old ones. The work further might be accomplished gradually if the old fronds are numerous, removing the worst first.

Shading the Conservatory.—The sun is now getting strong, and it is advisable to get the blinds in readiness so that they might be let down as occasion requires. This will serve to prolong the season of plants in bloom, and which are now getting numerous, including forced bulbs and shrubs, as well as those things which naturally come into bloom at this season.

Chinese Primulas.—Those plants which had their flowers set with the object of saving seed should be placed in a light airy position, say on a shelf near the glass, to encourage the development and ripening of the seed pods. They should not be starved in the matter of watering till the seeds are approaching maturity, when the plants may be kept drier at the root. The perfectly double kinds, which cannot be raised by seeds, may be treated in the same way, but simply kept cool until time to propagate them. A light compost should be made up, containing plenty of leaf soil and sand, and after removing some of the older leaves from the neck of the plants, the surface of the pots should be top-dressed with it, heaping it up so that the base of the shoots will be well covered. The top-dressing should be kept moist with a rosed watering pot until roots are emitted, after which each crown may be severed from the parent plant with its own complement of roots.

Petunias.—Continue to take off the young growing points as cuttings, and pot off those that are rooted. Sow seeds of single kinds for planting out of doors. They make capital free-flowering subjects in a dry season, even if the soil is not very rich.

Peaches.—The fruits in the earliest house may now be partly thinned out, leaving the final thinning out till stoning is completed. The crop will be sufficiently heavy for the tree to bear if each fruit has about a foot square of surface all over the tree. Check all over-vigorous shoots before they destroy the balance of the tree. Give copious syringings with clean water on bright days, and top dress the borders with manure to preserve the moisture in the soil. A night temperature of 60° will be sufficient until stoning is completed, after which the trees will stand a considerable amount of forcing if necessary to hasten maturity.

Sea Kale.—Now is the time to make fresh plantations of this useful vegetable. When the old plants were lifted for forcing a sufficient supply of the stout roots should have been preserved for making the young plantation. These roots if cut into lengths of 3 in., or 4 in., and laid into soil to callus somewhat, will now be fit to plant out in properly prepared ground, in lines 18 in. apart and 12 in. from plant to plant. The root cuttings may then be dibbled in with the thick end upwards, but covered with soil. If more than one crown is developed, only one should be left, removing the others.

Figs on open walls.—The necessary pruning or thinning out should now be completed without further delay. Nail in just sufficient of the best shoots so as to cover the wall without crowding, giving preference to those with the plumpest buds. All the rest, including weak and useless wood, should be spurred back. Those shoots which have not plump buds at this time cannot ripen any fruit during our short summer season.

Cucumbers.—Where these have covered the trellis work, or the area intended for them, the tips of the lateral shoots should be pinched out to throw the plants into a fruiting condition. As the young fruits get plentiful and begin to swell up, the plants will be greatly benefited by applications of weak liquid manure. Keep the foliage well syringed, especially in bright weather. In dull or cloudy weather, on the contrary, the atmosphere should be kept somewhat drier, otherwise the foliage may get chilled and checked in cold, sunless weather.

Onions and Leeks.—On the first favourable occasion, that is when the soil is in a suitably dry condition, level down the ridges, and add any further manure that may be intended to be given, such as pigeons' dung or fowl's manure. Then level the ground equally all over and tread or roll it firmly. Take out shallow furrows, say about half an inch deep, and about a foot apart, and sow the seeds thinly, afterwards covering them up, and levelling all with the rake. The ground for Leeks should not be trodden.

Carrots.—Make a sowing of some of the early varieties of short horn Carrots for the earliest supply, and should the ground be infested with maggots, give a sprinkling of salt and soot upon the surface before the lines are drawn out.

QUESTIONS AND ANSWERS.

BORONIA MEGASTIGMA.—*Gardener, Bettws-y-Coed*: Propagation is effected by cuttings of the half-ripened wood. The base of the cutting should of course be quite firm when taken off for insertion. Prepare some 60-size pots, draining them well, and filling them with a light compost consisting of loam, leaf soil, and sand, in about equal proportions, covering the whole with an inch of silver sand. Plunge the pots in cocoa-nut fibre and cover with a hand-light or bell-glass. The latter must be taken off every morning for a few minutes and wiped dry, afterwards replacing them. The bell-glass would be the most suitable covering, using a small glass to to each pot. When water is required it may simply be poured over the bell glass so that it may run in at the edges and moisten the soil. The temperature of the house will be high enough at 50° and shade must be given in the daytime during bright sunshine. When rooted (a state to be determined by the cuttings commencing to grow) they should be potted off singly in a compost consisting of mellow loam and fibrous peat in equal parts, with plenty of sand to keep the whole porous and open. Pinch the shoots repeatedly to make the plants close and bushy.

NAMES OF PLANTS.—*J. K.*: 1, Rhododendrum dahuricum; 2, Scilla bifolia; 3, Scilla sibirica; 4, Pieris floribunda; 5, Pernettya mucronata. *A. R. S.*: 1, Jasminum nudiflorum; 2, Boronia elatior; 3, Staphylea colchica; 4, Azalea amœna; 5, Rhododendron Edgeworthi; 6, Acacia dealbata.—*H. J.*: 1, Dendrobium crassinode-Wardianum; 2, Pleione humilis; 3, Masdevallia macrura; 4, Odontoglossum odoratum.—*Peter Hall*: There are very few plants that can be accurately identified from a few leaves only, and of the quantity you send we can only be certain of the following:—1, Croton pictum; 5, C. augustifolium; 6, C. Disraeli; 7, C. Warreni; 16, C. interruptum; 20, Dracæna concinna; 22, Cucurligo recurvata; 24, Dracæna Youngi; 25, Xylophylla speciosa. Most of the others are garden forms which you can only get identified in a good plant nursery. *E. C.*: The Eucharis is E subedentata, sometimes but erroneously called E. candida in gardens; there is an E. candida with much larger flowers, and a prominent corona in the throat. The Orchid is Trichopilia marginata.—*J. Watson*: 1, Nephrodium Otaria, generally known as Lastrea aristata in gardens; 2, Selaginella caulescens minor; 3, Adiantum Ghiesbreghtii, generally known as A. scutum; 4, Anemia Phyllitidis; 5, Polypodium subauriculatum; 6, Selaginella Martensi variegata; 7, Davallia canariensis.—*C. Simmons*: It appears to be Archangelica officinalis, but was smashed into pulp coming through the post. Send a perfect leaf in a small box later on.

CHINESE LILY.—*Cameron*: Our experience does not encourage us to keep the bulbs after they have flowered, and at the price the new bulbs are likely to be offered at in the future, the game is certainly not worth the candle. If you must keep them grow them on in pots under glass, and feed them well while growing. To ripen them put them on a warm sunny shelf in the greenhouse.

VARIOUS QUESTIONS.—*Flos*: The Strawberry-Spinach plants (Blitum capitatum and B. virgatum) are members of the Goosefoot family, and have fruits more nearly like the Mulberry in structure than the Strawberry. The fruit was formerly used in cookery, and the leaves are sometimes used as a substitute for Spinach, which they closely resemble in flavour and properties as they belong to the same family. The silvery foam you mention is merely a poetical allusion to the silvery or snowy white under side of the leaves when the latter are ruffled by the wind. Your question about useful plants for cultivation is too wide; we do not know what you refer to. An answer to your question would include Cabbages, Savoys, Brussels Sprouts, etc. Ancolie is simply the French name for Aquilegia or Columbine, the species and varieties of which are grown for the ornamental character of their flowers. Seringa is a Portugese name for the India-rubber tree, and is also the French name for the Mock Orange (Philadelphus), the leaves of some species of which have the flavour of Cucumbers and are sometimes used for flavouring. Digitalis is the Foxglove, all parts of which possess powerful medicinal properties. It is now most frequently used in cases of dropsy and heart disease.

CANTALOUP MELON.—*Staffordshire*: This is merely a variety of the common Melon (Cucumis Melo) and is extensively grown upon the Continent, but particularly in countries where they get more sun heat than we do in the summer time. The fruits can therefore be grown at little expense. Both the skin and flesh are variable in colour. Cantaloup Melons must be inferior in flavour to the Melons grown in this country, otherwise they would have been better known, for they are believed to be the first Melons cultivated in Europe. We should try them under precisely the same conditions as Melons grown here, keeping the atmosphere of the house perfectly dry during the time the flowers are setting, and give plenty of heat at ripening time.

COMMUNICATIONS RECEIVED.—G. F.—W. O'N.—A. M.—J. R.—D.—Dr. J. H. W. (many thanks).—J. C. & Co.—J. M.

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March 22nd, 1892.

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March 23rd.

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	s. d.	s. d.		s. d.	s. d.
Apples... per ½-sieve	1 0	5 0	Grapes .....per lb.	2 0	4 0
Canadian and Nova Scotian Apples per barrel	12 0	25 0	Pine apples. —St. Michael's, each	2 6	6 0
			Cobbs... per 100 lbs		45 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d
Artichokes Globe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Asparagus, Eng. bun.	10 0	13 0	Lettuces ...per dozen	1 6	2 0
Beans, French, per lb.	1 6	2 6	Mushrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	6 0	Small salading, punnet	0 4	
Celery.....per bundle	2 6		Seakale ...per basket	2 0	3 0
Cucumbers .....each	0 6	1 0	Spinach, per strike ...	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	1 0
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Acacia var., per doz.	12 0	18 0	Genista .....per doz.	9 0	12 0
Azalea .....per doz.	18 0	42 0	Hyacinths,...per doz.	6 0	9 0
—Mollis.....per doz.	24 0	36 0	Lily of the Valley, doz. pots	12 0	18 0
Cyperus .....per doz.	4 0	12 0	Marguerites, per doz.	9 0	12 0
Cineraria ...per doz.	6 0	10 0	Palms in variety, each	2 6	21 0
Daffodils ...per doz.	9 0	12 0	Palms, Specimen ...	10 6	63 0
Dracæna term., doz.	24 0	36 0	Primula Sinensis per doz.	4 0	6 0
Dracæna viridis, doz.	9 0	18 0	—scarlet .....per doz.	4 0	6 0
Erica Hymalis, per	12 0	18 0	Solanums...per doz.	9 0	12 0
— various, per doz.	9 0	12 0	Tulips.....per doz.	6 0	9 0
Evergreens, in var. doz	6 0	24 0			
Ferns, in var., per doz.	4 0	18 0			
Foliage Plants, doz.	12 0	60 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Acacia or Mimosa French per bunch	1 6	2 0	Narciss, var., Scilly, doz. bunches	2 0	4 0
Anemone various, French, doz. bun.	2 0	4 0	Narciss, French, paper white, doz. bs	3 0	6 0
Arum Lilies, 12 blms.	2 0	6 0	Pelargoniums, 12 sps.	1 0	1 6
Bouvardias, per bun.	0 6	1 0	—scarlet.....12 bchs.	4 0	6 0
Carnations, 12 blooms	2 0	3 0	Primroses, doz. bchs.	1 0	2 0
Daffodils, double, doz. bunches	3 0	4 0	Primula, double, bun.	0 9	1 0
—Single, doz. bchs	4 0	7 0	Primula single, doz. sprays	0 4	0 6
Eucharis ...per doz.	3 0	6 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Freezia .....doz. bun.	2 0	4 0	Roses, yellow, dozen	3 0	6 0
Gardenias 12 blooms	4 0	8 0	— Red..... doz. blms.	4 0	8 0
Heliotropes, 12 sprays	0 6	1 0	— Saffrano...per doz.	2 0	3 0
Hyacinths, 12 sprays	3 0	4 0	— Tea ..... per dozen	1 0	3 0
Jonquils, doz. bnches	1 0	2 0	Snowdrops, doz. bn.	1 0	2 0
doz. sprays	3 0	4 0	Tuberoses, per doz.	1 0	2 0
Lilac, French, per bunch	4 6	6 0	Violets, Parme, French per bunch	2 0	3 0
Lilium Harrisii, doz. blooms	6 0	9 0	— Czar, French bch.	1 6	2 0
Liliums var., doz blms.	1 6	3 0	— Dark, French, doz. bunches	1 6	2 0
Lily of the Valley, doz. bunches	6 0	10 0	—English, doz. bchs.	1 0	1 6
Maidenhair Fern, 12 bs.	6 0	12 0	Wallflowers, French, doz. bunches	1 6	3 0
Marguerites, 12 bun.	2 0	4 0			
Mignonette... 12 bun.	1 6	3 0			

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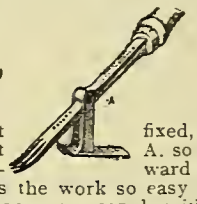

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SUTTON'S SEEDS

GENUINE ONLY FROM SUTTON & SONS, READING.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, April 5.—Brighton "New" Horticultural Society's Show (2 days). Sale of the late Mr. E. G. Wrigley's Orchids at Howick House, Preston, by Protheroe & Morris (4 days). Sale of imported and established Orchids, at Protheroe & Morris' Rooms.

WEDNESDAY, April 6.—Royal Caledonian Horticultural Society's Spring Show (2 days). Sale of Lily Bulbs, Plants, &c., at Protheroe & Morris' Rooms.

THURSDAY, April 7.—Shrewsbury Spring Flower Show.

FRIDAY, April 8.—Sale of imported Cattleya labiata, at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, APRIL 2nd, 1892.

MIDDLE-AGED GARDENERS.—Did not the subject possess so much of interest, as well as of sentiment, we might attempt to indulge in some humorous flights over the singular experiences of some gardeners when in search of situations. But recently we referred to the case of the young man, then later of the old man, the greybeards of the profession, and now we deal shortly with the middle-aged.

It might be thought that if youth is too young for gardening experience, and age too old for physical capacity, that at least everything would be favourable for the men of mature years. But these too it would seem have their troubles, and some singular experiences. We have before us, as we write, a bundle of replies to an advertisement inserted in a clerical newspaper, the unfortunate applicant for a berth being then in the employment of a clergyman who no longer needed his services. To say that any one out of all these replies offered a decent man anything worthy of his merit would be to state a gross falsehood. Wretched salaries, more wretchedly menial duties, absolute slavery week-day and Sunday — a pitiful recapitulation indeed. Better a thousand times that any respectable and capable gardener should go to the colonies or turn bricklayer's labourer, than under the designation of "gardener," become a sort of domestic pariah.

This case, unhappily, is but a sample of thousands. The gardener of middle age has to endure a number of humiliations that even mechanics' labourers are mostly free from, and how to escape from the coil which circumstances and an over-crowded vocation has bound around him is indeed difficult to say. It need hardly be said that the environments of many excellent gardeners have a pathetic side which commands sympathy. To be a real gardener, esteemed and respected because he has knowledge and some independence, is a worthy position. But to fall into the condition of mere domestic slavery is indeed lamentable.

VARIETIES OF APPLES.—We have been amused to read of the urgent appeal made to the Royal Horticultural Society to suppress what are termed useless varieties of Apples. Well, we have long heard of the famous fictional horse which a child might lead to the water but an army could not induce to drink. We may well expect to hear the Council of the Royal Horticultural Society exclaim, "If we do strive to suppress useless sorts of Apples by the publication of an *index expurgatorius*, every kind mentioned in which is to be utterly and absolutely sent to perdition, of what use will it be unless we can send to eternal punishment all growers who set our requirements at defiance?" Practically we shall take all the trouble and meet the expense of taking this horse to water, and then it may not drink a drop.

Now, if the Royal Horticultural Society having, through the profound sagacity of its Fruit Committee, succeeded in expurgating to the satisfaction of all its members every valueless variety of Apple from its catalogue, will go further and ask Parliament to render penal any growing of an expurgated variety, it is possible—though not at all probable—that some material reduction in the number of useless varieties might be made. We fear, however, that what the good sense of growers in this case fail to produce, penal enactments never will. Supposing the Society were to attempt this gigantic effort of striving to reduce by one half our enormous Apple lists, we should still have hundreds more varieties in cultivation than any one person would care to grow. All the same a hundred persons would probably grow them all somewhere, because they find here and there in various soils and situations merits which others do not possess.

Then further the Society cannot in consistency encourage the addition of presumably new varieties, as apparently we have far too many as it is, hence the supply of novelties would be closed up utterly. After all, does it not strike our readers that very much nonsense is written about Apple lists? It is better to have too many sorts than too few, and no one is compelled to grow more than he cares to do. Still, if worthless sorts are to be got rid of, the process must commence with the nurserymen, not with the Royal Horticultural Society.

THE POTATO DISEASE.—Our attention has been drawn to a short resumé of a report respecting the Potato disease in France, and the application for the prevention or cure of the same on the Potato breadths of the sulphate of copper mixture, furnished to our foreign office by Consul Paunceforte. In this report the consul declares that wheresoever the mixture was tried, all over France, not one case of failure has been reported. That is a remarkable statement, and may well induce Potato growers at home to give this mixture a renewed trial.

Here at home, as we have previously mentioned, there have been some failures and some successes. Doubtless good reason could be shown why these different results have occurred, and it may be that some would be found in the different strengths of the mixture. In the consul's report the strength is thus given:—Two pounds of sulphate of copper, four pounds of lime, and twenty-five gallons of water. It would have been specially interesting to have learnt more respecting the dates or periods of applications, the sorts experimented upon, and the number of applications. Also something as to the general condition of the weather in France last summer as compared with that of Great Britain, which, as we too well remember, was cold and exceedingly wet.

We confess to a very anxious desire to have this sulphate of copper mixture fully and widely tested here during the present year, but there are so many side issues that too much care cannot be taken to insure a perfectly impartial testing. We note that our French friends have raised a new Potato called the Eiffel. It is hoped that it is not quite so tall a grower as its name implies, but when we are told that the "shoots come up with a rush," recollections of the famous Beanstalk of fairy story naturally occur. After all, only in other language, what is said about it has been said about a score of varieties at home from time to time.

A LATE SPRING.—We are practically in the month of April, and although at this moment every description of vegetation shows but indifferent signs of activity, yet ere the month is out wonderful may be the change found, and entirely may the face of Nature be altered. Already we hear grumblings as to the spring being unusually laggard. That idea we cannot adopt at present. The average character of the spring has yet to be evidenced, for we are hardly yet into the vernal season, indeed can now be said only to reach the conclusion of winter with the end of March. Ordinarily the winter has been a very prosaic one, though it has been quite severe enough to let us know that fact. Frost is still a potent force in Nature, yet has the winter been so far lenient that we have heard exceedingly little of privation caused by the hard weather of which undoubtedly we had enough. That is very satisfactory.

Gardeners have found very little cause to complain of the winter, for if at times severe, on the whole it has been fairly dry and has not materially interfered with work. March has been an exceptionally dry month, the latter part being open and acceptable. Still nothing is forward or precocious. Those who now grumble somewhat for that reason doubtless rather think that if life is short our too-fleeting summers are much shorter, and that if a fairly early start be not made, then the end comes all too soon. If April should come at all up to its ancient traditional character, and by aid of its genial showers bring forth luxuriant flowers, we shall forget the sluggishness of March and realize that for once we have a sweet, enjoyable, old-fashioned spring.

Of late we have rarely found our summers to begin until July comes in. That is a somewhat severe reflection upon the midsummer of tradition, which is said to come at the end of June, but then there have been years, if not recently at least, in days gone by when the spring seemed to be but the beginning of summer. Would that we could see such a meteorological phenomenon this season, then, indeed, should we have cause to rejoice.

The Clay Cross Horticultural Society will hold its thirty-fifth annual exhibition on Tuesday, August 16th.

Mr. E. Dumper, formerly gardener at Summerville, Limerick, has been engaged as gardener to the Hon. H. D. Ryder, High Ashhurst, Dorking.

A Free International Exhibition of Orchids will again be held in Brussels in May next from the 14th to the 20th, under the auspices of the Société d'Amateurs d'Orchidées of that city. The society will not this year issue a special schedule, but invite amateurs to show as much or as little as they please, and objects of art or medals will be awarded according to special merit.

The Spear-Lily of New South Wales, Doryanthes excelsa, a plant very rarely seen in bloom in this country, is now flowering in the Trinity College Botanic Garden, Dublin. It belongs to the natural order Amaryllidaceæ, though in appearance is as unlike an ordinary Amaryllis as well can be, the crimson Lily-like flowers being congested, in the case of the Dublin plant, on a scape 10 ft. high and 2 in. in diameter.

Plants Certificated in Ghent.—At the last meeting of the Belgian Chamber of Horticulture Certificates of Merit were awarded Mr. B. Fortie for Clivia miniata Madame Romain De Smet; to Mr. Jules Hye for Odontoglossum Hadweni; to Mr. Edward Pynaert for Cypripedium superbiens villosum fl. striatum; Mr. Louis van Houtte for Hæmanthus Kalbreyeri; to Messrs. Boelens Brothers for Odontoglossum crispum var., and for a seedling Clivia miniata; to Mr. Ed. Pynaert for Cypripedium Godseffianum, and Adiantum Birkenheadi.

Camellia alba plena.—A Dundee correspondent, "D. S.," writes:—Some fine examples of this grand old plant are to be seen at Tayside, Perth, the residence of Robert Pullar, Esq. They are planted out in the centre bed of a large conservatory, and at the time of my visit (last Monday) presented a marvellous wealth of bloom. One plant measured 12 ft. through and about 13 ft. high, and carried from 2,000 to 2,500 fully-developed blooms. Two other plants of somewhat smaller dimensions carried between them something like an additional 4,000 blooms. Alternating with these are other large specimens of coloured varieties also well flowered, but certainly far behind the whites. Altogether I should say there were not less than 10,000 fully-developed Camellia blooms in the conservatory—a display which Mr. McDonald, the gardener, may well be proud of.

Sevenoaks Gardeners' and Amateurs' Mutual Improvement Society.—This society held its fortnightly meeting on Tuesday, the 15th ult., when Mr. F. Watnough occupied the chair. Hyacinths were well shown by Messrs. Buckland, Farmer, and Fox, who were awarded prizes given by the society in the order named. The subject for discussion was "The Culture of Primulas and Cyclamen for conservatory decoration," and Mr. J. Westcott, who lead off with a short but excellent paper, detailed the way he successfully grew these useful winter and spring flowering plants. Mr. Westcott regretted that the Cyclamen was not more largely met with in private gardens, and, as some inducement for members of the society to take up their culture, he offered to contribute to a prize to be offered for the best six plants. After some discussion it was decided to let the matter stand over until the committee met. Subsequently a very hearty vote of thanks was passed to Mr. Westcott for his paper, and to the chairman for presiding.

Birch Bark.—Sending to the Scientific Committee, last week, some fragments taken fresh from the trunks of Betula papyracea, reared in the Trinity College Botanic Gardens, Dublin, from seeds sent from the Royal Gardens, Kew, some ten or twelve years ago, Mr. F. W. Burbidge wrote:—"It can be written upon with ease with an ordinary pen and ink, as these examples will show. Its texture is very soft and fine, except here and there, where transverse corky lenticels occur. It would be interesting to know the part this exquisitely finely-textured bark plays in the economy of the tree, as contrasted with other barks of a more rough and corky texture, such as, say, Quercus suber, or 'Cork Oak.' Both are, no doubt, identical in their being practically impervious to water, either from within outwards, or *vice versâ*. As a contrast, I send a small piece of stem of Arauja (Schubertia), or Physianthus grandiflorus, with netted rugose corky bark, arranged around a stem quite green, and doubtless rich in chlorophyll."

Gingko Seeds.—Mr. Burbridge also sent at the same time some seedlings of the Maidenhair or Gingko Tree of China, accompanied by the following note:—"Dr. E. P. Wright, M.D., F.L.S., Professor of Botany in the University of Dublin, saw the ripe fruits in one of the public gardens at Rome last autumn, a crop of golden Plum-like fruits amongst the Maidenhair-like leaves, and succeeded in obtaining a supply of the seeds through H.M. ambassador, the Marquess of Dufferin and Ava. I am enabled by the courtesy of Dr. Wright to send a few of these fresh seeds for the inspection of the committee, as well as seedlings raised from the same, sown on December 8, 1891, in a mean temperature of 60° Fahr. The fleshy covering of these seeds, analogous to that of our native Yewberry, is edible, and is used as dessert in China and Japan according to Siebold and other authors. It is well known that this tree rarely if ever fruits in Britain, a fact perhaps due to the diœcious character. These seeds also illustrate a very interesting physiological fact mentioned by Sachs (*Text Book*, p. 665). If the temperature is sufficiently high, the green colouring substance (chlorophyll) is found in the cotyledons of Conifers, and in the leaves of Ferns in complete darkness, as well as under the influence of light. I am by no means certain that Ferns and Conifer seeds alone possess this peculiarity, which is common to other seeds, and notably to those of Acer pseudo-platanus, the common Sycamore, the Sea-kale, Crambe maritima, and possibly others which I have not examined."

Reading and District Gardeners' Mutual Improvement Association.—The third annual report of this flourishing society has just been issued, the membership of which is steadily increasing and now numbers 140. Fortnightly meetings are held, which is perhaps better than weekly ones, as it affords the members an opportunity to ponder over and dissect any information given by the reader of a paper. We think some gardening societies attempt too much, and especially so those who have papers read to them weekly. We think it would be much better to have papers read fortnightly, allowing the alternate evening to be devoted to a conversation or discussion on the paper previously read. Weekly papers appear to supply overmuch strong meat, and time is required to digest and assimilate some of it. We think it would be well if the younger gardeners would do a little more note-taking at such meetings, and keep what may be appropriately termed a commonplace book in which could be set down, under appropriate headings, such scraps of useful information as they can gather at these meetings—it would be very helpful to them. The Reading report further states that the library (which we are pleased to see the Reading society have in operation) has been well used by the members during the past year, and has proved of great value to the association. The society also offers prizes for papers on given subjects open for competition by assistant gardeners only. These prizes are for subjects well within the knowledge of the competitors. Too often competitive essays are on subjects of an ambitious and lofty character beyond the ken of gardeners, and then they are practically valueless because they are only second-hand conclusions. Anything in the way of flights into authorship of this character is only of real value to the competitor when he can put into his paper what he really knows. In this respect the Reading society shows a good lead, and it is one we think some other societies may follow with advantage.

NEW & RARE PLANTS.

THE undermentioned plants, flowers, and the Orange were exhibited at the meeting of the Royal Horticultural Society on the 22nd ult., when they received certificates according to merit. The Orchids certificated at the same meeting will be described under "Orchid Notes and Gleanings."

AMARYLLIS ECLIPSE.—The leaves of this variety, as shown by Messrs. J. Veitch & Sons, were nearly as long as the flower scapes and of a light glaucous green hue. Two flower scapes about 2 ft. high carried two flowers each. The latter are funnel-shaped, of large size and great substance, with the three outer segments broadly elliptic, crimson-scarlet, with darker veins and white towards the sides; the three inner ones are smaller and narrower, with a greater amount of white, especially the lower segment, which is wholly white at the base. An Award of Merit was accorded it.

RANUNCULUS CORTUSÆFOLIUS.—The leaves of this giant Buttercup are of very large size, roundly heart-shaped, seven to nine-lobed, strongly netted with veins, hairy, and of a bright shining green. The leaves on the stem are much smaller, stalkless, and three to five-lobed. The flowers are arranged in branching cymes, and are of large size, shining golden-yellow, with five to six obovate petals. Individually the flowers would measure 2 in. to 2½ in. across, so that in the aggregate they are very effective. The stems attain a height of 2 ft., and branch considerably towards the top. The species is a native of the Canary Islands and Madeira, from whence it was originally introduced in 1826, and frequently so since then, but has as often been lost to cultivation because not so hardy as is desirable, and therefore not able to maintain itself in the herbaceous border under the same conditions as our native and European species. It is, however, a very desirable plant even if it requires to be grown in pots during the winter and protected by a frame or greenhouse, where it would be highly appreciated when in bloom. Some leaves and cut flowers of it were exhibited by Mr. Charles Wood, gardener to the Right Hon. Lord Hylton, Merstham House, Merstham, Surrey, when a First class Certificate was awarded it.

AMARYLLIS SILVER QUEEN.—The flowers of this variety are funnel-shaped, with elliptic, cuspidate and blunt outer segments that are red, netted with darker veins and having a white centre. The inner segments are much narrower, the lowest one especially so, and all three are more or less splashed with white on a red ground. It was exhibited by Messrs. Paul & Son, Cheshunt, and received an Award of Merit.

ROSE, CAROLINE TESTOUT.—The flowers of this hybrid perpetual are large and of a delicate rose-pink. The petals are broad, revolute at the margins, and the outermost ones spread considerably, at least when grown under glass. The leaves are large and of a deep glaucous green with three to five broadly ovate or somewhat heart-shaped leaflets. An Award of Merit was granted it when shown by Messrs. Paul & Son.

ROSE, DANMARK.—In this we have another hybrid perpetual, considerably resembling La France in form, but the broad petals are pink at the reflexed margin only. The outer surface is of a deep salmon-rose and very effective, at least when grown under glass. We should expect that the tint would even be deeper when grown out of doors. An Award of Merit was accorded it when shown by Messrs. Wm. Paul & Son.

EUONYMUS JAPONICUS COMPACTUS.—The dwarf habit and neat, compact form of this variety should be sufficient to recommend it to cultivators independent of its variegation, which increases its ornamental value considerably. The oblong-lanceolate leaves are ½ in. to ¾ in. long, very closely arranged upon the stem, and of a shining green, with a narrow, slightly crenate, white margin. The stems are generally only 6 in. high, quite erect, and therefore highly suitable for making edges to beds of shrubs or even for the edgings of walks. Messrs. B. S. Williams & Son, Upper Holloway, were the exhibitors, and an Award of Merit was accorded the variety.

SEEDLING ORANGE.—The fruit of a seedling Orange exhibited by C. E. Smith, Esq. (gardener, Mr. J. Quarterman), Silvermere, Cobham, Surrey, was of medium size, oval in shape like that of a Jaffa Orange and of a light orange-yellow. The flesh was of a dark orange hue, and the seeds small. An Award of Merit was accorded it.

At the first spring exhibition of the Royal Botanic Society, Regent's Park, on the 23rd ult., the undermentioned subjects were exhibited and received certificates.

CHIONODOXA GRANDIFLORA.—The flower scapes of this variety bear from one to four flowers, the usual number being two. When there are four blooms on a stalk it is evidence of strong bulbs or good culture. The blooms are large compared with those of C. Luciliæ, and of a light blue giving place to a paler or almost white hue in the eye. A pot of bulbs was exhibited by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, when a Botanical Certificate was awarded them.

AMARYLLIS ORION.—Two scapes, each about 2 ft. high and each two-flowered, were produced by one bulb. The flowers were large, openly bell-shaped, crimson-scarlet and deepening to a rich crimson in the throat around the greenish rays at the base.

ARGUS.—The scape of this variety was 2 ft. high and carried four fine blooms, which were funnel-shaped, and of a rich crimson-scarlet deepening to a glossy crimson to the very base. The six-rayed star, which is usually a conspicuous feature of the flower, is in this case almost entirely obscured by the heavy shading of crimson over it.

ECLIPSE.—For description of this variety see above. All three were exhibited by Messrs. J. Veitch & Sons, Chelsea, and each received a Floricultural Certificate.

DRACÆNA BARTETI.—The leaves of this garden variety are lanceolate, 12 in. to 18 in. long, and of a deep bronzy olive above with broad bright red margins. The under surface is also of a bronzy glaucous hue, with red nerves, or lines.

BERTOLONIA ARGYRONEURA.—The leaves of this plant are pale green with five white, longitudinal bands along the principal nerves with transverse ones connecting them, and dotted with white on the intermediate spaces.

BERTOLONIA COMTE DE KERCHOVE.—The ovate leaves in this case are of a deep olive green with five longitudinal and many transverse rosy veins, the latter connecting the former together in meshes. The areas between are also spotted with rose. The Dracæna and both the Bertolonias were shown by Messrs. J. Laing & Son, Forest Hill, and each received a Botanical Certificate.

ELAIS MELANOCOCCA.—A plant of this species, shown by Messrs. B. S. Williams & Son, was well furnished with leaves about 2 ft. long, pinnate and dark green, with the pinnæ gradually narrowed into spiny points towards the base. It would appear to be of considerable ornamental value, if as well furnished with leaves by the time it is 12 in. to 15 in. high,

EUONYMUS JAPONICUS COMPACTUS.—For description of this pretty little plant, see above. Both were shown by the same exhibitors, and received Botanical Certificates.

GARDENERS' TRADE-UNIONISM.

ARE our Scotch gardener friends really in revolt, and do those of the auld granite city really mean business? Doubtless when some fifty members of the vocation agree to form a gardeners' union, they have some clear idea as to the nature of their grievances, and how they may hope to remedy them. If they have not then will all their union and labour be in vain. Whatsoever it may be possible to accomplish by united action in a town like Aberdeen, certain it is that because of the singular way in which gardeners are generally dispersed all over the kingdom, they present a very difficult body both to organize and to induce to any combined action.

Gardeners, who are chiefly employed in private places, probably whilst realising only too well the unsatisfactory nature of their positions, yet fully understand that their vocation is not of that essential nature which is associated with so much labour in other directions. Whilst I should heartily desire to see gardeners better paid and better organized, I at the same time fully realise how almost impossible it seems by any combined action to produce these results. We are just now on the eve of considerable financial and trade depression, and that bodes badly for gardeners, because as a class they are invariably the first to suffer.

Then there are so many of them that in the scramble for places they literally elbow one another to death. If in the north gardeners have a weekly half-holiday, then are they much better than are those in the south, where such a thing as a weekly half-holiday is not heard of, and even bank holidays are rarely respected. Possibly Scotchmen will retort so much the worse for the Southers. Just so. Still that is how matters stand here. I shall watch the development of the Aberdeen movement with considerable interest.—*X. Z.*

SCOTTISH NOTES.

TECHNICAL EDUCATION.

The Horticultural Class in the Heriot-Watt College, Edinburgh, has had a very encouraging session. Dr. Wilson, the lecturer, in concluding his course, said it was his proud privilege to have conducted this class during three sessions. He had been assisted this session by Mr. A. D. Mackenzie, of Messrs. Mackenzie & Moncur, the well-known horticultural engineers, by Mr. A. Mackenzie, of the same firm, and by Mr. James Wilson, jun., and Mr. T. Berwick, of Greenside Nursery, St. Andrew's. The lecturer referred to the discussion which had taken place recently in the gardening press as to the advisableness of such instruction as this class afforded, and said that as time went on there would be less disparagement and more encouragement to study the principles of gardening. The manuscript magazine of the class had been ably contributed to by Messrs. Chisholm, C. Mackenzie, Lohrmann, Somervilie, Schloesser, and Paton. The following is the honours list:—David Somerville, Dalkeith Palace, Scottish Horticultural Association's Silver Medal; Colin Mackenzie, Warriston Nursery, College Bronze Medal; M. F. A. Schloesser, Dalkeith Palace, Mr. John Methven's prize; Archd. Cook, St. Leonards, Mr. David P. Laird's prize. The winners of certificates are:—R. Lohrmann, Warriston Nursery; George Paton, Morton Hall; R. J. Clark, Blackford Brae; W. Patience, Dalkeith Palace; J. Pearson, Beechwood; A. Morgan, Dalkeith Palace; J. McClounie, Morton Hall; W. Hood, St. Leonards; W. Cairns, Newbattle Abbey; W. Z. Welsh, Liberton Mains.

ORCHIDS AT THE FALKIRK SPRING SHOW.

Although there were no special classes for Orchids at the Falkirk Spring Show, held on the 25th ult., this did not prevent them from being eagerly exhibited among other stove and greenhouse plants. Among the stove plants a very fine specimen of Vanda Suavis was singled out by the judges as the most meritorious plant in the exhibition. It bore three fine spikes, carrying nine, twelve, and thirteen blooms respectively, and came from the celebrated collection of Mr. Wilson of Bantaskine (gardener, Mr. Whitehall). The same gentleman also staged some very fine Cattleya Trianæ, one of them having a specially rich coloured lip. Dendrobium Brymerianum and the D. nobilis from Bantaskine were of the finest, and Ada aurantiaca was shown in grand condition and bloom. Only two Odontoglossums were shown, but the Pacho varieties are late in flowering, June being the month in which they are usually seen at their best. The old starry types flower freely all winter, when they are most needed. Mr. Airdrie, gardener, Larbert House, showed some very good plants of Dendrobium Wardianum and D. nobile.—*G. R.*

POLYPODIUM BILLARDIERI.

THE wide creeping habit of this species may be compared to that of our native P. Vulgare. It may be and is often grown in pots, but it attains its best development and becomes much more effective when grown in such a way that it can ramble over some object, such as the stem of a tree fern, as it is grown in one of the houses at Stoke Park, Slough. The fronds under these conditions attain a foot in length, and are deeply pinnatifid throughout their length. A piece of fern stem 4 ft. in length is covered from top to bottom with a beautiful covering of light green fronds, quite a picture of vigour and health. When grown in pots the same facility for rambling is not provided, and under these conditions of restricted growth, some of the fronds only become partially divided, while others are linear or lanceolate and quite entire. The large and divided fronds are certainly the finest.

FLORICULTURE.

The Carnation and Picotee Union.

Owing to the long continued illness of Mr. Dodwell, and the yet more grievous illness of his wife, the issue of the report of the Committee of the Oxford Union has been somewhat delayed, but, better late than never, it is to hand now, and does not appear to have suffered by the delay. To the average Carnation mind the most interesting portion of the report will be the comments upon "the incidence of the season" contributed by a number of well known growers, including Mr. Dodwell himself, who states the consensus of opinion to be, that it was one of the most trying to the florist, even of the trying seasons of the recent past.—Continuing Mr. Dodwell says:—"The sunless summer of 1890, followed by the long and severe frosts and fogs of November and December, and January, 1891, and these again by the blizzard of the 9th of March, had wrought a destruction of stock or induced a debilitation without a parallel in the memory of florists of the longest standing; in several cases reported to me resulting in the entire loss of very valuable collections. In my own case, from August, 1890, to May, 1891, our losses were not less than 10,000 plants. Of course the blizzard referred to kept back the plants and the potting for bloom to an abnormally late date; many plants, which in the end gave us very satisfactory growth, getting no farther than a 3-in., 4-in., or 5-in. pot until late in June—indeed, in place of the one shift system, the normal rule for Carnation growth, we went upon successive shifts, giving the plant additional room only when its ball of soil had been filled with healthy roots. This is a practice I can commend in the case of all weakly rooted or partially ripened layers. Let the plant have just so much food as it can healthily assimilate whilst it is sweet, bracing and strengthening its root action with the aëration through the sides of the pot (which, however, should be plunged, say in cocoa fibre), and it speedily gets power of digestion, and so rapid and robust growth. This was our experience, and the experience of Mr. Rowan, and I believe of some other friends, and I rarely remember our stock doing better or making a more healthy, though of course starting with such weakly stools it was in the majority of cases a *scanty* growth, up to the end of July. Then came storms, a deluge of rain, and a temperature so low, ripened growth was hopeless; hence a large proportion of the layers failed to make root, and I fear we shall again have to face a serious loss. I am glad to believe that our case is, if not singular, more extreme than that of friends in localities more favoured as to subsoil and rainfall."

We quote also Mr. Ranger Johnson's contribution, and the chief's reply—"It is unnecessary that I should say much about the character of the season of 1891. I never remember one more disappointing. It was especially so in my own case, because I was laid aside by illness for several weeks in the growing season, and sent away on business in the flowering season. Neglect and insect pests scarcely left me a flower worth looking at. I was unable to inspect the annual exhibition at the Drill Hall, and was therefore unable to compare the two great Carnation feasts of the year; but I thought the Oxford show fully maintained its well-won reputation, and I only regretted that I could not come again the next day and the next. As a purist-florist I could not help noticing the further progress towards decadence manifested in the increasing popularity of Selfs and Fancies. Not that I do not admire them, for I do, almost passionately, and am never so happy as when decorating myself or my house with them. But on the exhibition stage I want them to take a back seat, and I find them every year getting more and more to the front. One inevitable result is already apparent—and, with all due respect to the Master and the Judges, I mention it as having been prominent at Oxford—that flowers with impure grounds and contradictory, heterodox markings pass unquestioned in prize collections. Perhaps such criticism is a little hypercritical when applied to flowers produced in such an untoward season; but the prevalence of spots and bars and stripes where they ought not to be, and of tinted white grounds everywhere, vexed my righteous soul beyond measure. It seems to me that the finer feelings and more refined tastes of the judges have been blunted, and they pass both for prizes and for certificates flowers which they would have passed by in years agone. I was surprised to see a flower of Novelty in a first prize stand of twelve Picotees, as I regard it as a Fancy. Here let me say that I hope we shall retain the name 'Fancy' for fanciful flowers. The word 'Variety' has already a definite, almost scientific, acceptation amongst horticulturists and floriculturists, and to adapt it to another significance altogether would lead to endless confusion. Well, there were other Picotees, I remember, at Oxford that were terribly barred and splashed. The premier flower of Mrs. Payne was thus disfigured, though perfect in form; and the fault was still more noticeable in Little Phil, charming flower as it is—a flower shown by Mr. Read being positively striped. I must admit that all the Heavy-edged Picotees showed evidences of the same character, but not so pronounced.* The Purple Flake Carnations were very spotty this year—Mayor of Nottingham especially so, but it took a first prize. I do not think the premier George Melville was open to the same objection. Robert Houlgrave showed up very badly, the petals being curled, rough, and uncertain in colour. I noticed a fine flower of C. H. Herbert, which thoroughly bore out the character I gave it last year; it was much spotted, and so cloudy that I question whether it is entitled to rank as having a white ground. Fine flowers of Rifleman were shown in two stands. Among the Pinks and Purples, an improving class, J. D. Hextall struck me as being the best; Sarah Payne varied considerably; E. Rowan was good. In Mr. Sydenham's collection there was a wonderfully fine Pink and Purple named 'Mrs. Payne'; was it Sarah? Undoubtedly the strongest section of the show was the Yellow-ground, Self, and Fancy varieties—I lump them together of *malice prepense*. The premier Tournament (Y.G.) and the premier Fancy Dodwell's (S. 859) were grand flowers, but there was too much of them; and the same fault attached to the large flower of Germania, which was adjudged the premier Self—its size had exhausted its colour. Mr. Rowan's Selfs were especially good. Vandyck struck me as an attractive Fancy; Dorothy and Dodwell's S. 154 showed up well. A Prince of Orange shown by Mr. Phillips seemed quite equal to Agnes Chambers. Mr. Turner's lot formed a picture in themselves, and I noted some pretty and promising blooms among Mr. Hooper's Yellow-ground Seedlings. How greatly I valued the privilege of joining in the feast of the Oxford Carnation I need not say, and I cherish the fervent wish that once again we may gather around its venerated and esteemed Founder."

[My much esteemed friend's paper raises points of far too great importance to be passed without remark, and I am constrained to say, both as to doctrine and as to policy, if I rightly interpret his suggestions, I am directly at issue with him.

Of his criticisms I think we may fairly say, with himself, they seem somewhat hypercritical, when we consider the character of the season. But this is a small point, and no sensible florist could object to the most stringent criticism, if directed, as this most palpably is, to the maintaining or attaining a higher degree of excellence. But I am surprised, indeed, that with his gifts and attainments, emphasized by his claim to speak as a "purist-florist," he should regard the increasing popularity of Selfs and Fancies as evidence "of further progress towards decadence;" and whilst professing a passionate admiration for them, he should propose to banish them from the exhibition table. Surely, surely, my friend has spoken without due thought. What could come of such a policy, save what comes of the cold shade always—inevitable degeneration.

God forbid that any subject of Flora shall be denied the sunshine of comparison, the inestimable help of *competitive* comparison.

There yet remains the larger subject of purism. My friend speaks as a "purist-florist." What, then, is purism? Has it been attained? When did it begin? Where was it completed? My friend proposes to banish Self and Fancies. By inference he accepts Flakes and Bizarres, and the curvilinear marked flowers (White-grounds) which by a misnomer we now term Picotees.

Why so? Are these sections within the purist line? If so, when did they enter the charmed circle, and what is their title to exclude others? Our fathers used words as symbols—to express things seen. Bizarre! what does it mean? "Odd," "fantastical." Where is its present application? Flakes! what should we understand? Let the Laureate help us.

"Or like the *snow flake* on the river,
A moment white, then melts for ever."

What relation has the snow flake to the *definite through stripe* of the conventional Flake of the day And yet more the Picotee. What was it sixty, fifty, even forty years since? And if the purists of my younger days had cried halt at that time (some did but, thank God, they were not allowed to prevail, where would be the flowers of to-day?

My friend thinks the better judgment and the more refined tastes of the judges have been blunted of late and so flowers are passed for prizes and for certificates which of old would have been rejected. I dissent utterly with his theory. Unless my eye has quite lost its perception, and my memory its power, it is inconsistent with historical fact. What Scarlet Bizarre, prior to the advent of Admiral Curzon, had we with a pure white? What flower of that day in Crimson Bizarres could have been successfully pitted against a well-grown Master Fred? Nay, it is not purism which prompts the utterance of my friend it is that which has cast a veil over many a subject, and hidden its true proportion in the eyes of many a man equally able, intellectual, and tasteful, as I know my friend to be—it is prepossession. For purism I am indeed ready to do battle; but my purism is for inclusion, not exclusion.

One closing word as to the Picotee Novelty. Why does my friend assume it to be a "Fancy"? In what does it differ in points essential to that we term a Picotee? It has smoothness, purity, form, substance, definite markings, and brilliancy of colour Is it possible my friend rejects it (other than as a Fancy) because it is veritably a Novelty, and cannot be called a rose or red or purple? If so, he ties himself to the proposition that no new shade of colour shall be recognized, and identifies himself with those who forty-five years ago declined to accept rose and salmon-pink as colours for the edged flowers, Picotees, of that day. I will not willingly think my friend can be so retrogressive.—*E. S. D.*]

* A new variety named Campanini struck me as better than Little Phil n form of petal and absence of bars.

JAMES' STRAIN OF CINERARIAS.

The high quality of the strain of Cinerarias grown in the low, span-roofed houses of Messrs. J. James & Son, Wood Side, Farnham Royal, Slough, is now well known. Beyond this quality, and the effects of good cultivation, there is nothing that any intelligent cultivator may not attempt. He has merely to start with seeds of the strain and give them reasonable treatment, including plenty of light and air all through the growing season. A box of blooms was sent us the other morning some of which are well represented in the accompanying illustration. A white variety with a dark blue disc is well shown at A. That shown at B, was a bicolor, or a tipped flower as it is sometimes termed, of a rich dark purple with a broad white zone round the purple disc. That at C, represents a dark violet blue flower with a narrow, white zone round a blackish blue disc. A warm rosy-mauve self is represented at D. A crimson purple with a small white zone around the purple disc, is shown at F. Besides the above there was a rich crimson-purple self, a dark violet-purple self, and a bright, rich blue self. The blooms were of great size, and the ray florets measured from half an inch to three-quarters of an inch in diameter.

The Royal Horticultural Society of Southampton, which has this week issued its annual report for last year, deserves the warmest sympathy of all engaged in the promotion of horticulture for its courageous efforts to deserve success under very trying circumstances. For several years past the society has been endeavouring to do for the district around the famous southern seaport what York, Manchester, Shrewsbury, and Wolverhampton have been doing for their respective localities, but hitherto, owing to unfavourable weather and the half-hearted support accorded to them by the inhabitants, have met with a poor reward for their labours. The Council, however, stick manfully to their guns, and announce two important exhibitions for the present year, one for Whit-Monday, June 6th, and the other for July 30th and August 1st. We hope on both occasions the sun of prosperity will shine upon them lustily

LILIES IN BERMUDA.

Bermuda may be justly termed the home of the Lily, at least the variety known in the trade as Lilium Harrisii, which is botanically, L. longiflorum var. eximium, because its increase here is rapid and its development perfect. Nowhere else, no, not even in its native home, Corea, does it thrive with that vigour and multiply with the rapidity it does in Bermuda. It may be asked why is such the case? To such queries there is but one reply, simply because all the conditions of growth are adapted to its necessities. Otherwise the results would be entirely different, for it is safe to say that in the broad field of floriculture there cannot be found such a great and profitable industry, conducted wholly by men unacquainted with the art of floriculture. There is not a florist in Bermuda other than by accident; they simply "touch the button" and Nature does the rest.

All that is required to grow Lilies in Bermuda is to plant them; it seemingly makes but little difference how, because grow they will in spite of difficulties. The secret of Lily culture is to avoid extremes of climate; while they are considered hardy they are by no means so, they may live and grow after a hard freezing, but their vitality is so impaired that perfect development is out of the question. They are, moreover, quite as impatient of heat; therefore the climatic conditions of Bermuda are admirably adapted to their growth and development as they have no frost, and in their hottest weather, which is not extreme, the bulbs are at rest.

Propagation is affected by scales—"shells," they term it—these are sown thickly in rows about 1 ft. apart, or four rows in a bed 3 ft. in width; they quickly form little bulbs which make a rapid growth, in fact make flowering bulbs the first season; that is, many of them will be from 3 in. to 5 in. in circumference, the latter size being the one that is now considered the most profitable for the florist to grow. The smaller scales will not make a bulb of this size, and these are used for stock, forming, after the second year's growth, the larger sized bulbs seen in the trade.

The breaking up of the bulbs into scales is, as a rule, done in the most careless and indifferent manner, as all work is done when principles are not understood. And, judging from our experiments in bulb propagation, we can safely say that if the proper pains were taken in preparing the scales for planting, the first year's growth would be at least double what they now get. The proper method will be adopted by one grower another season, and we shall watch the results with interest. All, or most of the growers, are enthusiastic in their work and anxious to produce the best bulbs possible. In cultivation, one thing they have learned thoroughly, viz., to disturb the soil in cultivation as little as possible. The bulb is injured just in proportion as its roots are injured or disturbed. The cultivation is all done by hand, in fact as the bulbs are planted so thickly it could not be done in any other way. All the cultivation given is to keep the ground free from weeds, and, as the plants soon cover the ground, weeds are not very troublesome.

The great enemy they have to contend against is a troublesome snail, one peculiar to the country; this is very destructive, but we think could be easily exterminated by scattering air-slacked lime over the surface of the soil, as its caustic properties will instantly kill the snail without injury to the plants; on the contrary the application of lime to the soil is beneficial rather than otherwise.

The dealers have had just cause for complaint of their purchases of L. Harrisii being mixed with L. longiflorum. This condition is sadly too common, in fact, in driving by the growing crops the practical eye rarely fails to detect the mixtures. There are but few—very few—growers who have their stocks absolutely pure. Those who have not taken the necessary pains to keep their stocks pure can easily separate the varieties, and they usually do when the bulbs are taken up, as the longiflorums are two or three weeks later in their ripening, besides there is a marked difference in the shape of the bulbs, particu-

James' Strain of Cinerarias.

larly when full size. Had the growers been florists by education this mixture would never have been permitted, as it is it will take a vast amount of labour to rectify the error. It is not a rare sight, the growing of Harrisii, longiflorums, Callas and Narcissus of several varieties, all mixed together in one bed.

Callas find a congenial home in Bermuda; they are propagated easily and rapidly, but the growers will not be as enthusiastic in their cultivation as they are in Lily culture, as it requires a much longer time to grow good flowering bulbs or tubers. But nowhere can they be grown more profitably, while, when once planted, they can remain undisturbed until they are ready for sale, but a better plan is to separate and replant annually.

The cultivation of the Chinese Narcissus is having a trial and bids fair to be successful. At the present prices of importation the industry will be fairly remunerative, providing the production is as valuable for flowering purposes as those imported from China. It is very easy to produce a bulb, but not always an easy thing to produce one that will flower satisfactorily. As the seasoning of flowering and ripening of the bulbs is the same in both countries, there is no reason why the bulbs will not be equally good. Trial alone will determine.

Freesias can be as easily grown on the Island as weeds, and, while the bulbs are not as large as those grown in our greenhouses, they flower quite as well. Whether the growers will be willing to compete in prices with the French growers is a question they must determine if they wish to establish the industry. They grow finely and flower freely, the spikes being tall, strong and well furnished.

The bulb growers in Bermuda seem very anxious to increase their industries: they have some vague or wild ideas of growing plants for our markets, which, of course, they cannot do except an occasional plant such as can be packed and shipped without injury. Among the few species they might grow at a profit is the Ficus elastica. This, from a single eye in the open, will make a well furnished plant, three feet high, in one season. This would be a profitable industry at one-half the price it would cost to produce them in our greenhouses. We saw one specimen, but two and a half years old, that was 12 ft. high, much branched, and fully 12 ft. in diameter. A finer specimen we never saw.

The Dracænas of all denominations are rapid growers; good strong canes 3 ft. to 4 ft. high can be produced in two years. While the demand cannot ever be large, as compared with that of the L. Harrisii, yet it is sufficient to warrant the undertaking.

Many varieties of flower seeds that are now grown under glass in Europe should be grown in Bermuda, the only difficulty being the want of experience, and possibly the question of labour, which is somewhat of a serious nature there. Most of the population work for themselves, while a large number are as uncertain as the labourer in our Southern States.—*C. L. Allen, Floral Park, N. Y., in "The Florists' Exchange."*

REMARKABLE LEBANON CEDARS.

At Hayes Place, in Kent, once the country home of the great Earl of Chatham and the Right Hon. William Pitt, are two celebrated Cedars of Lebanon, and which on good authority are said to have been planted one by Pitt and the other by Wilberforce. They are growing on the lawn only a short distance from the house, and so close together that the outer branches have met each other—a rather curious coincidence in tree life with the lives of the two great statesmen, and who were almost inseparable, during their politicial career at least.

The largest of these Cedars is 15 ft. 6 in. in girth of stem at 2 ft. from the ground, and the smaller 12 ft. 10 in. at 3 ft., while the branches spread outwards for a space of about 72 ft. in diameter, and in several places sweep the greensward. They are of about equal height, 60 ft., and seem to be growing rapidly, the soil and situation being extremely favourable for the growth of this particular tree.

I must admit that when first pointed out to me I had grave doubts that Lebanon Cedars of the above dimensions could have attained to such in a little over one hundred years, but a comparison with the trees on the British Camp at Holwood (which latter place also belonged to Pitt), and which are known to have been planted by the great statesman, eases the mind somewhat, while the better soil at Hayes Place might, too, account for the larger size of the trees, that at Holwood being poor, shingly ground. —*A. D. W.*

A NEW LONDON SEED WAREHOUSE.

The enormous growth of the seed trade in this country during the last half century, taken in conjunction with the equally remarkable development of the trade in trees and plants which has taken place during the same period, will undoubtedly claim a large measure of recognition in any future history that may be written of the commercial progress made by this country during the latter half of the nineteenth century. In an ordinary way it is almost impossible to indicate in words what that progress has really been, but of the enormous benefit which it has been to the nation, most men above the middle age are able to appreciate. In the seed trade a record of the rise and progress of the leading firms of the present day would be interesting reading, and provide much solid food for reflection also. In the metropolis alone some striking instances can be furnished of the wonderful development of certain businesses which has been brought about by the combined forces of energy, sagacity, and capital which have been brought to bear upon them, and as an illustration we may specially now refer to the firm of James Carter & Co., of High Holborn, who last week had an "At home" in their new retail and export warehouses, in which they have just established themselves, to celebrate this very remarkable extension of their boundaries.

The new premises are none other than those formerly occupied for so many years by the celebrated blacking firm of Day & Martin, a building covering a large area in the rear of the imposing facade so familiar to all frequenters of Holborn. Hitherto the business of the firm has been conducted in two great sets of buildings on the opposite side of this great London artery, so that the new block may be said to form the north point of a triangle within a radius of fifty yards, an arrangement that could hardly be improved upon for facilitating supervision and management. The main building is an immense square block comprising three floors and a basement at the rear of the Holborn front, where the principals and clerical staff find accommodation in spacious rooms above and on either side of the open court-like entrance. In this part also is the Post-office and testing room, an important adjunct to such an establishment, inasmuch as here, under the supervision of a skilled analyst, every sample received is tested for purity, cleanliness, and germinating power, and in some cases for dyeing, a trick not unknown on the Continent and some other parts of the world.

The first and second floors of the main block are open in the centre to the roof, thus forming a well lighted and airy quadrangle. The basement and first floors are devoted to the heavier classes of seeds which pass through the firm's hands, and here also are the packing and dispatching rooms, the various kinds of machinery used for cleaning seeds, all driven by a powerful gas engine; rooms for sorting seeds, making up orders, and for conducting the numerous other details which go to make up a large portion of the sum total of management of an extensive business. On these floors the various interesting details pointed out to visitors are of more general interest to farmers than gardeners, to the former of whom the tons upon tons of Grass Seeds, Mangolds, and Turnips, etc., and "Mangold Avenue," especially, will doubtless prove of absorbing interest. It is on the top floor where the gardener will find the things most familiar to him, and in quantities that are utterly bewildering. On one side is the flower seed department, with the vegetable seeds similarly provided for opposite, both rooms large, well lighted and provided with thousands of drawers all properly arranged and classified for the economy of time and labour. On the other sides of the square are the rooms for making up seeds into packets and parcels of various sizes, and for making up the "collections" which have become so popular with many, a branch of the trade which has enormously increased since the advent of the parcel post.

While making our tour of inspection we could not help being struck by the substantial character of the alterations which have been necessitated to adapt the buildings to their present purpose; the quiet orderly way in which the large staff of employés go about their various duties, the absence of friction in the working of the great business machine; and the extraordinary care that is exercised, first in the sampling and testing of the seeds sent out, and then in the executing of the thousands of orders required to keep such a vast business going. At this busy season, with everyone working up to the full measure of their capacity, and the resources of the establishment taxed to their utmost, the new warehouse is a sight at once most interesting and invigorating, and we congratulate the firm, and their responsible manager, Mr. C. H. Sharman, both on the acquisition of such admirable quarters, and the gratifying cause which necessitated it.

THE CULTIVATION OF WINDOW PLANTS.

(Concluded from page 471.)

Repotting.

Supposing one of you has a few Pelargoniums, a Fuchsia or two, Creeping Jenny, Myrtle, Houseleek, Fern, Hydrangea, the Plectranthus, or what is better known in London as the nettle-leaved Geranium, and a few others of like character, you might be found asking, "When should I repot my plants?" First, only when they want it. Well, here is one piece of practice very necessary to avoid, and that is, don't repot them when they are showing flower buds, or they may fall off. Don't repot them in winter when Nature is at rest and plant life dormant. The spring is the best time to do it, just when growth sets in, say in the month of April. Town or house gardeners are apt to fall into one error—that of over-potting, or placing the plant in a pot larger than it really requires; and the evil is heightened in the case of plants that push forth their roots slowly. When a plant is repotted first prepare the pot which is to receive it by placing over the hole at the bottom a piece of broken pot large enough to cover it, and add a half-inch, at least, of smaller broken pieces and place over this a bit of moss or a like fibry soil, then take the plant to be potted, carefully turn it upside down and tap the pot edge gently on the table, and the ball of earth and roots will come out on the palm of your hands, a perfect representative in shape of the pot it was grown in. It may appear to be nearly all roots, but the greater part of these will be dead, with here and there young active roots forming. Take away the drainage crocks from among the roots and loosen the ball of earth by working gently with the fingers at the lower part of the ball, and the plant will be ready for its new pot. Next place the ball of roots in the centre of the new pot, having previously put sufficient soil in the bottom to raise the surface of the whole ball to within half an inch or so of the top of the pot, then fill in the soil well round, shake it down and when full press it firmly down with the thumbs or fingers, turning the pot round so that it may be done on all sides. Do not be afraid of hurting the roots by too much pressure, most plants like to be potted firmly, and it is especially necessary in the case of plants that are to occupy a window, where the pots are exposed to sun and drying influences. When plants are potted loosely, water passes through the soil rapidly as through a sieve, the soil dries quickly, and the plants suffer for want of moisture, and when potting is finished leave half an inch of space below the pot rim for watering. Many window gardeners not only fill the soil in up to the rims of the pots, but pile it up round the stems. How then can water be given? The fact is, it will run off over the sides of the pot, leaving the ball of soil quite dry at the centre, then the plant flags and the leaves turn yellow.

Top-dressing.

It may not always be convenient to re-pot plants, but they can be greatly helped by a process known to gardeners as "top dressing." This should be done when the plant is in vigorous growth, by taking away the surface soil to the depth of an inch, if thereby the roots are not injured; and filling in the space with fresh good soil, pressing it down firmly as in potting. The roots will come to the surface to gain benefit from the soil, and the plant will be greatly helped in its development.

Watering.

This is one of the most important matters in connection with successful plant culture. How often is the question put "How many times a day should this plant be watered?" Just as if every plant required, say three meals a day like a human being. Plants require water only when the soil about the

roots is getting dry. If it becomes too dry the plant soon hangs out signals of distress. When a plant reaches this stage the pot should be stood in a bowl of water, and allowed to remain there until the whole of the soil has become thoroughly saturated. When the soil in a pot becomes dry it contracts, and it becomes drawn away from the sides of the pot, and if water be poured upon it, instead of soaking into the soil it runs down between it and the pot and becomes wasted. That is why it is I advise you to stand the pot of a very dry plant in a bowl of water so that the soil within it may become thoroughly saturated.

So much depends upon the character of the plant, the extent of its roots, the size of the pot in which it is growing, the season of the year, and whether the plant is in vigorous growth or not. Plants are like human beings in this respect, that they want drink when they are thirsty, but unlike too many human beings they are content with water, and have no unnatural craving for moisure when not needing it. In hot, sunny, drying weather plants may require water two or three times a day, if exposed to the sun and drying influences. If the weather be dull and damp, they will not dry nearly so rapidly and therefore do not require so much water. If the plant be a strong rank grower, it will take up more water than one that is weakly and does not grow so rapidly. So with roots, if a plant has filled its pot with roots, it will require more water than one that has fewer roots. In a small pot the soil becomes dry much more rapidly than in a large one; in spring and summer, when plants are growing vigorously, they need more water than in autumn and winter when they are slowly sinking to their rest. It is a good plan when during summer pot plants are thoroughly exposed on a window sill, to stand them in saucers, and if a little water is in the saucer no harm will be done; rather, the plant will draw it all up by means of what is known as "capillary attraction."

An old friend of mine who wrote a tract on window gardening, gave a test by which it can be ascertained if a plant be dry. He thus addresses his readers by way of illustrating his point:—"But you may possibly say, yes, it is all very well for you to say 'When it's dry,' but how am I to know when it is dry. By a very simple process. Now don't try to shove your finger down the side of the pot, for you will do more harm than good if you do. Just for example, tap with your knuckle the pots at this moment on your window-sill, and if you have an ear for any more refined music than Scotch bagpipes you will detect a difference in the sound produced. One pot will ring with a bit of bell-like music, that's dry; another knock as you like returns nothing but a dead leaden sound, that's wet, there is no music in its soul, and between these two you will find various cadences. Give them language, and a practised ear receives in reply to his tap the following four answers:—'*Water now*' rings out cheerily; '*To-morrow*' being less responsive; '*Day after*' flat; while '*Wait*' is the very flat and decided response in the fourth case. Try it for yourself; if you fail in detecting the variations at once, try again. We have all heard of the language of flowers, a mighty sentimental idea; here is a lesson in the language of roots, at least thoroughly practical." So wrote and taught the friend from whom I have quoted.

FROST AND COLD

have to be guarded against, as a matter of course plants grown in windows are liable to get frozen. To guard against this possibility it will be advisable to remove the plants from the window sill during the night, at any rate when the weather promises to be severely frosty. If there has been no fire during the day, remove the plants to the further side of the room, and do not replace them till you are assured that the danger is past; but should the frost come in the night without warning and freeze the plants—what is to be done? do this—place them in a dark part of the room, or in the washhouse or a closet and sprinkle them with water, cold water mind, hot water would be death to them. Let the process of thawing be gradual, nature is never in a hurry. In autumn and winter, plants may be said to be at their annual rest, and they need very little water indeed then. Plants are killed more by frost through their roots than through their heads or branches, therefore the drier the soil is kept during the winter, the less danger is there of harm from frost. But the soil must not be dry enough to cause the plants to shrivel.—*R. D.*

VARIEGATED PLANTS.

THESE at the present time are very numerous both among exotics as well as indigenous plants. Many of them are peculiarly interesting on account of their varied markings and combinations of colour, which in many cases are exquisitely beautiful. These properties are found in some plants of ordinary type, and in many cases they may be perpetuated if ordinary care be taken to secure that object. Rather more than four years ago I had the pleasure in sending you examples of a variegated Brussels-sprout, of which you spoke favourably. From that time I have been enabled to perpetuate this, to me, pleasing freak of Nature, and, to do this with success, my practice has been to pot up a few plants and place them under glass. By this means I obtain an early bloom, which enables me to fertilize the flowers by hand at a time when Nature's agents are scarcely in active employment, and the Brassica tribe are not in a blooming state in the open ground.

Of course in doing this I have not to consider the matter commercially, my object being not to save a quantity of seed, but rather to secure what seed I want from my pet plants in as pure form as it is possible to do so. With this I send you a little plant, showing my mode of procedure, which is to take from the most striking the tops of the plants late in the autumn; this season it was on the 6th December last. I select those tops from the smallest plants, the length of the cutting being about 4 in. long. These are inserted in cocoa-nut fibre and coarse sand on bottom heat, and the rooted cuttings are ready for potting in about three weeks from the time that they are inserted, and the plants being kept in small pots very little room is required from first to last in blooming and perfecting the maturation of the seed, more especially should the roots be allowed to find food from some material on which the pots are placed.—*George Fry, Lewisham.*

SCHIZOCODON SOLDANELLOIDES.

GREAT interest was attached to the discovery and importation of Shortia galacifolia to this country. Now another closely allied member of the same family has been imported from Japan, and is believed to be flowering for the first time in England. It is the subject of this note, and was collected on the Sulphur Mountains, Japan, by Captain Alfred Torrens (gr. Mr. W. Pascoe), Baston Manor, Hayes. Some of the natives were selling bunches of it, and Capt. Torrens upon making enquiry as to its whereabouts soon found plenty of it on hedge banks at an altitude of about 3,500 ft. The plants he collected were put in pieces of Bamboo stems and brought home, but only three of them survived, one of which has been flowering for some time past, and a plate of it is being prepared for the Botanical Magazine.

The leaves are suborbicular or broadly ovate, toothed, leathery, netted and of a dark shining green. The young leaves are more glossy, and slightly tinted with red. The scape is about 2½ in. high and bears a solitary, slightly drooping, somewhat bell-shaped flower, bearing a considerable resemblance at first sight to a Soldanella of the European Alps. About the middle of the scape is a solitary bract and three others under the calyx; the segments of the latter are oblong and blunt. The corolla is cut nearly to the base into five, deeply and irregularly lacerated, and imbricating segments. The fringes are blush or almost white, but the throat is rosy pink with darker, radiating veins. The five prominent stamens are inserted at the base of the sinus of the lobes, while lower down are five linear, ciliate scales or staminodia. This latter character serves to separate Schizocodon from Shortia. The generic name refers to the fringes of the corolla.

There are only six genera and eight or nine species belonging to the Diapensiaceæ, of which the plant under notice is a member. Taken together they seem to represent a race of plants that was at one time more common than they are now, judging from the widely scattered representatives in both hemispheres of the world. There would seem to be some uncertainty as to whether there is one or two species of Schizocodon. That under notice was exhibited by the owner at the Crystal Palace on the 26th of last month. The habit is precisely like that of Shortia

THE STRAWBERRY TOMATO.

PHYSALIS PUBESCENS is the common Strawberry Tomato of seedsmen (the Erdbeer Tomato of the Germans), the Dwarf Cape Gooseberry, Golden Husk Tomato, and the improved Ground Cherry. It is a low plant, trailing flatly upon the ground, or sometimes ascending to the height of a foot. The leaves are rather thin and nearly smooth, more or less regularly and prominently notched with blunt teeth. Flowers small (⅜ in. or less long), bell-shaped, the limb or border erect and whitish-yellow, the throat marked with five large brown spots; anthers yellow. The husk is smooth or nearly so, thin and paper-like, prominently 5-angled and somewhat larger than the small, yellow, sweetish, and not glutinous fruit. The plant is very prolific, and the fruits are considerably earlier than in the other species. When ripe, the fruits fall, and if the season is ordinarily dry they will often keep in good condition upon the ground for three or four weeks. The fruits will keep nearly all winter if put away in the husks in a dry chamber. They are sweet and pleasant, with a little acid, and they are considerably used for preserves, and sometimes for sauce. The plant is worthy a place in every home garden. It is grown more or less by small gardeners near the large cities, and the fruits are often seen in the winter markets. The chief objection to the plant is its prostrate habit of growth, which demands a large amount of ground for its cultivation. In good soil it will spread four feet in all directions if not headed in, but as we ordinarily grow it, the plants are set in rows three or four feet apart and two or three feet apart in the row. We have made repeated attempts to hybridize this species with others, and *vice versa*, but always without success. This Physalis has been long in cultivation. It was figured by Dillenius in 1774, in his account of the plants growing in Dr. Sherard's garden at Eltham, England.—*L. H. Bailey, Cornell University.*

GARDENING MISCELLANY.

AZALEA PRINCESS OF WALES.

WHITE flowers are always in request, and new varieties of various subjects possessing the desired colour are continually being brought forward. A few years ago a great deal was said about Azalea Deutsche Perle, and the value of the plant has come quite up to expectation. Now another double white variety is in the field, namely, Princess of Wales, which is quite distinct from the now well-known sort. The flowers are pure white and double without any undue crowding of the segments of the corolla, but instead of the latter being even and flat, they are finely crisped or undulated, reminding us of what we see in some of the regal section of Pelargoniums, but much finer than that of Madame Thiburt and others originating from it. The variety under notice has been flowering for some time past with Messrs. B. S. Williams & Son, Upper Holloway.

IRIS PERSICA.

THE bulbous and tuberous rooted species of Iris are all very interesting and beautiful. Most of them flower during the winter and spring, the so-called English and Spanish Irises being exceptional, as they flower in summer. The species under notice has the honour of being represented by the first plate in the Botanical Magazine, over a hundred years ago. It is a native of Asia Minor, extending from thence to Persia. The leaves are subulate, channelled, glaucous especially on the back and slightly longer than the flowers at flowering time, but it evidently varies in this respect according to conditions. The root-stock is short and tuberous with fleshy fibres, like that of I. Rosenbacheana. The falls are porcelain blue with a yellow ridge along the centre, on each side of which are a few violet spots; there is also a rich violet blotch near the apex of the lamina. The standards are spathulate, cut at the apex, short, reflexed and pale porcelain white. The stigmas are broad, bifid, and white with a pale sky blue band along the centre. The species flowers during February and March according to the nature of the season, and may now be seen with Mr. T. S. Ware, Hale Farm Nurseries, Tottenham.

CYTISUS SCOPARIUS ANDREANUS.

A SERIES of crosses between this and the ordinary Broom might result in producing some seedlings exhibiting some novelties in the way of colouring. It has now become sufficiently plentiful in this country for enterprising hybridists to attempt something in this way. In the great rush to propagate it, many growers have worked it upon the common Laburnum as a stock, but its hardiness or longevity is considerably impaired when so treated. The relative vigour of the stock enables it no doubt to be rapidly grown to some size, and if intended for indoor culture and for forcing purposes, this may answer the purpose for a number of years; but for planting in the open ground the common Broom should be used as a stock because the most natural, and therefore the most conducive to the longevity of the plant. This would add considerably to the value of the plant, because if it would succeed as readily as the common Broom when planted in beds and shrubberies, it is almost certain to be widely planted on account of its novel and ornamental character. It is highly satisfactory to note that it forces as readily as Cytisus racemosus, so extensively used for greenhouse and conservatory decoration at this period of the year. When worked upon stems of some length it forms neat standards which can always find a place in conservatories and groups of plants.

CLIVIA CYRTANTHIFLORA.

THIS is an old garden plant supposed to be a hybrid between C. miniata and C. nobilis. It undoubtedly seems intermediate between the two and resembles C. miniata in the leaves being ligulate and suddenly narrowed to a rather acute point, whereas those of C. nobilis are truncate, that is suddenly cut short, and they are also finely toothed on the edges. The flowers are drooping or sometimes horizontal, narrowly funnel-shaped and of a warm orange-scarlet, or sometimes light flame-coloured, as they evidently vary according to treatment, exposure to light, and other conditions. When the plant is grown strong, the umbel or truss is large, and bears a relatively large number of flowers during winter and spring. The general aspect of the plant is considerably different from that of C. miniata or its garden forms, and raisers of new kinds might well devote a little attention to improvement in this direction for the sake of the variety which might be infused into this class of plants. Some pieces of it have been flowering for a long time past in the gardens at Tower House, Chiswick, under the care of Mr. Bones.

BIRDS AND THE BUDS.

THE buds on Gooseberry bushes and Plum trees are swelling fast, and at this early stage, with a cutting east wind, and the sharp frosts of the past few nights, birds will make havoc by clearing the buds wholesale if not prevented. In this district where bullfinches and tomtits are plentiful the buds are in great danger. Here we syringed the Gooseberry bushes with soapy water, and while wet dusted them with lime and soot; it has stuck to the buds, and so far has prevented the birds taking them. I fire a few shots during the course of a week, and it helps to scare the birds away. A market grower told one of my men on the 25th of last month that at that date he had shot as many as thirty-seven bullfinches.—*W. N., Abergavenny.*

BEGONIA HYDROCOTYLIFOLIA.

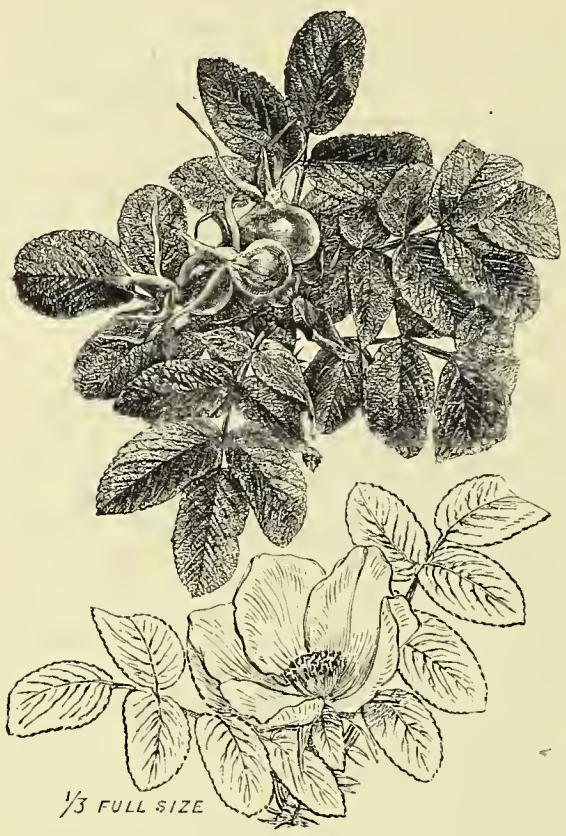
IN general aspect this species resembles B. manicata, especially at a distance, but the flowers are considerably larger and brighter in colour. Both species come from Mexico, the species under notice being imported only a year previously to B. manicata. They are closely allied, but easily distinguished by the leaves alone. Those of B. hydrocotylifolia are suborbicular, slightly oblique, heart-shaped at the base, dark in colour, and polished on the upper surface. The flower stems are 12 in. to 15 in. high, or even more, arising from the axils of the leaves on the short, fleshy and true stems, and bearing on the top a panicled cyme of flowers. The latter are rose-coloured, and are rendered more conspicuous by the wings of the capsule, which are large and singularly bright in colour. A large-sized plant bears a large quantity of bloom and becomes highly ornamental when grown for winter and spring flowering. It is used for this purpose at Stoke Park, Slough, along with B. manicata, both being mixed with fine-foliaged Begonias and other ornamental plants. The association is very effective.

HARDY TREES & SHRUBS.

Single Roses.

THE number of these that might be grown in the shrubberies, on the lawn, or on walls, is practically endless, but a selection of them might be made of the choicer kinds which may be admitted into the more select parts of the garden, whether as bushes, pillar Roses, or for covering walls. The fruit in some cases is as ornamental as the flowers, particularly in the case of Rosa rugosa, which is frequently to be seen on rockeries or as an isolated bush where its ornamental character can be seen to best advantage. Propagation can be effected by seeds, layers, budding or by cuttings. The unimproved species with single flowers can be readily propagated by seeds where fruit is produced; but most of them can be raised satisfactorily from cuttings, and those which fail in this way can be increased by layers or suckers.

R. RUGOSA.—The Rose with wrinkled leaves can readily be recognised from all others in cultivation by the rich dark green and conspicuously wrinkled character of the leaves, combined with the habit of the plant. Our illustration accompanying this shows a flower, and another shoot bearing a cluster of fruit all reduced to one-third of the natural size. The leaves accompanying the fruit gives the best



ROSA RUGOSA.

idea of their wrinkled character. The typical form has red flowers, but there are rose coloured and white varieties differing only in the colour of the flowers. The fruit is even more handsome than the flowers, and is erect or drooping, large, globular, deep red, and ripening in autumn. Seeds germinate very readily. The species is a native of Japan, perfectly hardy, and extremely ornamental when planted in an open situation in good soil, so that it may develop and ripen its fruits in abundance.

R. MOSCHATA.—In this we have one of the parents of the garden race of Noisette Roses. The single wild form with white flowers is however a highly ornamental object when grown as a climber and allowed to run up to a height of 12 ft. or 15 ft., for then it flowers most profusely during the month of August. An old tree stump with some of the arms or side branches left so that the Rose could ramble over them would form a suitable support and show it off to the best advantage. It is a native of South Europe, extending from thence to India, where it occurs in all its beauty upon the Himalayas. It was originally introduced in 1590, and is sometimes grown under the name of R. Brunoni.

R. BRACTEATA.—The Macartney Rose is a climber if grown upon a wall, where it attains a height of 6 ft. or 8 ft., but when grown as a bush it may not exceed 2 ft. or 3 ft. It is a native of China and bears large, solitary, white flowers terminating the summer growths. The large bracts surrounding the flowers are a peculiar feature of this Rose.

R. LUTEA.—The yellow flowers and the small leaves of the Austrian Briar combine to make this a beautiful and highly interesting species which used to be very common in old-fashioned gardens. Before it comes into flower in June, it also bears some resemblance to the Scotch Rose in habit and foliage. It grows about 3 ft. in height, and forms a compact bush that requires little or no pruning after the second or third year. The Austrian Copper is a handsome variety with reddish copper flowers, while the Austrian Scarlet has the petals scarlet above and yellow beneath.

R. SPINOSISSIMA.—The Scotch Rose has equally beautiful foliage with small leaflets, and white flowers, sometimes tinted with pink especially when in bud. It forms a close bush varying from 1 ft. to 4 ft. in height, and comes into bloom during May and June, and is therefore amongst the earliest.

R. RUBIGINOSA.—The Sweet Briar is another British species that can hardly be omitted from a list of single Roses, not merely on account of the beauty of the pink or rosy pink flowers, but the delicious fragrance of the foliage. It grows to a height of 3 ft. to 5 ft., flowering in June, and may be grown in a mixed shrubbery or as hedges in places where close pruning is unnecessary. Being a British plant it is very hardy and long-lived.

R. SERICEA.—The stems of this Indian species attain a height of 8 ft. when grown against a wall, which seems to be the best way of treating the plant, as it grows taller, flowers more freely, and ripens fruits which remain on the plant a long time after they become yellow. The white flowers are produced singly from the buds; but in great quantity all over the shoots, and are remarkable as consisting of only four petals. The species is therefore useful for covering walls, which it adorns in May with its flowers, and again in autumn with its fruits.

R. SIMPLICIFOLIA.—The remarkable feature of this Rose is the fact that the leaves are simple, resembling those of some species of Barberry, for which reason it is often named Rosa berberifolia. The flowers are bright yellow with a crimson blotch at the base of each petal, reminding one of what occurs in several species of Cistus. A hybrid produced between this species and R. involucrata, and named R. Hardii, has yellow flowers and pinnate leaves; the species is a native of Persia and Siberia, and was originally introduced in 1790, but does not get widely disseminated in gardens.

R. ALPINA.—There are numerous varieties of this Rose in cultivation, including those known as Boursalt Roses. The type is a low growing bush, from 1 ft. to 3 ft. in height, with rosy-red flowers developed during the month of June, and giving place to orange-red fruits later on. The old stems are usually devoid of thorns or prickles.

R. ALBA.—The white Rose used to be common many years ago in old-fashioned cottage gardens, but seems to have been largely displaced by the more popular races of comparatively recent garden origin. There are of course numerous varieties of it in cultivation. The type is supposed to be a hybrid between R. canina and R. gallica, and is characterised by the pale glaucous green hue of its foliage, and delicately fragrant white flowers. It is believed to be of garden origin and was recorded at least as early as 1597, so that we cannot be surprised at its wide dissemination in gardens, for it must have been highly prized in its day. The stems are usually 3 ft. or 4 ft. high, but sometimes more.

ORCHID NOTES AND GLEANINGS.

Dendrobium luteolum.

THIS pretty primrose-coloured Dendrobium is at the present time forming a very pleasing contrast to its more richly coloured allies, Wardianum, nobile, crassinode, etc. An importation of it has reached this country in good condition; it is to be bought at a moderate price, and ought to find a place in every collection on account of its modest beauty. The flowers are produced from the three or four top joints in pairs and trebles, and are about 2 in. in diameter, with a prominent lip streaked with green and yellow. D. luteolum grows best in baskets suspended from the roof of the stove or East India house, in the usual mixture of fibrous peat and sphagnum. It does not require such a thorough ripening as is usually given to most of the Denbro-

biums; the coolest end of the stove or the Cattleya-house suits it best during the winter, as those plants which keep their leaves generally give the finest flowers. The flowers will last more than a month if the plant is kept in a dry atmosphere when in flower. Green-fly are very fond of the flowers and should be constantly guarded against.—*J. Godfrey, Spetchley Gardens, Bitterne, Southampton.*

Dendrobiums from Broomfield.

We have been favoured with some fine blooms of Dendrobiums from Mr. R. Hinde, gardener to W. Wells, Esq., Broomfield, Sale, near Manchester. Amongst them was a well-coloured form of D. nobile. The petals were the most striking feature, owing to their great width, as they measured within $\frac{1}{16}$th of an inch in diameter. D. n. Cooksoni was also in good form, the lower half of the petals being of the same hue as the blotch on the lip of D. Leachianum. It may be remembered by those who are acquainted with this variety, that it is a case of peloria where the petals have attempted to assume the same form and colour as those of the lip. The flower of D. Leachianum was large for that hybrid, but it lost a good deal by contrast with that of another hybrid named D. splendidissimum grandiflorum, which looked like a highly-coloured and gigantic D. Leachianum. The flowers measured 4in. across the petals, each of the latter being 2 in. long and 1 in. wide, and like the sepals suffused with rose for the greater part of their length. The lamina of the lip was $1\frac{1}{4}$ in. across, and the blotch was a shade or two darker than that of the last-named hybrid.

Curious forms of Cattleya Trianæ.

Flowers of two forms of Cattleya Trianæ have been sent us by Captain Twiss, Birdhill House, Birdhill, Limerick, Ireland. One of them had pale blush-lilac sepals and petals, while the lamina of the lip was of a bright mauve except at the base, which was white with a small pale yellow blotch in the throat. The second flower was much more abnormal and quite remarkable in form. The sepals were oblong-linear and pale lilac, while the petals were spathulate, pale purple, and only twice as broad, measuring under an inch at the widest parts. The lip was spoon-shaped with a long, lilac, open claw, not tubular as is usually the case. The lamina was of a rich purple, while the yellow blotch, usually so conspicuous a feature of the flower, was almost obliterated. The column was purple in the lower half and white in the upper portion. This is the second season it has flowered with Captain Twiss, and it still remains true to character. It has been in bloom for the past six weeks. The name suggested by the owner as the most suitable, is C. T. platalea or the Spoon-bill Cattleya.

Odontoglossum crispum.

Grand forms of this superb Odontoglot are not by any means so rare as they were formerly, many of the recent importations having been exceptionally rich in that respect. Mr. James Woods, Matlock Villa, Ryde, Isle of Wight, is the proud possessor of a very fine variety. The individual flowers are of immense size, measuring when taken horizontally fully four inches; the sepals and petals are dark rose and as a rule have three dark spots on each sepal and petal; the lip is beautifully undulated, and heavily spotted in similar fashion to the sepals and petals.—*J. McNab.*

Dendrobium Phalænopsis Schroderianum var.

The above is the name under which a dark and richly coloured form of the Elephant Moth Dendrobe was exhibited at the Drill Hall on the 22nd ult., by E. Miller Mundy, Esq. (gardener, Mr. Wm. Elphinstone), Shipley Hall, Derby, when a First-class Certificate was awarded it. The flowers are large and the rosy-purple sepals netted with darker purple veins. The petals are very broad, obovate-rhomboid, and several shades darker in colour than the sepals. The lip is deep purple with darker veins, deepening to crimson on the disc and some of the lines radiating from it. The pseudo-bulbs of the plant shown were of medium length but very stout.

D. Phalænopsis Schroderianum delicatum.—This variety is much paler than the last named, but equally pretty in its way, with white sepals and petals, suffused and netted with soft rosy-purple on the upper two-thirds of their length. The lip is rose with purple lines deepening to crimson in the throat, while the very base is creamy white; the side lobes are white suffused with pale purple. The flower scaqe of the plant shown by E. Miller Mundy, Esp., on the same occasion as the above carried eight flowers, of which three were fully expanded. An Award of Merit was accorded it.

Epidendrum Laucheanum.

The general aspect of this Epidendrum is very different from that of most other species seen in cultivation. The flower scape is considerably elongated and slender, bearing a close raceme or spike of small, and pretty although by no means conspicuous flowers. The sepals are lanceolate, the petals linear-spathulate, and all are of a coppery amber. The lip is a curious fleshy organ, infolded at the sides and of a greenish yellow. It was shown by Messrs. F. Sander & Co., St. Albans, at the Drill Hall on the 22nd ult., and received a Botanical Certificate.

Megaclinium falcatum.

The species of Megaclinium can only be regarded as curious at the best, as the flowers are small and by no means of bright colours. The peduncle or scape on which the flowers are seated, is laterally flattened and broad, a circumstance which has given rise to the generic name. In the present instance it is of a brownish-green hue. The flowers are small and arranged in two ranks along the upper edge of the flattened scape. The upper segments are thickened at the edges near the apex, and of a dark brownish-red, the rest of the segments being greenish-yellow. A spike of it was shown by Mr. F. W. Moore, of the Royal Botanic Gardens, Glasnevin, Dublin, at the Drill Hall on the 22nd ult., when a Botanical Certificate was awarded it.

Dendrobium infundibulum Cassio Bridge var.

The sepals of this variety are lanceolate, the petals obovate-elliptic, and all are white. The lip is bifid, beautifully undulate or crisped, and crenate at the edges, and white with an orange yellow blotch in the throat. The lanceolate leaves are of a rich dark green. A plant of it was exhibited at the Drill Hall on the 22nd ult., by Edward Moon, Esq., Cassio Bridge, Herts, when an Award of Merit was accorded it.

Disa incarnata.

At a casual glance this more resembles some mem ber of the Scitamineæ than an Orchid, that is, as far as the inflorescence and flowers are concerned. It comes from Tamatave in Madagascar, and one would on that account expect it to be different from the South African species. The stems are about 18 in. high and are entirely covered with erect and closely adpressed leaves or bracts. The radical leaves are linear, five nerved, keeled on the back, deep green and tinted with red. The flowers are numerous and are borne in a short, terminal raceme. The upper sepal is hooded and spurred behind, and bright yellow with numerous orange spots all over it. The lateral sepals are short, oblong and scarlet. The petals are very short and rounded, and suffused with scarlet on a yellow ground, The lip is a very peculiar organ, narrowly linear, slender and apparently functionless or of little service to the flower. A plant of it was shown at the Drill Hall on the 8th ult. by Messrs. Lewis & Co., Southgate, when a Botanical Certificate was awarded it.

WHAT TO DO IN THE GARDEN.

Allamandas.—Those whose houses are low should grow Allamandas in pots, otherwise, if planted out they will grow too rampantly to flower freely. If however they can be trained horizontally to wires along the roof of the house so that the stems can acquire length and develop their natural vigour in that way, they will flower as profusely as if grown in a high-roofed house and trained in an upright direction. Therefore if the whole length of a low roof is at their disposal, Allamandas may profitably be grown in this way even if planted out. They should be grown on the sunny side of the house, and not shaded in any way if good results are to be expected.

Shrubby Begonias—The houses with an intermediate temperature may now be kept gay with several species of Begonia, including B. odorata, B. semperflorens and its varieties, B. manicata, B. metallica, B. hydrocotylifolia, and the various forms of B. incarnata, including those with purple foliage. Several of them will go on flowering continuously for several months, and are useful for cut flowers or for the ordinary decoration of the houses, where they may be judiciously intermixed with other fine-foliaged species even if not in flower.

Tuberous Begonias.—The tubers of old plants will now be starting into growth and should be repotted. Smaller pots may be used for this than what they were in, so that another shift may be given later on, when the plants have grown sufficiently to require it. Seedlings should also be potted off from the boxes into which they were transplanted, and those of late sown batches should be transplanted as soon as they are fit to handle.

Statices.—The present is a suitable time for inserting cuttings of this class of plants in bottom heat, as they have just commenced to grow again, and readily take root when placed under the proper conditions. The heel of wood to each cutting must necessarily be very short, so that if it possesses some large leaves, a small stake might be necessary to keep the cutting in position until roots are formed.

Agaves, Yuccas, Dracænas.—Plants of these intended for use in the flower garden during summer will have to be seen to. More water will now be required than during the winter months. Any that are too large for the pots they occupy may be repotted at once before growth becomes active, otherwise they will be checked if the roots are much injured in the process.

Peaches.—The fruits in the earliest house may now receive their final thinning; but unless the weather out of doors is more propitious than it has been for some time past, the temperatures should not yet be much increased. Syringing and damping down must be carefully attended to, particularly on bright days. Carry out disbudding with regularity in succession houses. The late houses now in bloom should be kept cool, airy and dry, while such artificial means as are used to set the blooms may be resorted to during the early part of the day.

Ivy and Box edgings.—Ivy should now receive its annual pruning and trimming whether used as edgings or grown as coverings to the trunks of trees or on walls and buildings, as growth is now commencing, and delay means the retardation of the new covering of foliage and shoots. Box edgings should also be planted forthwith, and old ones cut to keep them within proper dimensions. This latter may be done by means of a scythe after having stretched a line tightly along the centre of the edging as a guide to the operator. The top may then be trimmed to an even height by means of the garden shears. The latter tool is sometimes used to accomplish the whole operation, but a skilful workman can do it more quickly by means of the scythe.

Herbs.—Where herbs are required in any quantity, fresh plantations should now be made of such things as Mint, Lemon Thyme, Sage, Tarragon, Winter Savory, Common Marjoram, etc., the old plants of which may be divided or cut up into well-rooted pieces and planted in properly-prepared ground.

Carrots for exhibition.—A sowing may now be made of Intermediate or Long Red Surrey, preferably the former, if intended for exhibition. The soil should have been manured and trenched in the autumn and otherwise properly prepared. Then take advantage of the first fine day when the soil is in a dry and workable condition to get the seeds committed to the ground. For ordinary use the latter half of April will be sufficiently early or even the beginning of May.

SOCIETIES.

Royal Botanic, *March 23rd.*—The first spring show of this society was held as usual in the conservatory and corridor at Regent's Park on the above date, and was in all respects similar to its predecessors. The greenhouse Azaleas were not quite so large but better in form, the first prize going to Mr. H. Eason, gardener to B. Noakes, Esq., Hope Cottage, Highgate, and the second to Mr. R. Scott, gardener to Miss Foster, The Holme, Regent's Park. Mr. Henry James, Castle Nursery, West Norwood, was the only exhibitor in the nurserymen's class. Cyclamens were in fine condition, and the first prize in the open class was taken by Mr. D. Phillips, gardener to R. W. Mann, Esq., Langley Broom, Slough, who was second for Chinese Primulas, Mr. J. Odell, Gould's Green, Hillingdon, being first with well-flowered plants. Messrs. Paul & Son took the first prizes for Amaryllis and Roses in pots. Mr. R. Scott had the best twelve pans of Crocuses, while

Mr. J. Douglas, gardener to Mrs. Whitbourn, Great Gearies, Ilford, has the best Deutzias and Freesias; the competition in the former class was good, and the second prize was taken by Mr. H. Eason. Mr. T. S. Ware was the only competitor in the class for bulbous plants. Hyacinths and Tulips were generally deficient in size, possibly the result of somewhat hard forcing. The first prize in the amateurs' class for Hyacinths was taken by Mr. J. Douglas, who also had the best Polyanthus Narcissi. Messrs. H. Williams & Son, Fortis Green, Finchley, had the best Hyacinths in the nurserymen's class, and the best Tulip in the open class.

The exhibits in the miscellaneous class were both numerous and varied, making up a large part of the show. A fine group of Clivias and Azalea mollis was shown by Messrs. B. S. Williams & Son, Upper Holloway. Messrs. J. Laing & Sons, Forest Hill, had a showy lot of Caladiums, Begonias, Palms, etc. Messrs. Barr & Son, Covent Garden, exhibited Daffodils. Messrs. H. Williams & Sons had forced bulbs. Messrs. Paul & Son, Cheshunt, showed Roses. Cyclamens in quantity and fine condition were shown by Mr. C. Edmonds, Hillingdon, Middlesex; by Mr. Thomas Walker, Gordon Nursery, Hounslow; by the St. George's Nursery Company, Hanwell; by Mr. T. Pestridge, Park Road Nursery, Brentford; and by Mr. J. Odell, Gould's Green, Hillingdon. A group of Cinerarias with large and well-coloured blooms was shown by Messrs. J. James & Son, Woodside, Farnham Royal. Heaths, Epacris, and Boronias were shown by Messrs. Wm. Cutbush & Son, Highgate. Messrs. J. Veitch & Sons, Chelsea, exhibited Amaryllis. Mr. T. S. Ware, Tottenham, had a fine group of Daffodils. Camellias were shown by Messrs. Wm. Paul & Son, Waltham Cross; and Lachenalias by Mr. H. Eason.

Crystal Palace, *March 26th*.—The exhibition of spring flowers on Saturday last was held in the central transept, the rest of the building being devoted to the Electrical Exhibition. The spring flowers on the whole were not up to the standard of some previous years owing to the long and cold nature of the winter. The first prizes in the open classes for Hyacinths, Tulips, and Narcissi, were taken by Messrs. H. Williams & Son, Fortis Green, Finchley. The spikes of Hyacinths are rather short this year. Mr. H. Shoesmith, gardener to M. Hodgson, Esq., Shirley Cottage, Croydon, was second in the latter class. Cyclamens were in grand condition, especially the first prize lot, shown by Mr. D. Phillips, gardener to R. W. Mann, Esq., Langley Broom, Slough, whose plants were in 24-size pots and very floriferous. Mr. Charles Edmonds, Hillingdon Nursery, Middlesex, was second, and Mr. J. Odell, Gould's Green, Hillingdon, was third. Messrs. Paul & Son, Cheshunt, were the only exhibitors of Amaryllis. Mr. J. Ford, gardener to Sir Chas. Pigott, Bart., Wexham Park, Slough, had the best Cineraries both in the open and amateur's classes. Mr. J. Slater, gardener to T. Nothard, Esq., York House, Lower Sydenham, was second in both cases. Messrs. J. Laing & Sons, Forest Hill, had by far the best group of stove and greenhouse flowering and foliage plants. Mr. Henry James, West Norwood, was second; and Mr. C. Nunn, gardener to J. Soames, Esq., Maze Hill, Greenwich Park, was third, but came in first for greenhouse Azaleas. Mr. W. B. Morle, Regent Street, had the best Lily of the Valley and Mignonette. In the amateur's classes Mr. H. Shoesmith had the best Hyacinths, Tulips, and Narcissi. Mr. D. Phillips was again first for Cyclamens, and was followed by Mr. W. Slogrove, Gatton, Reigate. In the class for miscellaneous exhibits a fine group of Clivias and Azalea mollis came from Messrs. B. S. Williams & Son. Mr. T. S. Ware, Tottenham, had a group of Daffodils, Chionodoxas, Scillas, Primulas, etc. Messrs. J. Peed & Sons, Roupell Park Nurseries, Norwood Road, had a group of Palms, Crotons, Azaleas, Dendrobium nobile, etc. Heaths, Epacris, Cyclamens, etc., were shown by Messrs. Wm. Cutbush & Son, Highgate. Groups of Cyclamens were exhibited by Mr. J. Odell, by the St. George's Nursery Co., Hanwell, and by Mr. T. Pestridge, Park Road, Brentford. Mr. T. Jannoch, Dersingham, Sandringham, had an effective group of Lily of the Valley shown in fancy baskets, etc. Messrs. Paul & Son showed Roses and other forced shrubs; and Messrs. Wm. Paul & Son, had a nice display of Camellias and Roses.

QUESTIONS AND ANSWERS.

Winter Flowering Plants, &c.—*Flos*: We are afraid there are very few plants cultivated for flowering in the garden in winter of the character you define. There would be no object in growing plants devoid of beauty, perfume, and strength. The principal subjects that flower in winter are Christmas and Lenten Roses (Helleborus), Snowdrops, Crocuses, Winter Aconite (Eranthis hyemalis), etc. Now most of these are very beautiful, except perhaps Helleborous viridis, while H. fœtidus has beautiful foliage. The Winter Heliotrope (Petasites fragrans) has little beauty, but the flowers are highly fragrant. Others might be mentioned but they are either showy or fragrant, sometimes both. We are acquainted with the bulk of the Saxifrages, and none of these can be termed floating, although some of them grow in very wet ground. Theophrastus' *History of Plants* would not be of much service at the present day to practical gardeners, although it would be very interesting to those who take an interest in the history of gardening, and flowers generally. We do not know where a copy of it could be procured, but it may sometimes be included in the catalogues of booksellers who deal in old books. The Pitcher-plants (Nepenthes) possess no special properties beyond the fact of their secreting a fluid in the Pitchers, which secretion has the power of digesting or decomposing insects, etc. The principal poisonous plants cultivated in gardens are Helleborus, Veratrum, Atropa, Hyoscyamus, Aconitum, Euphorbia, etc. Poplars are often planted in copses, but other trees are perhaps more often planted there. Several plants are now more common round London than the London Rocket, such for instance as Poa annua, Stellaria media, Capsella Bursa-pastoris, Chenopodium album, Atriplex patula, and many others.

Strawberries.—*Omega*: The Strawberries you mention ought to give satisfaction in your loose rich soil if you treat the latter properly. It is by no means the best plan to plant Strawberries at this time of the year, especially in light soils, because you will lose about a year by the practice. The best plan is to trench the ground and plant it with Cabbages in the autumn for early use, or with Cauliflower or early Peas in the spring, so that the crop will be off the ground by the beginning of August. Manure heavily when trenching. When the crop is off the ground, hoe it and rake off the weeds, and plant as early in August as possible. Do not dig the ground at that time, but rather tread it firm.

Yellow Willow.—*Omega*: The yellow twigs you sent us are those of Salix alba vitellina, or Yolk-of-egg Willow, which may be grown in the form of an Osier bush or as a tree.

Names of Plants.—*J.F.A.*: Epidendrum cochleatum, the first species of the genus introduced to this country, and one of the commonest orchids in the West Indies.—*H.R.W.*: 1, Pulmonaria saccharata; 2, Doronicum austriacum; 3, Omphalodes verna; 4, Nephrodium spinulosum dilatatum; 5, Aspidium-angulare var.; 6, Adiantum Capillus Veneris; 7, Primula verticillata sinensis.—*J. Watson*: 1, Chlorophytum elatum variegatum; 2, Acalypha tricolor; 3, Pentas carnea; 4, Begonia maculata; 5, Coleonema album; 6, Asplenium bulbiferum Fabianum; 7, Nephrolepis exaltata; 8, Elæagnus pungens variegata.

Treatment of Gardeners.—*P. C.*: Much of what you say is quite true, but it would serve no useful purpose to discuss the matter in the way you put it.

Communications Received.—G. R.—J. McN.—W. J. J.—H. T.—P. McK.—R. D.—F. R.—G. F.—W. O.—R. C. L.—A. M.—Argus (No).

TRADE CATALOGUES RECEIVED.

John Laing & Sons, Forest Hill, London, S.E.—Special Catalogue of Caladiums.

R. B. Laird & Sons, 17, South Frederick Street, Edinburgh.—Choice Florists' Flowers.

William Paul & Co., Bridge-of-Weir, N.B.—Select List of Pansies, &c.

Frederick W. Kelsey, 145, Broadway, New York.—Choice Hardy Trees and Plants.

W. P. Laird & Sinclair, 73, Nethergate, Dundee.—Genuine Farm Seeds.

Thomas S. Ware, Hale Farm Nurseries, Tottenham.—Hardy Florists' Flowers and Perennials, Climbing Plants.

Vilmorin-Ardrieux & Co, 4, Quai de la Mégisserie, Paris.—Seeds of Trees and Shrubs, Hardy and Tender.

Tottenham Nurseries, Lim., Dedemsvaart, Zwolle, Holland.—Wholesale Trade List of Conifers, Rhododendrons, etc.

LONDON SEED TRADE.

March 29th, 1892.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a steady sale for Agricultural seeds at unchanged rates. Stocks of Clovers and Grasses are much reduced, and an advance in values is expected.

COVENT GARDEN MARKET.

March 30th.

Fruit.—Average Wholesale Prices

	s. d.	s. d.		s. d.	s. d.
Apples... per ½-sieve	1 0	5 0	Grapes .....per lb.	2 0	4 0
Canadian and Nova Scotian Apples per barrel	12 0	25 0	Pine apples. —St. Micbael's, each	2 6	6 0
Strawberries per lb.	8 0	12 0	Cobbs... per 100 lbs		45 0

Vegetables.—Average Retail Prices.

	s. d.	s. d.		s. d.	s. d
ArtichokesGlobe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Asparagus, Eng.bun.	10 0	13 0	Lettuces ...per dozen	1 6	2 0
Beans, Frencb, perlb.	1 6	2 6	Musbrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per buncb	0 6	
Carrots ... per bunch	0 6		Radisbes... per dozen	1 6	
Cauliflowers, Eng.dz.	3 0	6 0	Smallsalading,punnet	0 4	
Celery.....per bundle	2 6		Seakale ...per basket	2 0	3 0
Cucumbers .....eacb	0 6	1 0	Spinach, per strike ...	1 6	
Endive. French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	1 0
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Cbampions, 70s. per ton.

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Acacia var., per doz.	12 0	18 0	Genista .....per doz.	9 0	12 0
Azalea .....per doz.	18 0	42 0	Hyacinths,...per doz.	6 0	9 0
—Mollis.....per doz.	24 0	36 0	Lily of the Valley, doz. pots	12 0	18 0
Cyperus .....per doz.	4 0	12 0	Marguerites, per doz.	9 0	12 0
Cineraria ...per doz.	6 0	10 0	Palms in variety,eacb	2 6	21 0
Daffodils ...per doz.	9 0	12 0	Palms, Specimen ...	10 6	63 0
Dracæna term., doz.	24 0	36 0	Primula Sinensis per doz.	4 0	6 0
Dracæna viridis,doz.	9 0	18 0	—scarlet .....per doz.	4 0	6 0
Erica Hymalis, per	12 0	18 0	Solanums...per doz.	9 0	12 0
— various, per doz.	9 0	12 0	Spiræas.....per doz.	8 0	12 0
Evergreens,invar.doz	6 0	24 0	Tulips.....per doz.	6 0	9 0
Ferns, invar..per doz.	4 0	18 0			
Foliage Plants, doz.	12 0	60 0			

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Acacia or Mimosa French per bunch	1 6	2 0	Narciss, var., Scilly, doz. bunches	2 0	4 0
Anemone various, French, doz. bun.	2 0	4 0	Narciss, French, paper white, doz. bs	3 0	4 0
Arum Lilies, 12 blms.	2 0	4 0	Pelargoniums, 12 sps.	1 0	1 6
Bouvardias, per bun.	0 6	1 0	—scarlet.....12 bchs.	4 0	6 0
Carnations, 12 blooms	2 0	3 0	Primroses, doz. bchs.	0 6	1 0
Daffodils, double, doz. bunches	2 0	4 0	Primula, double, bun.	0 9	1 0
—Single, doz. bchs	3 0	6 0	Primula single, doz. sprays	0 4	0 6
Encharis ...per doz.	3 0	6 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Freezia .....doz. bun.	2 0	4 0	Roses, yellow, dozen	3 0	6 0
Gardenias 12 blooms	3 0	6 0	— Red..... doz. blms.	4 0	8 0
Heliotropes, 12 sprays	0 6	1 0	— Saffrano...per doz.	2 0	3 0
Hyacinths, 12 sprays	3 0	4 0	— Tea ..... per dozen	1 0	3 0
Jonquils, doz. bnches	1 0	2 0	Spiræas...doz. bnchs	6 0	8 0
Lilac, Frencb, per bunch	4 6	6 0	Snowdrops, doz. bn.	1 0	2 0
Lilium Harrisii, doz. blooms	4 0	8 0	Tuberoses, per doz	1 0	2 0
Liliumsvar.,doz blms.	1 6	3 0	Violets, Parme, Frnch per bunch	2 0	3 0
Lily of the Valley, doz. bunches	6 0	10 0	— Czar, French bch.	1 6	2 0
MaidenhairFern,12bs.	6 0	12 0	— Dark, French, doz. buncbes	1 6	2 0
Marguerites, 12 bun.	2 0	4 0	—English, doz. bchs.	1 0	1 6
Mignonette... 12 bun.	1 6	3 0	Wallflowers, French, doz. bunches	1 6	3 0

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, April 12.—Royal Horticultural Society: Meeting of Committees at Drill Hall, 12 o'clock. Sale of Established Orchids at Protheroe & Morris' Rooms.

WEDNESDAY, April 13.—Sale of Japanese Lilies, Greenhouse Plants, Roses, &c., at Protheroe & Morris' Rooms.

THURSDAY, April 14.—Opening of Orchid Show at Brussels.

The Gardening World.
Edited by BRIAN WYNNE, F.R.H.S.
SATURDAY, APRIL 9th, 1892.

ORNAMENTAL TREES.—The noble estate of Trentham has long been known in garden annals as one of the finest and most beautiful in the kingdom, therefore whatsoever relates to its interests has interest for horticulturists. It is no new circumstance in the law courts to find father and son in antagonism, and the action now pending between the Duke of Sutherland and his eldest son, the Marquis of Stafford, in regard to the cutting of timber on the estate has had numerous counterparts in past years.

The spectacle so presented is not an edifying one, but seems to be occasionally inevitable under existing laws which settle the devolution of estates practically for generations. Preliminary to the reaching of the real action between the parties which relates to the rights or powers of the tenant for life to cut timber, a special appeal was recently made to the Court of Chancery to restrain the duke from further felling timber pending the decision in the action at law. In a minor degree the appeal was successful, but in the major cases failed. The Marquis of Stafford held that the timber now being cut was ornamental, in relation to which the law has saving clauses. So far as concerned a small wood near the mansion, it was admitted that it was chiefly of the class of ornamental timber. With reference to the larger woods the plea could not be admitted.

It would have indeed been difficult to define how ornamental timber differed from timber grown specially for profit, and in any case a judicious course of thinning, provided it is not wholesale clearing, rather tends to the production of ornamental trees than otherwise. Still it is obvious that woods derive their ornamental character less from the value of individual trees than from their general effect in the landscape; hence it is not easy to refer to individual trees in such cases as ornamental. On the other hand single trees or small clumps are distinctly ornamental if sound and well-grown. It is not easy to withhold some sympathy with those who, knowing how long it takes to produce a noble tree, desire to retain it as an ornament so long as possible.

UNDULATIONS IN LANDSCAPES.—The immense value of an undulated surface of ground to the landscape gardener cannot be too highly estimated. When a very low or flat area has to be converted into pleasure grounds or garden surroundings the skill of the landscape architect is indeed tried to ensure that there shall be variation in scene, and that his planting shall lend itself to some apparent deception, so as to break the monotony of features. None the less all that skill can furnish can at the best only convert a mere flat into a make-believe irregularity.

When nature has as it were flung upon the earth, in one of her roughest moods, a series of hills and vales of mounds and hollows, it really becomes less a matter for the gardener to consider how to hide the pleasing features than how to clothe them, so that all their natural beauties may be preserved. There is about a garden so situated a charm that is undefinable, and variety that is ever changing and ever interesting. It is then that the landscape gardener finds scope for the presentation later of a series of pictures and of pleasing surprises. We have been led to reflect thus after looking over the extensive and beautiful grounds which surround the royal residence of Claremont, where, within a few miles of the metropolis, there is found pleasure grounds of so noble and varied a kind as to excite feelings of the liveliest pleasure.

The change from hollow to hill, from glade to wood, is indeed charming, and the visitor constantly comes upon new views, new features; and thus if the peregrination of such extensive grounds be somewhat toilsome because of the surroundings at least reward is found in the variations of scene, the nobility of the trees and huge masses of shrubbery, the pleasing views here and there found, and the general beauty of what is indeed a royal demesne.

THE NATIONAL AURICULA SHOW.—Many minds have doubtless been exercised unsuccessfully in endeavouring to discover why the two meetings of the Royal Horti-

cultural Society, fixed for the present month, should come without a week's interval between them. Probably throughout the whole month, having regard to the demands usually made upon gardeners at Easter, it was impossible to select a worse time for meetings than the Tuesday preceeding and the Tuesday following Easter Monday. But whilst the first meeting is of less importance, the second is much greater, not only that it is thus fixed to follow the Bank Holiday, but also that it is the show of the Southern Section of the National Auricula and Primula Society. Now, apart from the fact that it is distinctly inconvenient to have two meetings thus close together, and further that Easter Tuesday is a very bad day, there is the further fact that the Auricula Show, for some occult reason, is brought forward a week at least earlier than usual, whilst we are, as all must admit, having a very late spring. Those who can give their plants the advantage of artificial heat may rejoice at this earlier date, but it militates greatly against the interests of growers who can only grow their plants under what may be termed natural conditions.

Then, so far as relates to other sections of Primulaceæ, there will hardly be any in bloom out-doors at the date mentioned unless the weather continues as warm and fine as it has been during the early part of the present week; but even under such circumstances it is well nigh out of the question to expect any Polyanthuses to be in bloom in the open air. So far as the northern growers are concerned the show will be all too early for them by quite a fortnight, and the exhibition must materially suffer by their absence.

Fern Poaching.—We venture to hope that through the exemplary punishment awarded the other day to a wild plant poacher in the west of England, that to some extent the progress of the fern fiend has been arrested. We cannot too strongly sympathize with all lovers of the beautiful in nature in their earnest protest against the wholesale denudation of woods and hedgerows of ferns, which has so long been proceeding, as well as of other beautiful hardy plants. The peripatetic plant marauder is one of the worst of depredators. He works a beautiful district systematically, and literally sweeps all before him, carrying away to the towns, and especially to London, myriads of fern and other roots, which are sold to dupes only to exist for a few months and then die. It is high time we took steps to preserve our wild flowers.

"Real Jam!"—It was oddly suggestive of a canard that our usually sedate contemporary the *Daily News* should on April 1st have inserted a few lines intimating that a large fruit jam factory was about to be established in Kent. We had thought that similar factories had been in existence in that county for some time, and that the business was getting a little overdone. That at least is the verdict of some associated with it. Certainly jams are now so plentiful, so cheap, and generally so good, that it would seem impossible to make them either better or cheaper. It is still possible that the demand for them may yet be enormously extended. That remains to be seen, but the tastes of consumers of these things are apt to be erratic. Very cheap jams may not always mean the best, and after all the best is of course the cheaper in the end.

Awards to English Seeds.—The *Launceston Examiner* of February 20th states that no less than thirteen First-class Awards were gained by Messrs. Sutton & Sons, Reading, at the Tasmanian Exhibition; a far larger number than has been awarded to any other seed house.

A Rose Fete at the Mansion House.—We understand that the Lady Mayoress is organising a Rose Show and Fruit and Flower Fête, to be held at the Mansion House on Friday, June 4th, on behalf of the Royal Hospital for Children and Women, Waterloo Bridge Road, S.E.

The Weather in Yorkshire.—"N. H.," writing from the neighbourhood of Leeds on the 31st ult., records the following temperatures as taken at 3 p.m:—North exposure and shade, 65°; 3 ft. from a south wall, 86°; on a south wall, 91°; sky clear blue. "We shall have to pay for this," adds our correspondent.

The Annual Dinner of Salesmen and Growers connected with the London Fruit and Vegetable Markets took place at the Holborn Restaurant on the 29th ult. Mr. George Coleman presided, and about 150 sat down, the Spitalfields and Borough Markets being perhaps the best represented. During the evening a proposition to start a Benevolent Fund for the trade was received with acclamation, and a provisional committee at once appointed.

The International Horticultural Exhibition.—The schedule of prizes offered for competition at the series of exhibitions to be held at Earl's Court, during the ensuing season, and the first of which takes place on May 27th and 28th, is now published, and can be obtained by intending exhibitors on application to the secretary. The exhibitions have been so arranged as to bring out thoroughly representative displays of all the products of the gardeners' art in the way of flowers, fruit, and vegetables, as they come in season. The classes are exceedingly numerous, and so framed that every grower, whatever the extent of his productive resources, may be tempted to enter the competitive arena.

International Fruit Exhibition, 1892.—The schedule of prizes of this Exhibition, which is to take place on the Thames Embankment, and which will be opened on September 28, is now rapidly approaching completion, and will be issued shortly. It contains several novel and interesting features, among them nurserymen are invited to contribute collections of fruit trees, showing the various types, and also modes of training for different purposes, so as to have an educational value. It is thought desirable to give intimation of this in advance of the issue of the full schedule, that nurserymen may make the necessary preparations. Other classes for nurserymen have been arranged as follows:—

Collection of Trees Bearing Fruit, in pots, with dishes or baskets of Hardy Fruits, artistically arranged on a space 24 ft. by 6 ft.

Collection of Hardy Fruits, in baskets or dishes, arranged on a table 15 ft. by 6 ft.

Collection of English Market Fruits, including Tomatos and Cucumbers, arranged on a table 12 ft. by 6 ft.

It is intended to award medals in each of the above classes at the discretion of the judges. The secretary of Exhibition is Mr. Richard Dean, Ranelagh Road, Ealing. W.

"Turner Memorial" Prizes.—Mr. J. Douglas writes:—"The following prizes are offered by the trustees for the present season, viz., a Silver Cup, value £5, for 12 single tuberous Begonias in flower, to be exhibited at the Conference on Begonias to be held at the Chiswick Gardens of the Royal Horticultural Society on August 23 and 24. A Silver Cup, value £5, is also offered for nine double tuberous Begonias in flower on the same date and at the same place. Two Silver Cups, each of the value of £5, are also offered through the National Dahlia Society at the exhibition at the Crystal Palace on September 3, 1892, viz., one for 24 show and fancy Dahlias, and the other for 12 bunches of Cactus and decorative Dahlias The prizes are open to amateurs only The cups will be in the custody of the late Mr. Chas. Turner's family, at Slough, and may be seen at the Royal Nurseries there by intending exhibitors."

Pansies for the Chicago Exposition.—The Department of Horticulture, realizing the prominent position which Pansies hold as spring and summer flowering plants, is desirous of having them displayed to the very best advantage during the early months of the Exposition in 1893; and with this end in view the Department solicits donations of seed from growers, in order to carry out their plans and show to the vast number of people who will visit the Exposition during these months the immense strides that have been made in the cultivation of this flower during the past few years. Seeds of only the very best strains are desired, in quantities to insure at least 250 plants of each at the time final planting is made. Two sowings of each kind will be made, one in July and one in August. All seed should arrive at Chicago not later than July 1st, 1892, addressed to Department of Horticulture, World's Columbian Exposition, Chicago, Ill., U. S. A.

Seeds for Exchange.—We have received the "List of Seeds for Exchange," sent out by the authorities of the Royal Botanic Gardens, Glasnevin, Dublin. The list is rather a lengthy one, as it runs to seventeen pages with three columns of names on each page. They are classified in their natural orders and arranged alphabetically in the orders. As a matter of course there are many subjects mentioned which are of no value for ordinary garden decoration; but those who have a fairly wide experience and knowledge of hardy plants, particularly of the herbaceous type, would be able to make a selection of paramount importance to outdoor garden decoration.

Indian Corn (Maize) was the subject of a paper read at the last meeting of the Bradford Gardeners' Mutual Improvement Society, by the Rev. F. D. Horner. There was a very good attendance of members and friends, the latter including several members of the Batley Paxton and the Bradford Naturalists' and Microscopical Societies. Mr. Horner first dealt with the mode of cultivation of the Maize plant, as practised by himself at Kirkby Lonsdale, and detailed the various processes necessary to secure good specimen cobs such as it had been his ambition from his earliest years to grow. He then proceeded to what he considered the most interesting feature in connection with his study of this plant, namely, "crossing," or hybridization. He mentioned many curious results in regard to colour and shape of the seeds which he had obtained by "crossing." Mr. Horner exhibited about 100 specimens of cobs, straws, etc., the majority of which were very varied in colour, and had been ripened at Kirkby Lonsdale. A very hearty vote of thanks was accorded to Mr. Horner for his excellent and interesting paper.

The Ealing and District Gardeners' Mutual Improvement Society.—The annual dinner of this society took place on the 29th ult., and during the evening the prizes were distributed which had been won by members during the year. Mr. Denison, gardener to T. Gladstone, Esq., Manor House, Acton, secured the premier award for specimens exhibited at the weekly meetings; and Mr. A. Pentney, Mr. E. Pentney, Mr. Gates and Mr. Green took the highest awards in the Essay Competition. The members recognising the most useful services rendered to the society by Mr. A. Wright, formerly of Devonhurst, and now of Falkland Park, also took advantage of the occasion to present him with Nicholson's "Dictionary of Gardening," in six volumes.

Arsenic in American Apples.—Mr. Frank T. Shutt, chemist to the Dominion Government, states that the suspicion that Canadian Apples are poisonous, owing to the presence of Paris green used in the operation of spraying for the Codlin Moth, recently raised in one of our contemporaries, is entirely without foundation. In proof of this Mr. Shutt states that Mr. James Fletcher, Dominion Botanist and Entomologist, procured a sample of Apples that undoubtedly had been sprayed, and submitted them to a careful chemical analysis. The Apples examined (Rhode Island Greenings) were twice sprayed last June with Paris green of the strength of 1 lb. of the material to 200 gallons of water. The Apples when received were just as they had come from the trees, *i.e.*, had not been rubbed, so that any arsenic left from the spraying would still be on the skin. The quantity tested for arsenic was 9 lb. 7 oz., measuring about one peck. The process to which they were submitted is one that affords extremely accurate results, and is considered the most delicate of all for the detection of arsenic. It is capable of revealing the presence of one fifty thousandth part of a grain of arsenic. If the amount of the minimum fatal dose of arsenic, 2½ grains, were spread over 23,000 bushels of Apples, the poison could be detected by this method. Though the analysis was conducted with the greatest care, not a trace of arsenic could be detected, thus proving the complete absence of this poison in the Apples that had been twice sprayed with Paris green.

ROOT HAIRS.

An important part of the report of the Research Association for the north-eastern counties of Scotland, for the year 1891, just issued by Mr. Jamieson, the director, to the members, is taken up with a description of root hairs and the precise action of phosphorus on and in plants. It was the opinion of some that the root hairs was a most likely place to look for the action of phosphorus on plants, and during his investigations Mr. Jamieson discovered luminous points or protuberances from which a clear light was strongly reflected. The protuberance, on closer investigation, was found to be the margin or lip of a well-defined aperture, which had hitherto escaped observation.

Turning to the mineral matter, which is assimilated by plants, examination of the finely-divided, insoluble mineral matters, which are effectively applied to plants as manure, showed that, while a large proportion of the particles are too large to pass into the aperture of the root hair, another large proportion is sufficiently small to pass through the aperture. This is a somewhat strong confirmation of the doctrine that plants take up their solid food in the solid form through the root hair apertures, because in the numerous experiments that have recently been performed on phosphates, no point has been more satisfactorily proved than that the degree of effectiveness corresponds with the degree of division, for it is evident that, if the aperture doctrine be true, only such particles as can pass through the aperture (or, at least, as can pass along the tube with which the aperture communicates) will be available.

While it is known by experiment that the amorphous phosphates, such as coprolite, can be used by the plant, the crystalline phosphate apatite has very little effect. This has been proved distinctly by very many experiments, although hitherto no very satisfactory explanation was known why it should be so, but the inability of the angular particles to glide up the slippery tube may explain it.

Darwin has shown that earth mould is formed by worms swallowing particles limited in size to the size of the worm's mouth. These particles are first smeared by the worm with an alkaline fluid, and then made use of to triturate its food, and finally are ejected on the surface of the ground. Similiar, Mr. Jamieson ventures to suggest, may be the action of the plant root hair, namely, that potash is essential to provide a glutinous, slippery fluid, and that, when the root hair comes in contact with a particle sufficiently small, the particle—by gentle suction upwards—is drawn bodily into the root hair; so that solid particles, available as food, are limited as a rule to those less than the size of the aperture recognisable at the tip of the hair, and to those of such form that they may be sucked along without lacerating the tube.

AMARYLLIS AT CHELSEA

The annual pilgrimage to Chelsea to see the Amaryllis has again commenced in real earnest. The house devoted to them in the nursery of Messrs. J. Veitch & Sons was rendered gay with 500 to 600 spikes of open blooms; but altogether there are over 2,000, so that a continuous display will be kept up for some time to come. The plants were potted in January, plunged in a bed of old spent tan, and allowed to come on gradually. After they had fairly started a little bottom heat was given. In winter the house was kept up to a temperature of 50°, with a rise to 55° by day, as nearly as possible. Now it is kept at 58° or 60° by night, with a little bottom heat. The bulbs are grown in pots according to the size of the former. The very largest are in 7-in. pots, but the majority in 4-in. or 5-in. pots, which are found quite sufficient. Success is due to the fact that no watering is given until it is wanted. About six months in the year no water is given at all, say from the middle of August to the middle of February, yet the bulk of the roots remain quite fresh. After potting no water is given till they are fairly started into growth; then after the flowering period is over, they are not stood away under the benches, as is frequently done, but are encouraged to make as much growth as possible to plump up the bulbs for another season. The blinds are let down on the sunny side of the house whenever the sun comes out brightly, which adds materially to the duration of the bloom.

New Varieties.

Every year witnesses a fresh lot of seedlings come into bloom, so that the outlook for fresh novelties is always being rewarded with some improvement upon old types. A variety named Starlight, now flowering for the first time, is only two and a half years old from the seed, and has a small bulb with a scape 18 in. long carrying two flowers of great size, widely bell-shaped with a short tube, and of a bright scarlet with a greenish-white base running into six short rays. It is larger and a considerable improvement upon John Ruskin. Near it is another very fine sort named The Moor, carrying three widely bell-shaped flowers of a deep rich crimson, almost blackish-crimson in the throat. Thalpius is similar in shape to the last, but is white with a few red lines on the upper four segments, and greenish in the throat. The largest light-flowered variety that has yet appeared is Idomeneus, which is white and banded or lined with red on the three upper segments, and slightly so on the three lower. A strong-growing sort is Pitho, with a stem about 2½ ft. high, carrying four flowers. The latter are funnel-shaped, white, and beautifully shaded with soft pinkish-red, and pleasingly crisped at the margins of the segments. The large and widely bell-shaped flowers of Simonia are of an intense crimson-red with a pale greenish-white six-rayed star, extending down the segments for two-thirds of their length. A striking contrast is offered by Virginal, the scape of which bears four flowers of medium size, very regular in form, and of a light orange-scarlet with a broad white band along the middle of each segment.

Widely spreading and almost flattened flowers are generally regarded with great favour, and this desire should be met by Cordelia, which has bold and imposing flowers of a brilliant red slightly shaded with purple about the middle, and having six short greenish white rays, the lower one being the shortest. The Volunteer has two scapes and seven flowers of a brilliant crimson-scarlet and blackish-crimson in the throat, the rays being almost obscured. The flowers of Plutarch are of great size with broad segments of good substance, and of a deep crimson with a darker throat without any rays. Zephyr has widely campanulate and very regular flowers, with hardly any tube; the segments are broad and white with crimson lines on five of the segments and the lower one shaded with pink. A beautiful bell-shaped flower is Verona, of a warm bright scarlet, and having a pale six-rayed star. Those of Cecilia are funnel-shaped and white, lined and suffused with red on all the segments, but lightly so on the three lower ones. Two scapes from a bulb of Acme carry in the aggregate seven flowers of a brilliant crimson-scarlet and darker in the throat. They are of medium size, just as are those of Amazon, neat, regular and very dark crimson-red, with a darker throat.

Older Sorts.

When the improvement of this magnificent race of plants was commenced, no one ever dreamt to what perfection it would be brought. The starting point of the fine types now in cultivation was Empress of India and Leopoldi, the former giving constitution, and the latter furnishing the colour. The flower is still considered worthy of cultivation, as its funnel-shaped, brilliant crimson-scarlet flowers are annually produced with great freedom. One of the finest types that has flowered more than once is John Ruskin, with widely bell-shaped, bright scarlet flowers, having a greenish white throat passing into six short rays. Landseer has two scapes carrying eight flowers of great size and scarlet-red. Another one with eight flowers is Star of India, of dwarf habit with scarlet segments. Olivette, which was certificated last year, has two scapes and six flowers of medium size and of a bright crimson-scarlet. A pretty and compact flower is that of Prince Albert Victor, with funnel-shaped flowers and broad, rounded, red segments of great substance. Her Majesty is very dwarf this year, and has funnel-shaped, white flowers, slightly streaked with red on the three upper segments. The flowers of Avondale are of average size and of a uniform scarlet except at the base; two scapes carry, in the aggregate, eight flowers. Fabula is even more floriferous, for two scapes have five and six flowers respectively, of a warm, brilliant scarlet.

A very vigorous grower is The Crusader, with a scape about 27 in. high, bearing four deep red flowers. For decorative purposes it is very useful, but the flowers are not up to the standard of the leading types grown now. Another is Coreggio, with funnel-shaped, dark crimson flowers, and a short rayed star. The flowers of Phædra are large, widely campanulate, and white, beautifully lined and netted with bright scarlet.

In another house is a collection of Clivias in bloom, another highly improved race of plants belonging to the same family. Amongst those we noted was Acquisition, a new variety of strong habit, and bearing a truss of twenty-one funnel-shaped, bright orange scarlet flowers, with a yellowish-white throat; the leaves were 2 ft. to 3 ft. long. The flowers of Excelsior were widely funnel shaped, and of a soft, orange hue. On the other hand the flowers of Distinction are long, funnel-shaped, and clear orange, with a soft, yellow, and white throat; the truss was very large.

FLORICULTURE.

Pansies.

I hear of great losses this winter amongst Pansies, even from our great trade growers, and I know of many amateurs who have suffered severely. I think much of this has arisen from the difficulty, owing to the very wet cold autumn, of getting cuttings and young plants early and well-rooted, and we have had a trying winter for them. In the midlands especially they have suffered, and Violas out of doors also to a great extent. Those who wish to replace stock should do so at once, and unless the plants are well-rooted and strong, instead of planting out at once, it will be advisable to plant them in a frame for two or three weeks protected and looked after, so as to get them well-rooted before planting out, and then, taking advantage of showery weather for doing so, lifting them with as much earth as possible in transplanting. Violas and Pansies which have been out all the winter should be pressed firmly into the soil and a surfacing of good soil placed about them, and rose-pot waterings in the day-time when fine and sunny, and the plants will then soon push ahead.—*W. D.*

A few of the finest newer Violas.

The following will be found to be great acquisitions:—Annie King, a rosy-lilac self, and first class. Beauty, pale lavender and purplish-crimson, fine form. Bridesmaid (Dean's), very pale primrose without any markings, extra fine. Cottage Maid, rich rosy-crimson with light spots, fine. Countess of Elgin, light peach with dark centre, extra fine. Countess of Wharncliffe, snow-white self, free from rays or blotch, close, compact habit, very fine. Dorothy Tennant, a richly marked flower, crimson and violet, very handsome. Duchess of Fife, light primrose, bordered with blue lilac, very distinct and handsome. Gipsy Queen, light lilac, with streaks of a deeper colour, very pretty. Golden Gem (Dean), a most lovely bright yellow self, entirely without any markings, close habit, and extra fine. H. M. Stanley, rich purple-crimson, with dark velvety stripes, extra fine and beautiful. Lady Amory, rich violet, with white margin to top petals, fine form and substance. Lillias (McLeod), white shaded with lavender, a very charming variety. Lord Fitzgerald, clear white, of good form and substance, fine. Mary Gray, white, striped with blue, very distinct and fine. Master of Arts (Dean), rich violet-purple, with bright blue shaded lilac blotches, distinct and exfine. Mrs. Frater, white striped with dark purple, distinct and fine. Mrs. Grant, crimson tinted purple with lighter margin, very fine. Neptune, rich purple, with whitish margin, a very fine distinct variety. Princess Beatrice, bright lilac, shaded with rosy-purple, fine and distinct. Purity (Dobbie), pure white without any markings, and a most pleasing variety. Quaker Maid, pale lavender tinted with rose, a very pleasing variety. Queen of Scots, best described as a lovely variety, resembling Countess of Kintore, but with more white in it. The Mearns, rich plum purple with white-bordered top petals, one of the most beautiful of all for beds. Violetta (Stuart's), small flowers, white with clear yellow eye, very fragrant, a dwarf compact grower, and a little gem. William Niel, bright pale rose, very distinct and excellent. Wonder, pale yellow, close compact habit, and an excellent bedder.

This list could be lengthened as we are now very rich in first-class Violas, and I mention these few varieties as acquisitions to any collection not yet containing them.—*W. D.*

DAFFODILS & NARCISSI.*

Who, that loves flowers for their own sake, does not keep a warm corner in his heart for the Daffodil of the English meadows? And where is the flower, excepting the Rose, that has been such a favourite theme in poetry and prose as the Daffodil? That

"Perfumed amber cup, which when March comes,
Gems the dry woods and windy wolds,
And speaks the resurrection."

From Ovid to Tennyson, the sweet singers of the world have stooped in their loftiest flights to caress and fondle with loving phrase the flower which Keats truly called "a thing of beauty and a joy for ever."

"How sweet they show to weary eyes,
These hardy, yellow blooms that rise
On slender, fluted stalks!
They need no culture, thought, or care,
But spring with spring-time free and fair
O'er all our common walks.
On meadow green, by leafy hedge,
In woodland shade, and rushy sedge,
By little lowly rills;
While yet the north wind blows his blast,
Before the storm and sleet are past,
Laugh out the Daffodils."

Then there are Herrick's beautiful lines lamenting the hastening away of this goddess of the spring. Wordsworth has, in imperishable verse, sung the praises of the Daffodil; Shakespeare and the minor poets again and again refer to it; and the present Poet Laureate has often told its beauty. It may, indeed, with much truth be said that the Daffodil has become indelibly fixed in the affections of the English people, grafted on English sentiment, and deeply embedded in the imperishable literature of this country. Wherein, then, lies the great charm of this flower? Not because of aggressive gaudiness of hue, for it can never be charged with that. Not because of rarity or proud reserve, for it unfolds its bewitching beauty to the peasant as freely as to the peer. Nor does it steal the heart away by the subtilty of perfume, which many of its coquettish sisters of the floral world employ to draw admirers. The charm of the Daffodil lies in its quiet, latent beauty, which grows upon those who love it, its dignity of form, its graceful, maidenly demeanour, and its ever-smiling face under its crown of gold. In a country walk in spring what more beautiful sight is there than that of a fresh English meadow revealing

"A host of golden Daffodils
* * * *
Fluttering and dancing in the breeze."

What applies to the Daffodils of the meadows applies with equal force to their more refined sisters of the gardens. All Daffodils are lovely.

Derivation of Name and Country of Origin.

Daffodil is the popular and Narcissus is the proper name. All Daffodils are Narcissi, or pseudo-Narcissi, but there are many kinds of Narcissi that are not Daffodils in any sense whatever. The poet's or pheasant-eyed Narcissus, for instance. The name "Daffodil" is altogether English in its association and in its application, and it is very probably a corruption of the word "asphodel" (from asphodelus). Spenser, an early English poet, writes of

"Thy sommer prowde with Diffadillies dight,"

And in another passage he calls them "Daffodowndillies." Shakespeare speaks of the

"Daffodils
That come before the swallow dares,
And take the winds of March with beauty;"

while Tennyson calls it the "April Daffodilly." There is little doubt but that the word originally came from asphodel, the transition being both easy and natural. There is an old English word "affodil" or "affodyle," which means "an early flower," which would exactly apply to this flower. The name "Lent Lily" is still more obvious, the plant flowering about the time of Lent. It is in some parts of Devonshire called "Bell Rose," a by no means far-fetched name if you take the trumpet to represent the bell and the pistil and stamens to represent the clapper. They are called "Gracie Daisies" in some parts. The name Narcissus carries us into the higher walks of literature. According to classical mythology, Narcissus was a beautiful youth, who one day saw his image reflected in the waters of a fountain, and, thinking it was the nymph or goddess of the place, fell in love with it. But then, as now, the course of true love did not run smooth, so, after vainly attempting to embrace the object of his love, he, in a fit of despair, took his life. His blood was changed into a flower. The nymphs raised a funeral pile to burn his body, according to the ideas of cremation then prevailing, and from the ashes arose the beautiful flower now known to us as the Poet's Narcissus, because of the Greek poets having so faithfully preserved this authorised version of the tragedy. Another story, equally well vouched for, is that Narcissus awakened a responsive chord in the heart of the nymph Echo, but he unfeelingly permitted her to feel the pangs of unrequited love. Nemesis, in order to punish him for this, changed him into this flower.

The Narcissus was held to be a flower of the gods, and was used to make coronets for the Grecian goddesses. An ancient writer says:—"Ever day by day, the Narcissus, with its beauteous clusters, the ancient coronet of the mighty goddesses, burst into bloom by heaven's dew." A less lovable association is given in the legend that the flower was consecrated to the Furies, and was used by them to stupefy their victims by causing them to inhale the odour of masses of these flowers until they fainted. In an old manuscript in Lincoln Cathedral Library occurs the following:—"Flour of Daffodil is a cure for madness." This, taken in conjunction with the idea that the odour of Narcissi caused stupor, is perhaps an illustration of the old belief that "like cured like." Then, again, it has been contended that the Narcissus is identical with the biblical Rose of Sharon, from the fact that the Narcissus grows plentifully in the Valley of Sharon, and that the Hebrew word is equivalent to the current Arabic name for the Narcissus. Daffodils and Narcissi, in their wild state, are mainly European, although one of the trumpet varieties—the old-fashioned hoop petticoat Daffodil—is found wild in North Africa, and the Narcissus Tazetta, or bunch flowered Narcissus, grows wild in the Canary Islands, Cashmere, China, and Japan. Narcissus Pseudo-Narcissus—our common Lent Lily—is said to be the only truly wild variety found in this country. Of course, now and again, one comes across other varieties growing wild; but they are, when careful inquiry is made, found to be escapes from cultivation, or cultivated roots that have become naturalized. Some time ago it was stated that the giant "Sir Watkin," though discovered in a Welsh garden, was of Devonian origin, and had been carried from Bideford by a mining captain named Byers, who settled in Wales and took the bulbs with him. I fear the evidence is insufficient. When the assertion was made it was challenged, and with a view of helping to unravel the tangled skein, I wrote to the Devonshire newspapers asking if anyone could find out anything about it. Although that was two years ago I have had no reply or communication upon the subject. I asked an enthusiastic gardening amateur in the Bideford district to enquire about it, but his research is also fruitless. "Queen Anne's Daffodil" (Narcissus Copax), was supposed to be of Devonian birth also, but that cannot be proved. Although I do not think it the least likely that any other species will be found wild in Devonshire than the one to which I refer, it is by no means improbable that a diligent search might reveal some varieties not hitherto considered indigenous. The Tenby Daffodil (Narcissus Obvallaris) is a naturalised variety. The most widely spread of the family is the bunch flowered or Polyanthus Narcissus (N. tazetta), so called from the Italian word tazetta, meaning a little cup, and referring to the shape of its flowers. Early writers referred to it as the Narcissus of Constantinople. It is, however, found in many parts of the world, especially in the East. No new kinds of Polyanthus Narcissi have been introduced lately, unless the so-called Sacred Lily of China be considered one. On the other hand, many new trumpet varieties have been added from Spain and the valleys of the Pyrenees. Only this spring a new bicolor variety of Narcissus Johnstoni has been found near Oporto, and it is said to be very distinct.

Classification and Structure.

I fear that, with many people, all the Trumpet Daffodils are put down as Lent Lilies more or less diversified by cultivation, but I need hardly remind a society of gardeners that this is far from being the truth, or the whole truth, and, indeed has but a small grain of truth in it. How many varieties there are now in commerce it would be difficult to say. Mr. Peter Barr, a well-known collector, put it to me at over 500. At all events there are not less than 500 so very distinct as to be easily distinguishable by an amateur. It is rather a singular thing that a family of so many tribes and sub-divisions should not be a natural order in itself, but so it is. There is no such natural order in botany as the Narcissus. It belongs to the Amaryllidaceæ or Amaryllis family. The hoop-petticoat Narcissus, in the arrangement of ts pistil and stamens, shows the family resemblance most strongly. The Snowdrop belongs to the same natural order. Broadly speaking, the Trumpet-shaped Narcissi, of which the Lent Lily is the common type, are called Daffodils: and in this are included the "Incomparable" Narcissi, like "Sir Watkin," and others, with a shortened trumpet. When the term Narcissus is used in the popular sense, it applies to the flat-crowned sorts like the Pheasant-eyed Narcissus and the Polyanthus or Bunch-flowered. These are, indeed, true Narcissi. This distinction is a popular, rather than a botanical one, although the two branches of the family are structurally distinct also. In a Trumpet Daffodil the stamens (six in number) are of an equal length. In the true Narcissus three come to the level of the crown, the other three stopping midway in the tube. There are three natural groups, or families, or tribes, and these are known by their corona or crown, the first called Magnicoronati, or great-crowned, the second, Mediicoronati, or medium-crowned, the third, Parvicoronati, or small-crowned. For a homely description, these may be call the grand trumpeter or coffee cup section, the chalice cupped or tea cup section, and the Poet's Narcissus or tea saucer section. For those who think that a yet shorter description might have been found, a wag at the Daffodil Conference suggested for every-day use, the terms "long noses," "short noses," and "flat noses." Perhaps there was more in his racy description than he was aware of, for there is much to be said in favour of a good nose—in Daffodils at all events.

As a good and unmistakable type of the great crowned, Maximus, Horsfieldii, and Golden Spur serve as examples. Of the medium crowned, Sir Watkin, Queen Bess, and Stella show the type. The Pheasant-eyed or Poet's Narcissus is a good illustration of the small crowned. The question of colour, as in the case of Horsfieldii (a bicolor), has no bearing upon this matter. Jonquils have, as their distinguishing characteristic, round, rush-like leaves, instead of flat leaves as the other Narcissi have. But the little hoop-petticoat variety, and the cyclamen-flowered triandrus, as well as N. intermedius and N. gracilis, have rush-like leaves. Much attention has been given these past few years to a variety of the Polyanthus Narcissus, called the Chinese Sacred Lily, or Joss Flower, or Good Luck Lily. In Canton it is called Shui Sin Fá, or the Water Fairy Flower. Some florists tried to identify it with varieties in British commerce, but it seemed to vary from them all. It appears to be a single or semi-double form of the Double Roman [?]. The bulbs are grown in a kind of greasy grey mud-like sand, and are sent to Canton for sale before flowering time. They are much prized by the Chinese, who grow them in little shallow bowls filled with pebbles and water. A Chinaman is happy when he can have his Good Luck Lily in bloom on New Year's Day, which nearly corresponds in date to our St. Valentine's Day. As we decorate our churches at Christmas and Easter, so the almond-eyed Celestial decorates his Joss-house at the festival of the New Year. Whether this custom prevails in Joss-houses out of China I cannot say.

(To be continued.)

* A Paper read by Mr. A. Hope, at the meeting of the Devon and Exeter Gardeners' Association, on March 30th.

AMARYLLIS AT HOLLOWAY.

The brilliant sunshine of the past week has had a most invigorating effect upon the inmates of plant houses generally, but perhaps in no department is its forcing effect so markedly observable as in the case of collections of Amaryllis, which have literally come into flower with a bound. The Amaryllis house in Messrs. B. S. Williams & Sons' nursery at Holloway is just now a veritable blaze of bloom, and together with the Clivia house, illustrated in a recent issue, and which still contains a really remarkable display of bloom, forms the centre of attraction in the nursery for the moment

By the aid of relays the Amaryllis house will be kept gay for some weeks to come, the last to flower being the younger stock, mostly seedlings, of which

the Messrs. Williams annually raise a large number. Looking over the collection a few days ago, we noted a number of grand varieties, among which may be mentioned Curiosity, a flower in shape and substance after the florist's own heart, being nearly circular in outline, and white, heavily reticulated with crimson; The Lord Chamberlain, a more trumpet-shaped flower, but also having a white ground, reticulated, and the segments tipped with crimson; Lord Salisbury, a massive and imposing scarlet; Ophelia, a flower showing unmistakably its Leopoldii origin, having long segments, white, and flushed with crimson in the centre of each; Aphrodite, a large and well-formed flower, white barred with scarlet; George Wainwright, a large and handsome scarlet, with white venation; Meteor, another grand scarlet, with a light centre; Emperor Frederick, a superb crimson; and Joseph Chamberlain, a very striking seedling, the stout scape bearing four noble flowers, with the rich crimson segments barred with white, very distinct, and a decided acquisition. Those named of course are only a tithe of the number of sorts in bloom when we visited Holloway; and others have no doubt been added since. The collection will be well worth seeing for a few weeks to come.

Amaryllis House in the Victoria and Paradise Nurseries.

GREEN CARNATIONS.

We cannot be said to have escaped the craze which has laid hold of the Parisians for some time past. About the beginning of last February green Carnations were sold in Paris at two francs apiece, but such a fashion, such prices, could not be otherwise than ephemeral. The police, smelling some hoax, seized the flowers, and had them sent to the laboratory of the City of Paris, where M. Garrard, the chemist of the City, soon recognised that they were coloured artificially. The freshly-cut flowers have their stems dipped into some colouring matter, which forthwith ascends the tubes or vessels by capillarity, and ultimately shows itself in the petals, becoming oxidised by contact with the air. The colouration thus artificially imparted is confined to the edges of the petals, to which it forms a border of greater or less breadth.

Various flowers can be treated in this way, including Carnations, Narcissi, Lilac, Lily of the Valley, etc. The first and last named may now be seen in the shops in Covent Garden. Seeing that we are accustomed to bordered Carnations, popularly termed Picotees, the artificially-coloured flowers of that kind look more natural than Lily of the Valley when so treated; but no lover of natural and fresh flowers could look upon either with much favour. The green-edged Lily of the Valley is simply an outrage upon good taste. In order that the results may be complete, the stems are dipped in the colouring matter for forty-eight hours, and several cuts or notches are made so that the liquid may run up more quickly. The colouring matters are described as harmless.

As yet the colours are not very numerous, the best known being green, violet, and rose. The first is obtained by the brilliant green of tetraethyldiamidotriphenylcarbinol. Violet is obtained from methyl violet, and rose from fuchsin. A dark blue is also obtained from tetramethylparadiamidophenylorthoxiphenylmethane. Faddists will now be able to obtain a black Dahlia, a blue Rose or blue Dahlia, and other productions of that nature without waiting for the evolution of slow and disappointing Nature. The *Revue de l'Horticulture Belge* says that the discovery was originally due to a mistake made by two women engaged in the artificial colouration of flowers, and who placed some fresh white flowers of Carnations in a vase containing colouring matter.

THE HEPATICA.

My pretty Hepaticas are delightful just now. A few years ago I planted out some large clumps of the single blue, pink, and white, and the double red, giving them a full exposure under a low west wall, but they have done remarkably well, have grown into great size, and I should think are producing from one hundred to one hundred and fifty blooms each. By top-dressing the plants with soil while they are in bloom, some surface soil is provided, and seeds being matured, which is not very often—I do not appear to have had any since Jubilee year—they drop upon the soil, germinate, and so form seedling plants. They want time to get into size to flower. The varieties of the single pink and the double blue are the scarcest, the latter especially always commands a high price.

The leaves of all the Hepaticas which have come to us from the various parts of Europe are thick and leathery, and of a dark green colour, and the flowers, which are numerous, are each borne on a single stem, rising from the root like the winter Aconite.

It is surprising to what a depth the Hepatica will send down its roots, therefore it should be planted in deep soil. Where there is depth enough the roots go down perfectly straight; when the roots are confined in pots they curl round as is natural with plants. The roots are like bristles, and in the case of a strong plant there are a great many of them.

H. angulosa is an East European species and differs materially from others indigenous to Europe. One of the best known is H. angulosa, a plant of very strong growth, with large, lobed leaves and pale blue flowers, much larger than those of the varieties of H. triloba. In the open air it grows into a very large tuft.

Hepaticas are increased by division of the roots, as every crown has a few root fibres attaching to it. It is well not to divide the plants until they have established themselves and grown into size, then they separate into better rooted crowns; and I find it the best plan to put a few round a 48-sized pot, and in a year or two pot them singly into pots.—*R. D.*

THE CHINESE YAM.

Can anyone tell me if this plant (Dioscorea batatas) is still in cultivation? It was introduced from the north of China, where it is indigenous, to France about the year 1849, and when it came over to this country it was said at the time it would supersede the Potato. Tubers readily fetched half a guinea each, but its reputation soon melted away, and probably it is only now to be met with in botanical gardens. Pamphlets were written in praise of it, and Professor Decaisne gave it the benefit of a special report, in which he did not hesitate to regard it as superior to the Potato, and much richer in point of nutritive properties. "Its roots," he stated, "were as white as snow, in the interior they neither contain any visible fibre nor woody matter; cooked by steam and roasted they look and taste like the best Potatos."

All this was very flattering, and it greatly helped to sell the Yam, and, no doubt, there were some who made a good thing by it. Among other features of value it was said to possess, was that it occupied only a very small space of time to be thoroughly cooked; another was that it could be preserved from one year to another, and even longer,

without sprouting, and while the Potato would sprout the Dioscorea was wholly free from this disadvantage. It was effected neither by cold, or heat, and it was thought only slightly by moisture. It was said of it, "Left in the ground it remains alive through the winter without injury, so that it is a hardy plant in the widest acceptation of the term," but it did not take. It suited the whim of the curiosity mongers of the gardening fraternity for a time, and then little was heard of it, and now it seems to be altogether lost sight of.

Some day it will no doubt turn up again like the constantly recurring Mummy Pea, and it will again have a brief run of popularity.

It is said there are upwards of one hundred and fifty species of Dioscorea, and under the name of Yams, the large fleshy tuberous roots of several species of the Yam are extensively used for food in many tropical and sub-tropical countries, where they are largely cultivated and take the place of potatos. Chief among them is the one which heads this paper. Yams vary greatly in size and colour, according to the species producing them, many attain a length of two or three feet, and weigh from thirty to forty pounds. Some are white, others purplish throughout, while some have a purple skin with white flesh. In the case of D. batatas it was found when planted in a deep yielding loam to root down very deeply in the soil, so deep indeed that great difficulty was experienced in getting them out of the ground. Its habit of growth is that of a climber, training from right to left. From the neck of the root issue rhizomes of great length, which, as they descend into the ground, become swollen into something like a club shape. It is said if the roots are left in the ground all the winter, they will increase very much in size during the second year, but with a certain loss of quality. I remember the late Mr. James Wray, of Reigate, once producing a tuber of great size and length; it seemed to be the only one produced by the plant, and it had attained to huge proportions.—*R. D.*

THE HERBACEOUS BORDER.

Choice Plants in Flower.

Helleborus colchicus.—In this we have one of the finest of all the Hellebores belonging to that section known as Lenten Roses. The sepals are of a dark plum purple, and when in perfection seem to be suffused with a glaucous bloom that adds considerably to their interest and beauty. The mass of yellow stamens in the centre contrasts strongly with the sepals. Usually this form is in perfection in March, but the long-continued cold weather has delayed flowering beyond the usual time. A moist, but well-drained soil in a somewhat shady position is best suited to its requirements.

Pulmonaria angustifolia.—Of the two species we can claim as British, that here noted is the earliest to flower, and is sometimes spoken of as the Blue Cowslip. The expanding flowers are red, changing to purple, and finally to a bright blue. The narrow, lanceolate leaves are usually spotted with small grey markings. A similar position as for the above Hellebore would suit this Lungwort. It is both interesting and beautiful in early spring.

Narcissus Cyclamineus.—The bright yellow flowers of this singular-looking Daffodil serve to brighten the borders at a time when competition for favour is by no means great. Several other Daffodils are in bloom, it is true, but none of them have the strongly reflexed perianth and the long narrow tube of this one. It never exceeds 6 in. in height, and is frequently dwarfer, and may therefore be regarded as one of the choicer subjects for the open border.

Saxifraga Stracheyi.—The typical form of General Strachey's Saxifrage has pink flowers borne in a branching drooping panicle, and generally flowers in March, but the long continued cold during that month has delayed the flowers till now, and the flower stalk is still very short, so that the blooms are crowded in a mass. S. S. alba has pure white flowers and reddish sepals making a beautiful contrast. It may be planted in a well-drained border, or on rockwork, where the elevated position would serve to keep the roots dry in winter.

Erythronium Dens-canis.—The Dog's-tooth Violet is one of the prettiest and most interesting of spring flowers. The latter are rosy purple and drooping with reflexed segments. The oval leaves are blotched or marbled with purplish-brown and grey. There is a variety named E. D-c. grandiflorum, with pale flowers, the outer segments being blush or nearly white and the inner ones soft rosy purple. All have a yellow blotch at the base. The filaments are white and the anthers black, while the leaves are blotched like the type. Both may be grown in any good garden soil. The rootstock is bulbous.

Chionodoxa Luciliæ.—Where the Glory of the Snow is grown in any quantity or even in small tufts, it cannot escape the least observant at this early period of the year, when its bright blue and white-eyed flowers are so conspicuous. The retardation of growth owing to the frozen condition of the ground or the cold does not seem to have had the slightest evil effect, but rather the contrary, as the leaves and flowers ultimately started away with great vigour, attaining perfection in April instead of March. The bulbs may be planted on the rockery, or in the open border if the soil is well drained.

Scilla bifolia.—The typical form of the Two-leaved Squill has deep blue flowers, or they may be shaded with purple, and are produced in a short, compact raceme. The habit is precisely similar to that of the Glory of the Snow, than which the flowers are smaller, and uniform in hue instead of having the large white eye. There is a variety with rosy-pink flowers, and another that is pure white. Considering the hardiness and pretty appearance of this early-flowering Squill, it is surprising it should not have found its way into most gardens where spring flowers are estimated at their proper value. By being planted in the intervals between the lines of taller growing and summer flowering subjects no space would appear empty when its leaves die down later on.

Doronicum austriacum.—Even in the south of England the plants of this Composite are in a very backward condition, like vegetation generally, and the flower stems have not commenced to push up. In Ireland, however, the plant has been in bloom for some time past, and the golden-yellow flower heads are welcome at this time of the year, although they would be less so late in summer whem Composites are getting too plentiful. The stems as yet are only about 6in. high, but they ultimately reach a height of 12 in , and furnished for the greater part of their length with leaves.

Anemone blanda.—The ternately divided leaves of this early-flowering Anemone serve as a beautiful background or carpet, from amongst which the flower scapes arise and are shown oft to the best advantage. The flowers are relatively of large size, solitary, and usually bright blue; but there are variations from the type with pale blue and also white flowers. The latter are tinted with blue on the outside, and therefore appear at their best when fully expanded as the inner surface is pure white.

NEW & RARE PLANTS.

Fritillaria aurea.—The stem of this species varies from 4 in. to 6 in. high, and is furnished with linear, fleshy, glaucous leaves, the lower ones being in whorls of three. The flower is large for the size of the plant, solitary, drooping and very pretty. It is bright yellow, with each of the segments chequered or tessellated with seven to nine rows of dark markings. In general appearance it reminds one of F. Moggridgei, but is much smaller. It was shown by Mr. T. S. Ware and received a Botanical Certificate.

Iris Rosenbacheana.—The ligulate leaves of this species are of a light green and glaucous on the back. The rootstock consists of a pear-shaped, short, fleshy rhizome giving off fleshy fibres. The scape is 4 in. to 6 in. high, bearing a large, solitary flower. The falls are strongly reflexed above the middle and revolute along the sides of the lilac claw; along the centre is a prominent and elevated yellow ridge, and the lamina is blackish violet-purple. The standards are spathulate, lilac and curiously reflexed, so that they hang down below the flower. The stigmas are broad, erect, or ascending, and pale lilac-blue.

Shortia galacifolia.—The leaves of this rare plant are soborbicular, toothed, leathery, and netted. The one flowered scape bears three bracts just under the calyx, the segments of which are ovate. The coralla is white, sometimes tinted with pink, and consists of five obovate more or less deeply-toothed segments. The five prominent stamens are inserted between the lobes of the corolla, and have large anthers folded over the throat of the flower. Both the Iris and the Shortia were shown at the Crystal Palace on the 26th ult. by Mr. T. S. Ware, and received First-class Certificates.

THE WEATHER AND THE CROPS.

It used to be an axiom of Mr. George Glenny's, forty years ago, that after Christmas every thing began to push; but with regard to this, many years' experience has taught us that this movement is entirely under the influence of our ever-varying seasons, as regards the progress made in the growth of plants, affecting those under glass as well as those in the open garden. This season, in the out-door department, the development has been very much retarded on account of the comparative absence of the influence of the sun's rays, and the extreme low temperature of the earth. Having had more than two very unpropitious seasons, continuous rain-falls and little sunshine to warm the earth, it is well that some of our pet plants have survived so well. Of course very much in this respect depends upon the nature of the soil, and more especially the facilities adopted for getting rid of superfluous moisture, as nothing is so inimical to the health of plants as for the soil in which they are growing to be surcharged with moisture; but I may perhaps be permitted here to say that without doubt the extreme coldness of the earth, and the excessive wetness of the same, mainly contributed to the absence of the Potato disease, as it was proved that mildew, and in very fact nearly all the fungi tribe, were conspicuous by their absence last year. As the tubers approach maturity respiratory organs of the haulm become closed, hence the circulation less active. This is the period when, should the atmosphere prove genial to the generating of the fungus tribe, it is the most critical time, for I have noticed for many years that to ripen the crops satisfactorily, the weather cannot possibly be too hot or too dry; in a dry arid temperature and an absence of fluctuations, little harm is likely to ensue.

Years of experience has taught us that it is under peculiar conditions of the atmosphere that the Potato disease is at all likely to make its appearance. What I stated in the *Gardeners' Chronicle*, 1855, has been verified by subsequent observations, viz., "that the disease is analogous to the mildew which is so destructive to Vines, wall trees, Peas, etc.; but it appears to me that owing to the succulent nature of the Potato, its pernicious property is imbibed and conveyed into its whole system far more instantaneously than in the case of hardwooded plants, hence the rapid changes which so soon take place after the watery tissues of the Potato are attacked." I may here observe, from the time just quoted, that I have always noticed that when mildew has made its appearance on Peas, that its effect is soon seen upon the Potato crops, varying in form according to soil and situation, and the stage of growth when attacked. The plants when this takes place, so far as the haulm and foliage is concerned, are declining in growth, and almost in a comparative used-up condition, the strong, robust, healthy vigour of the plant being in a transition state as the ripening process is being matured. We may sow and plant, but must really depend on agents beyond our control for a successful issue.

This is no new theory. I am in full view of good farming and market gardening. Many acres of Potatos, Sea-kale, Cauliflowers, etc., etc., are constantly under my eye, the proprietors of which are amongst the oldest growers for Covent-garden and other markets; hence I have ample opportunity of taking notes of both their successes and their failures, and as regards the latter it is obvious to my mind it is in no way for want of skill in the management of the various subjects under manipulation. One of them told me the other day that he tried a remedy for the Potato blight which was recommended to him, and which was decidedly effectual, as it not only completely annihilated the disease but at the same time destroyed the crop subjected to the treatment. And speaking of the good old practice of selecting good sound seed for planting, *i. e.*, those sets that had been carefully housed or stored, so as to be preserved entire, by being prevented from making insipid growth, and materially weakening the vitality

of the seed, this experienced grower told me one of the best crops that he ever had was from sets which were quite shrivelled and apparently exhausted of their healthy, life-invigorating properties. The variety in question was "Beauty of Hebron."

This reminds me of a theory promulgated say about forty years ago, that the Potato sets should be desiccated before planted, the which I tried at the time, but with no positive result to enable me to remain any other than neutral in my opinion regarding that practice. And I may here observe, after over half a century's close acquaintance with the grand old tuber, that in spite of all antidotes to combat the direful evil, should the enemy be backed up by the agents which in the first instance brought the pest into existence, the combat must of necessity be a very severe one, and the chances in the issue may be that we may see our noble army placed hors de combat; it is a fact patent to all observing minds, that unless conditions are alike potent failures are all but inevitable.—*Man of Kent.*

THE BROAD BEAN.

We sow Broad Beans in March and up to the end of May for succession crops. As this is the season when sowing is in full swing, a few remarks in reference to this popular vegetable may not be out of place.

The Broad Bean is a vegetable of great antiquity, and must have been in cultivation from a very remote period. It is the Faba vulgaris of botanists. There are several types of it, but it is supposed they have all come from a common origin, the characters varying through cultivation. As far as we know we are indebted to the Romans for its introduction to this country, and it is said that one of the noblest families of ancient Rome was named Fabii, from their success with the culture of Beans. Years ago the Bean was regarded as an nnwholesome article of food, and the ancient philosophers advised their followers not to eat them; now we know they take a high place as a nutritious article of diet.

We may divide the garden Broad Bean into three types, viz., the small-podded forms, represented by the Dwarf Fan and Mazagan; the long pods, represented by the Early Long-pod and its fine varieties, including the Seville and Aquadulce; and the Broad Windsor. The Dwarf Fan takes its name doubtless from its dwarf-growing, fan-shaped branches. It is also known as the Cluster, from its habit of producing its blossoms and pods in clusters. The pods are short, containing three or four Beans. It is an old and at one time a much esteemed garden variety. A green sport from this, named Beck's Dwarf Green Gem, originated at Shipston-on-Stour about forty years ago, and was sent out by Messrs. Beck, Henderson & Child, a London wholesale seed firm now defunct. It is both dwarf and early, forces well, and on warm, rich land in the open is a great bearer, and highly esteemed on the table for its delicious flavour. Seed of it is never too plentiful, and it always commands a good price.

The Early Mazagan Bean is one which used to be universally planted as a first early variety, and the older school of gardeners greatly esteemed it. The Mazagan Bean is supposed to have been originally brought from a Portuguese settlement on the coast of Africa. It is still recommended for sowing as an early crop by some who are somewhat ignorant, I am led to think, of its character. It is later than the Early Improved Longpods and the fine Seville type; this was conclusively proved in the case of a trial made at the Gardens of the Royal Horticultural Society a few years ago. Several varieties, white and green, appear to be cultivated under the name of Mazagan, but the form generally grown in this country is white seeded.

Next comes the Longpod, rather taller growing than the Mazagan, the pods longer and larger, and producing four to six Beans. One of the first improvements was Child's Early Longpod, which proved to be considerably earlier than the old type; the Hangdown, Johnson's Wonder, Mackie's Monarch, and others are but selected varieties of the Early Longpod.

The Seville Longpod is now a well-known variety, and it is now universally grown for exhibition purposes. It has been in cultivation in this country for thirty or forty years at least, and for a much longer period on the Continent, especially in Spain, where it has done good service in supplying food in time of war. It is a very early variety, no doubt the earliest of our Longpods, bearing immensely long pods, the points of which reach to the ground and appear to prop up the plant. It is considered by some a little tender, but it now seems to have adapted itself to our colder climate, and to be as hardy as the Longpods. A fine variety named Aquadulce is said to be the true form of the Seville: a taller and somewhat stronger grower. The pods may not be so freely produced by the Seville type as by some of the others, but they make up for any deficiency in their increased size and length. Some very fine selections of the Seville and Aquadulce bear the names of certain seed firms. Bunyard's Exhibition Longpod is a variety that is making a great reputation. It seems to have been selected from the Johnson's Wonder type, and it is said to be the finest and most productive variety in cultivation, with handsome pods containing seven and even eight Beans in each. It is well worth a trial.

The Broad Bean proper is now known as the Windsor Bean, and it is said to take this name from having been first cultivated in that neighbourhood by some of the Dutch gardeners who came over at the time of the Revolution, and in all probability brought this form of the Broad Bean with them. The Windsor Bean is later than the Longpod types, and, therefore, comes in well for main and late crops. The pods are broad, and contain two and three seeds according to the variety. Taylor's Windsor is an improved form of the common type. Another is the Harlington Windsor, so called from having been selected at that renowned market garden district in Middlesex. Illustrations of Windsor Beans are sometimes seen in catalogues, the pods of which contain four and five seeds. We make a little allowance for artists drawing upon their imaginations, or shall we say sketching according to orders. It is a very fine selection indeed of the Windsor Bean which produces three Beans in a pod. If anyone could raise a variety certain to produce four, the stock would fetch a good price; but it may be done by persistent selection.

It is an interesting question whence come all the seed Beans that are sold in such enormous quantities by the London wholesale seedsmen? The bulk of the Longpods are grown in Kent and Lincolnshire, and very few are grown anywhere else, excepting some parts of Cambridgeshire. East Kent is the great Longpod Bean-growing district. Johnson's Wondor was named after a market gardener of that name who sent it out about forty years ago. Good types of the Longpod Bean are grown in Holland; the Dutch Longpod is regarded as a very good variety, and has now been grown in this country for many years. The great bulk of the Windsor Beans are grown in Suffolk; they require heavy land, and, this being the character of the Suffolk soil, they do well there. They are grown in some other counties in small quantities. The Seville Longpod Beans are apt to degenerate in this country, and so it is found best to import seed every year from France, Germany, and other countries. It is a Bean that always commands a good price in consequence.

There are green-seeded forms of the Longpod and Windsor Beans which have no doubt originated as sports. The green forms are reputed to be better flavoured than the white-seeded ones. They are also preferred by cooks because they retain their green appearance when cooked, whilst the white types become of a dark brown colour, which is an objectionable feature with many. The Broad Bean is an excellent vegetable when gathered at night time and properly cooked; they are frequently gathered when they are too old. The flavour of the Broad Bean is wholly distinct from any form of Dwarf Kidney or Runner Bean; but they should not be gathered before they have attained half their size, as they sometimes taste bitter when so small.—*R. D.*

CALADIUMS.

For decorating the stove or warm greenhouse during the summer months, these are one of the most valuable plants we have. They may be started at once, and the present would seem a good time for a few hints upon the successful treatment of these very showy bulbous plants. Whenever Caladiums are staged in an exhibition tent they are sure to attract a crowd of admirers, and when we take into consideration the lovely colours and general appearance of the foliage, one can easily imagine their being great favourites.

Unless you have plenty of room, and can secure a brisk stove temperature, I would not advise their being started before March. Pot the tubers into small pots, and use a light and porous soil. Let this be in a fairly moist condition, and plunge the pots in a gentle bottom-heat. Caladiums do not relish much water when first starting into growth, so that if you pot into moist soil and plunge the pots, you can secure a uniform moistness without the necessity of watering until after the bulbs are in fairly strong growth. After the roots have acquired a good hold of the soil and are active, they will require a good bit of water; this being the case, you should pay great attention to securing a good drainage.

When the small pots are full of roots, shift on into 6-in. or 8-in. pots. Larger pots may be used where large specimens are desired, but as a general rule these sizes are the most useful for decorative work. In potting the plants on, give them a compost of light turfy loam, one part; leaf soil, one part; and dry and old horse manure, one part. With the addition of a little coarse silver sand, this will be found an excellent compost. When the plants are shifted on, always keep the crown of the plant a little lower than before. Caladiums make a great many roots from the crown of the plant, and when the pots are full of roots a good mulching benefits them very much. Liquid manure may be applied when the pots have become full of roots; at this time it will do a great deal of good, but if given earlier it has a tendency to make the soil sour and stagnant. This must not occur, or the roots suffer, and the foliage soon shows the effects.

Unlike most bright-foliaged plants, Caladiums do not like much sun, and their colours are brought out much better when rather heavily shaded. A moist temperature without being syringed overhead is best for them. By gradually hardening them to an ordinary greenhouse heat, they are very handsome plants for house decoration, and last a considerable time. To obtain good shaped plants they must not be crowded at any time while growing.

As autumn approaches the leaves will begin to fade and assume a yellow sickly colour. This is a sign they are ripening off for their winter's rest. Water should be gradually withheld, until the foliage has quite died away. Now is a time when many make a fatal mistake with these bulbous plants: they keep them too dry, and above all too cool. Most of the splendid hybrids so generally grown are raised from species that were introduced from the hottest parts of Brazil, almost under the Equator. It will be seen from this fact that to grow them naturally and consequently more successfully, they should never be in a lower temperature than that of a warm greenhouse. It is an excellent plan to shake the stronger growing varieties out of the soil after the foliage has died down, place them in pans of sand, and then stand them in a warm part of the stove where they will be safe from any chance or accidental watering.

Caladiums are particularly free from insect pest, green-fly being about the only one that troubles them. This is easily got rid of if tackled as soon as it appears. Propagation is effected by a careful division of the tubers when starting into growth. They are not expensive, and are certainly among the most showy foliage plants grown.

The following are a few of the best varieties, and will make a very pretty and representative collection:—

Caladium argyrites; small leaves, ground colour light green, margins and centre white, and beautifully blotched with white all over the remaining parts; one of the smallest, and also one of the best for table decoration.

C. minus erubescens; of much the same habit and size as the preceding variety, but having crimson leaves and a green margin.

C. candidum; large leaves, irregularly marked with white and green; a splendid variety.

C. Raymond Lemoinier; colours carmine-red and creamy-white; very effective.

C. Max Kolb; a grand variety with deep red spots on a light ground.

C. Comte de Germiny; a dwarf grower, colour red and greyish-white; very pretty.

C. Ibis Rose; foliage is heart-shaped and of a very pleasing rose colour.

C. Belleymei; one of the best taller-growing varieties; leaves white and green.

C. Baronne James de Rothschild; young leaves bright rose, changing to a softer shade as they age; veins deep red and very showy.

C. Baron de Rothschild; ground colour a mottled green, centre a rich blood-red with spots of the same colour.

There are numerous grand hybrids in cultivation now, and very few of what may be termed "true species" are grown; having been superseded by the results of careful hybridising. Caladiums make useful decorative plants, but they should not be kept away from the hot-house more than a week or ten days at a time. By having a few plants and changing them occasionally, they do not lose their charming freshness nor suffer from being exposed in a living-room during summer. The same plants may be used more than once during the season, if they are not allowed to remain in the room too long at a time—*Experience.*

GARDENING MISCELLANY.

AGLAONEMA COMMUTATUM.

It is very seldom we meet with any of the species of this genus in private establishments, which is evidence that they are not very popular. By gardeners they are compared to Diefenbachias, to which they are considered inferior for general decorative purposes. The best way of employing them is as a covering to a tree-fern stem or a wire-work frame filled with a suitable compost, into which they can root and form a covering, as in the case of several other Aroids. The chief beauty of the plant consists in the foliage, which is more or less copiously blotched with grey. The leaves are narrowly ovate, and evergreen, and 4 in. to 6 in. long. Flowers are not very plentifully produced, but this did occur at Hanger Hill House, Ealing, and the flowers were followed by fruit. The spathe may be compared to that of an Arum, but it is shorter, rolled round the spadix, white, and lasts but a short time in good condition. The fruit consists of a short, dense cluster of red berries about the size of the fruits of the Cherry Laurel; but they do not all get properly fertilised, so that out of a dozen or more only about four or five attain any size.

PULMONARIA SACCHARATA.

There are evidently several forms of this species differing chiefly in time of flowering, and in the general colour as well as the markings of the leaves. A specimen sent us from Ireland is sometimes found in gardens under the name of P. grandiflora, a name given no doubt on account of the size of the flowers. It is also remarkable in flowering during the month of March, whereas the more typical form does not bloom till May or June. The form in question has large reddish-purple flowers and the leaves well blotched with grey, as well as more or less tinted with red. Another slight variety flowers later, and is most handsomely blotched with clear grey on a bright green ground. This often passes in gardens for P. sibirica, but the true plant coming under that name is Mertensia sibirica, a plant with glaucous or sea green, perfectly smooth leaves and smaller flowers of a light blue shade. This also is pretty common in collections of herbaceous plants, and cannot be confused with any form of the plant under notice.

COMMON MEZEREON.

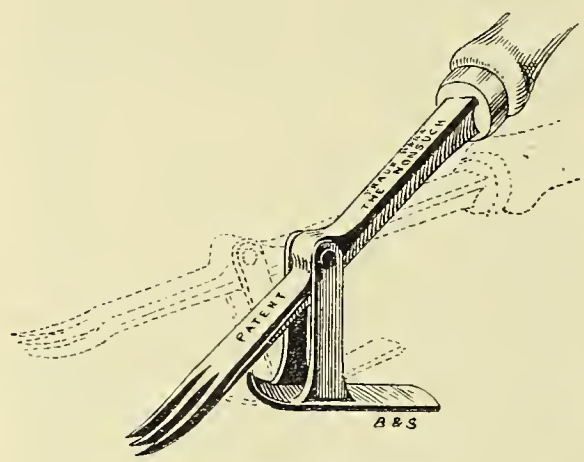
For ordinary decorative purposes the old-fashioned Daphne Mezereum may be considered one of the best if not the best of the genus. Truly it may be said that the bush is of little decorative value in summer when merely clothed with its unattractive and common-place foliage, and less so in winter when its stems are naked. This however is more than compensated by the profusion of flowers in spring, and by the red berries in autumn; add to this the powerful and agreeable odour of the flowers which pervades the atmosphere for some considerable distance around the plants on a dewy morning. The want of foliage at that time allows the flowers to be better seen, as they are closely set upon the branches and would have been partly hidden if the leaves had been evergreen as in the case of the other hardy species of Daphne in cultivation. Like D. Laureola this is also a native of Britain, but is found in so few places that it may really have been naturalised. It flowers in February, March, or April, earlier or later according to the season, and being late this year is only now in perfection.

ABIES CEPHALONICA.

Notwithstanding the beauty and hardiness of this tree, it is not planted so frequently as we should expect. It is said to stand well in exposed situations, and seeing that it is a native of the mountains of Greece and is of vigorous growth, it ought to stand better than several other of the species which are more popular, and yet less hardy. Amongst other trees, even when not immediately surrounded by anything else, it makes great progress and attains a greater height in this country than it is stated to do in its native mountain home. There is a tree in the pleasure grounds at Stoke Park, Slough, which appears to be 80 ft. to 85 ft. in height. It is of pyramidal outline and perfect in form, whereas the Douglas Fir and several others had suffered considerable injury during the heavy fall of wet snow at Christmas, 1886. The leaves of the tree in a young state, are subulate, flat, and acute, but those of this specimen are quite blunt, a character they probably acquire as the tree gets aged. The base of the leaf, however, preserves the same peculiar twist.

THE "NONSUCH" LAWN WEEDER.

We have received from Mr. A. C. Sterry, 2, Marshalsea Road, S.E., one of his patent "Nonsuch" Weeders, which we can recommend to all who take a pride in the possession of a clean lawn—and who does not?—as being the simplest, strongest made, least liable to get out of order, and most efficient instrument of the kind that has come



The "Nonsuch" Weeder.

under our notice. Its great advantage is its pivoted fulcrum, which renders the work of extracting the roots of the tightest gripping weeds a very easy matter.

ERICA CARNEA.

There are sometimes complaints made of the difficulty of growing hardy Heaths in the garden, but that cannot be said with regard to E. carnea, which grows and flowers with wonderful profusion in soils of various character. Ordinary garden soil is all that it requires, and for this reason it may be planted in various positions and for various purposes, such as edgings to beds and walks. For the latter purpose it might be used even in villa gardens if not overhung or injuriously overshaded by trees or large bushes in the vicinity. It would be equally beautiful and less ephemeral than Crocuses, which last but a few days, especially if the sun is bright; while in rainy weather the flowers get broken down. The flowers of the Heath in question are pale red or purple, and remain fresh for many weeks together, especially if a mild winter should cause them to expand at any time during the first three months of the year. They are now in perfection, having been delayed much beyond their usual time by the cold weather.

TILLANDSIA ANCEPS.

Several different names are given to this species, including T. tricolor, and T. setacea. At a casual glance it bears a close resemblance to T. Lindeni in the form of the leaves and that of the spike, but the flowers are entirely different in colour, which, from a horticultural point of view, is very important. The leaves are arranged in a dense rosette, and are 12 in. long, arching, dark green and striated with red near the base. The scape varies from 6 in. to 12 in. long, and is furnished at the top with a dense two-edged spike of bracts, in the axils of which the flowers are developed in succession from the base upwards. The bracts are somewhat boat-shaped, keeled, pale in hue, and edged with red or pink. The sepals are pale yellow, but are almost completely hidden by the petals, which are broad, obovate, and mauve-purple, with a large white blotch at the base. Being of the same habit as T. Lindeni, it might well be grown in association with that species and its varieties, which differ in the colour of the bracts, but all agree in the rich dark blue of the flowers. T. anceps, under the name of T. tricolor, is now flowering with Messrs. J. Veitch & Sons at, Chelsea.

THE DOUBLE COCO-NUT.

A plant of this wonderful Palm may now be seen in the tank of the Victoria house at Kew. It took two years to germinate, and the first leaf was about a yard in diameter. There are two or three plants in the establishment, and one of them was placed in the Victoria house on the 1st inst., so that the public have now a chance of seeing a plant that has never before been publicly exhibited in Europe. Botanically it is Lodoicea seychellarum, and was known for many years under the appellation of Coco-de-Mer, a name given to it when the tree was only known from the fruits picked out of the sea and before its habitats were known. The fruits were believed to be the produce of some plant in the sea, but it has now been established for some years that the native home of the Palm is three of the Seychelle islands which lie to the north of Madagascar. The Double Coco-nut has also been germinated at the Jardin des Plants, Paris, but the plants are not so far advanced as that exposed to the public at Kew. The nuts are large enough to hold six or eight pints of water, and are still attached to the growing plants.

AZALEA MOLLIS.

The grand varieties of Azalea Mollis have entirely superseded the old Ghent varieties as early forcing plants, and they are indeed very beautiful things for early work, partaking largely of the character of Azalea pontica and sinensis, of vigorous habit with large trusses of well-formed rich-coloured flowers. They are now to be seen in extensive use in conservatories and for window decoration, and can be purchased at very moderate prices. Their treatment after blooming is sometimes uncertain. Occasionally after flowering they are turned out of doors to take their chance, and with such treatment they are of very little use for the following year, but if cut back and grown on in a vinery or intermediate house where they can be kept growing freely and are looked after, they very soon make good growth, and with hardening off set their blooms freely for the following winter's use When planted out, they are superb objects in the borders or beds, and do well where hardy Azaleas and Rhododendrons thrive. They are invaluable also for cutting and last well, and are bright and beautiful amongst other cut flowers.—*W. D.*

CARNATION NOTES.

The seedlings raised from the sowing made twelve months ago, and which have been wintered under glass, are now throwing up their flower stems freely, and some sown in October from seed saved last summer, and kept also on a shelf near the glass in store pots, having been pricked off in the autumn and potted in the early part of last month, are now feeling the influence of the life-invigorating warmth of the sun's rays and making a vigorous and sturdy growth. These seedlings are singularly interesting, inasmuch as the plants vary considerably in habit of growth and in the colour of the grass-like foliage, some being especially dissimilar to the parent from which they originated, one of a batch saved from Mrs. Sanders and of the most lively deep green that I have ever seen.

I have a plant from seed sown with the first batch which to me possesses great interest, as it has two very distinct growths from one stem, one being of a greyish hue and the other deep green, the characteristics of Germania and Mrs. Sanders respectively. Both are equally robust in growth, and are together starting their flowering stems. What the issue will be remains to be seen, but the "freak of nature" is the most distinct that has come under my notice during a long experience.

The Carnation is now in common with many other plants drafted into the ranks for general cultivation, and with our means and appliances and extended knowledge the merest tyro can drill them into proper form and deportment.—*Man of Kent.*

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.

ALL potting that can possibly be done should be completed this month; the exceptions are amongst others, Cattleya gigas, C. Mendell, etc., which are pushing up spikes, and the repotting of which will be deferred until they pass out of bloom. The occupants of the warmest house that require fresh material, if not already done, should be seen to at once. Sphagnum moss is the chief thing used for Aerides, Angræcums, Vandas, Saccolabiums and Phalænopsis. The moss should be washed and allowed to get moderately dry before using it for these plants. Pay careful attention to the shading of this house, as Phalænopsis do not like the direct rays of the sun to shine on them. A good plan is to so arrange them that they might be shaded by temporarily fixing up a curtain inside the house early in the morning, before the other things growing in the same house require shading by means of the blinds fixed outside. The same may be done in the afternoon when the blinds are rolled up. Syringe morning and afternoon between the pots and on very bright days a damp down at mid-day may be required.

ODONTOGLOSSUM CITROSMUM is now pushing spikes, and as slugs are very fond of these a sharp look out must be kept, or a season's work will be lost. We lost some of ours, the culprit being the little shell snail. The spikes as they advance should be tied neatly to stakes; we tie ours up as far as the bottom bloom, allowing the part carrying the flowers to arch over the foliage. If done early the blooms will come all right, but if left till they are nearly expanded they have no time to right themselves, and are consequently upside down. I am always anxious after growing a plant well to show it in the best possible form, hence the above hint.

CYMBIDIUM LOWI as it goes out of bloom should be repotted, using good peat loam and sphagnum moss in equal parts to which may be added bits of broken potsherds and silver sand. This is truly a splendid Orchid, lasting well and of easy culture. The only thing against it is that it makes a specimen too quickly for amateurs that have not much room; still they can always be exchanged for smaller plants. We grow ours in the Cattleya house. It is a moisture-loving plant, therefore, after they have got well hold of the new compost, they must have liberal supplies of water.

DENDROBIUM WARDIANUM.—As the plants of these go out of flower they should be seen to, Sphagnum moss, peat, and a little sand will grow these well; the chief thing is to place them where they can have plenty of heat and moisture when making their growth. This applies to nearly all Dendrobiums. I have grown Wardianum well in the Cattleya house by placing them in the warmest corner, and keeping plenty of moisture about them. Vanda Kimballiana also does well with us in this house; it seems to enjoy a light airy position.

COOL HOUSE.—Cattleya Citrina does well with us grown at the warmest end of the cool house. We have about fifty plants showing flower, several of which are twin-flowered; they are all grown on blocks of charred deal, to which they root splendidly. No moss or anything else is used, but they receive manure water about twice a week. It is said they will not do for any length of time, but we have one plant that is ten years old. Of course, grown on bare boards like this they require watering every day from now onwards.

TEMPERATURE.—East India house, 65° with a rise of 10° to 13° by sun heat. Cattleya house, 60° at night, 75° by day with sun heat. Cool house, 50° at night, with a rise of 10° with the sun shining, keeping plenty of moisture about the houses, and giving plenty of air through the bottom ventilators, unless there be cold east winds.—*C.*

Odontoglossum crispum var.

A FINE variety of O. crispum has reached us from Mr. D. Wilson, Westmount, Kelvinside, Glasgow. The sepals were lanceolate, white, and heavily blotched with dull purple. The petals were slightly broader, suddenly narrowed towards the base, slightly toothed on the edge, and furnished with smaller and more numerous blotches than in the case of the sepals. The blotches however are inclined to run together in masses forming large ones. The lip had a large blotch in front of the crest and numerous small ones around the latter. There are now very numerous, and some very fine blotched varieties of O. crispum, and we should have ranked that under notice as one of the finest, if the sepals and petals had been broader. As it is the markings are both numerous and fine, so that a well-grown plant with a good spike or two of bloom would be a handsome object.

Lælia Cattleya Pallas.

THE parentage of this fine bigeneric hybrid was Lælia crispa crossed with Cattleya Dowiana. The pseudo-bulbs are fusiform and quite moderate in size. The sepals are blush coloured, as are the petals, which are several times broader, folded longitudinally as we see in Lælia crispa, and beautifully undulated and crisped at the margin. The lip is the boldest and most conspicuous organ of the flower, with a rich purple lamina fading to lilac at the much crisped and undulated margin. The throat is coloured with a mixture of purple and yellow, and this, as well as the conformation of the lip, point to Cattleya aurea, while the revolute petals afford evidence of the influence of Lælia crispa. The hybrid is therefore both distinct and beautiful, and may be seen in the Cattleya house of Messrs. J. Veitch & Son, Chelsea.

Cattleya Trianæ Schroderæ.

TAKING all the individual plants to be found under the above name, the variety may be reckoned a very variable one. The sepals and petals are usually of a blush hue, but sometimes they are of a beautiful shade of rose. The large and strongly crisped or undulated lip is generally of a soft or pale purple, but occasionally it varies to rose as in the case of the sepals and petals. More constant perhaps is the large orange blotch in the throat of the lip and which is always bold and well defined. A few plants of this in a collection of early flowering Cattleyas would add much to the interest of a collection. There are numerous specimens of it in the Cattleya house of Messrs. J. Veitch & Sons, Chelsea.

Dendrobium Crassinodi-Wardianum.

THIS is believed to be a natural hybrid between the two species indicated in the name. The stems are more distinctly thickened at the nodes than those of D. Wardianum, but not so much as in the case of the other species, and they are more slender. The flowers conform in size to those of D. crassinode, or nearly so, and the white sepals and petals are tipped with purple similarly to those of the latter. The lip is blunter than that of D. Wardianum and has a maroon-crimson blotch on each side of the base, and which is much smaller than those occurring in D. Wardianum. Specimens of this supposed natural hybrid frequently turn up in importations of D. Wardianum, and we noted some of them recently in the collection of Messrs. Hugh Low & Co., Clapton, who import both of the parent species in large numbers.

Dendrobium amethystoglossum.

THE stems of this species are fusiform, about 18 in. long, and flower in the second year, that is after the leaves have dropped. The latter are oblong and of a deep rich green. The flowers are produced in lateral, short, horizontal or slightly drooping racemes, and although not large individually yet they become more conspicuous in the aggregate. The sepals are lanceolate and white or tinted with pink, and the lateral ones are drawn out into a long, swollen, blunt spur. The petals are similar in shape and colour but smaller. The lip is oblong, erect, and concave or somewhat boat-shaped, blunt and white with a broad purple band extending from the apex down the centre. Several racemes are produced from each stem. A good sized plant in bloom was exhibited by Messrs. Hugh Low & Co., Clapton, at the Drill-Hall on the 8th ult., when a Botanical Certificate was awarded it.

Sobralia violacea.

THIS beautiful Sobralia was originally described by Lindley in 1846, and even then two varieties were recognised, one with pale violet and another with white flowers having a yellow crest. They were stated to be abundant in the high regions of the province of Merida. Another collector met with it in the mountains of Maracaybo, and stated that the flowers were fragrant and of various colours such as white, crimson, and purple. Neither of the forms have ever become common in this country There is a figure of the type in the March number of *Lindenia*, *Pl.* 320. The oblong petals are revolute at the tips and represented as of a warm violet hue. The petals are about three times as broad, and lightly suffused with purple or pale violet on a white ground. The lamina of the lip is somewhat darker than the latter and has dark markings towards the margin, while there is a large orange scarlet blotch in the throat merging into yellow round its periphery. The spathe gives rise to numerous flowers in succession, as is usual with the Sobralias. The oval, elongated and pointed leaves are ribbed and of a rich dark green. The flowers appear to equal those of S. xantholeuca in size.

Odontoglossum sp.

UNDER the above name a plant was exhibited at the Drill Hall, on the 22nd ult., by R. J. Measures, Esq. (gardener Mr. H. Simkins), Cambridge Lodge, Camberwell, when an Award of Merit was accorded it. The pseudo-bulbs were ovoid, two-edged, and pale green. The leaves were lanceolate, channelled, and moderate in size. The flowers are produced on the young growths. The flowers in general appearance resemble those of Burlingtonia decora, but are twice as large. The sepals are lanceolate, channelled, and white with a purple blotch at the base; the petals on the contrary are flat but otherwise similar. The lip is by far the largest organ of the flower, and is roundly triangular, emarginate, white, and furnished all over with purple spots as in Burlingtonia decora picta. On the whole it may be described as compact in habit and pretty.

Stauropsis Warocqueana.

THERE are something like seven species of Stauropis known to science, five of which are now or have been in cultivation. That under notice differs from its congeners in the denser panicle of smaller flowers and in some minor particulars. The leaves are ligulate, obliquely bifid at the apex, and similar to those of Vanda to which the genus is allied. The stem also gives off aerial roots to some extent. The inflorescence consists of branching racemes of densely arranged flowers that are not devoid of ornamental value, judging from the illustration in the *Lindenia*, *Pl.* 219. The flowers are buff yellow closely marked with small reddish-brown spots that are more evidently of a purple hue towards the base of the obovate, spreading sepals and petals. The three-lobed lip is white with a few rosy spots on each of the lobes, the middle one of which is infolded at the sides. It was introduced by the Messrs. Linden, Parc Leopold, Brussels, from New Guinea, and evidently requires a stove temperature like Vandas, Aërides, and Saccolabiums.

Lycaste gigantea.

THE great size and the peculiar colours of the flowers of this Orchid give it more than ordinary interest in a collection. They are by no means showy, but bold, well defined, and telling. The ascending sepals and petals are pale green, more or less suffused with fuscous brown on the inner face, particularly the sepals, of great substance, and 3 in. to 4 in. long. The three-lobed lip has small, rounded, erect side lobes, a broad, blunt, grooved tongue, and a large ovate, blunt, serrated lamina. The latter is said to be sometimes of a deep purple with a rich orange margin, but a specimen now flowering in the nursery of Messrs. J. Veitch & Sons, Chelsea, has the whole of the lip of a peculiar deep, rusty red. The species comes from central America, and in this country flowers at various times during the spring and summer months.

Angræcum fastuosum.

THE beautiful pure white flowers of this dwarf and compact-habited species are deliciously scented. The leaves are oblong-oval and unequally emarginate at the apex as in A. bilobum and several others, but only a few inches in length. The sepals and petals are lanceolate, while the lip is obovate with a slightly elevated ridge along the centre. The spur is 3 in. to 4 in. long, but is scarcely so pure white as the other parts of the flower. The species is a native of Madagascar, and requires warm treatment, as most things do which come from that warm country. Owing to its small size it is useful for basket culture so that it may be suspended near the glass and on a level with the eye. Large numbers of plants of this size can be accommodated even in a small house. We noted a piece of it in the nursery of Messrs. J. Veitch & Sons, at Chelsea.

WHAT TO DO IN THE GARDEN.

Winter Flowering Plants.—A number of these may now be propagated so as to get them well advanced and the wood well ripened before the advent of the dull days of next autumn and winter. Some of those that may now receive attention are Centropogon Lucyanus, Plumbago rosea, Thyrsacanthus rutilans, Euphorbia fulgens (jacquiniæflora), Hebeclinium ianthinum, Eupatorium odoratum, and various species of Salvia. Bouvardias should be pinched to make them bushy and the young plants potted on as the pots get filled with roots.

Fire Heat.—Damp down the fires early in the day when there is a promise of bright sunshine so as to take advantage of the latter and economise fuel. Fire heat also serves to dry up the atmospheric moisture and to encourage insect pests. The syringe should be kept going to keep the latter in check, and make a more congenial atmosphere for the plants.

Show and Fancy Pelargoniums.—Keep the plants as near the glass as possible, to prevent the shoots getting drawn, and tie out the latter neatly to stakes as they grow to prevent overcrowding. A watchful eye should be kept on the first appearance of green-fly upon the buds and which would speedily injure the plants. A little tobacco powder would destroy the pest in its early stages, but if present in large numbers, fumigation on a still night must be resorted to.

Camellias.—Plants in pots and which have done flowering should be put into a warm house to start them into vigorous growth. A newly started vinery or Peach house would answer the purpose admirably. The shade afforded by the Vines or Peaches will be amply sufficient; but syringing may be given to advantage at the same time as it is given to the other occupants of the house.

Vineries.—As the grapes in the earliest house commence to colour, the atmosphere should be kept drier, but the roots on the contrary should not be allowed to suffer. A good watering at this time with tepid water would carry them through the ripening period without any more, provided they are planted out in a border. A night temperature of 65° to 70° will be quite sufficient. Pot vines will, however, require a plentiful supply of water at the roots. The vines in late houses will now require disbudding, leaving the strongest shoots and the best placed. Those left should be stopped at the second, third or fourth leaf beyond the bunch, according to the amount of space at command for exposing the foliage to light when fully developed.

Hardy Fernery.—Before the young fronds get too far advanced, the hardy fernery should receive a regular overhauling. All the withered fronds which were left to protect the plants, should now be cleared away. The fronds of evergreen kinds still in a healthy condition ought to be left at least till the young ones are pretty well developed. Those in a partly withered condition may be removed for the sake of appearance; but it cannot be too well known that to remove fronds in a green state, means the deprivation of so much energy that would be thrown into those about to be developed. A top-dressing of loam, leaf soil, and peat in mixture, should be applied after the ground has been thoroughly cleaned.

Asparagus.—If not previously done, the soil intended to be planted with Asparagus should be trenched at once. A better plan would have been to do this in the autumn or winter, so as to allow the soil to settle before being planted. The latter operation may be performed when the young shoots are appearing through the soil. In taking out a trench or furrow for the plants, let it be wide enough to receive the roots when spread out horizontally. Cover immediately to prevent the roots getting dried up by exposure to the atmosphere, and after covering them with soil, tread it firm and give a watering to settle it.

Vegetable Seeds.—If not already done lose no time in making a sowing of Cabbages, also Savoys and Brussels Sprouts for early use. Dwarf and tall Curled Greens and Cottager's Kale should also be sown, as they attain greater size and give a greater amount of produce than when the sowing is made later. A sowing of Beet may be made about the middle of the month, and another towards the end of the month for a succession, and to avoid getting them too large. A sowing of Ne Plus Ultra Canadian Wonder and Syon House Dwarf Beans may be made in a warm border.

QUESTIONS AND ANSWERS.

**** Correspondents are requested, in order to avoid delay, to address all communications to "THE EDITOR" or "THE PUBLISHER," and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa London."*

NAMES OF PLANTS.—*J. R. B.*: 1, Cypripedium barbatum, a good variety; 2, Cypripedium barbatum, a bad variety; 3, Pteris cretica Mayi; 4, Sempervivum arboreum apparently from the specimen sent; 5, Echeveria secunda glauca; 6, Sempervivum montanum.

POPULAR NAMES, &c.—*Flos*: Being a native of Britain Helleborus viridis is interesting, but it cannot be said to be very ornamental, nor of great utility; it is a very poisonous plant for cattle. The Hellebores are known as Christmas Roses or Lenten Roses, according to the species; Veratrum is the False Hellebore; Atropa is the Belladonna; and Hyoscyamus is Henbane. Most of the species of Helleborus are ornamental. The powdered root of Veratrum is used to destroy caterpillars. Belladonna is poisonous also, but is used in medicine; so also is Hyoscyamus, which has yellow, funnel-shaped flowers, lined with purple veins. Rhododendrons, Arum Dracunculus, and Foxgloves are all frequently grown in gardens, especially the first and last named. Poa annua is the annual Meadow Grass; Stellaria media is the common Chickweed; both are only too common in gardens and everywhere in cultivated ground. Pliny's Natural History would not be of much service to you in botanical studies; like all other old books it is chiefly useful to the student of early history. The French writer you mention evidently referred to the stems and flowers of the Saxifrage as being waved about by the wind.

MYOSOTIS DISSITIFLORA.—*A. L., F.*: This Forget-me-not may be propagated by division of the old plants after they have done flowering. Seeds may also be sown, but they are not so freely produced as in the case of several other species grown in gardens. In moist ground young shoots are very freely produced, and root in the ground so that those may be utilised in making fresh beds or patches. Established plants are most readily obtained in this way, and will answer your purpose quite well without going to any further trouble in the matter.

VIOLAS IN BLOOM.—*J. Smythe*: They are sometimes placed in cold frames to root, but that is altogether unnecessary in rural districts at least. You can do it easily for yourself by making up a bed of soil, or merely improving the natural soil by some well-decayed leaves and sand, in some sheltered place, or in a narrow border in front of a wall. This may be done some time in September. Young shoots root best, and if suckers are pulled up from the base of the old plant they will prove much more satisfactory than branches taken from the upper portions of the stem. After making the prepared soil firm, dibble in the cuttings about 3 in. apart, making the soil quite firm about them. Shade for a few days if the weather be bright, after which they will take care of themselves. In a sunny position they start into growth early, and produce much finer blooms than would old plants broken up.

DRIVING BEES.—*McCallum*: You may change the hives at once, and it is best done during the middle of a fine day when the bees are active. It is a tedious and difficult operation if the bees are stupid or half dormant with cold. Before commencing have an empty hive to place on the stand to amuse the bees that come home during the operation. Then send a few puffs of smoke into the hive and at the same time give it two or three smart taps to alarm the bees and cause them to gorge themselves with honey, after which you may proceed. Should the weather afterwards be unfavourable for collecting honey you will have to feed the bees occasionally. The secretary of the Royal Caledonian Horticultural Society is Mr. William Young, Waverley Market, Edinburgh. There is no standard size for grape stands. In an ordinary way a stand 16 in. long and 10 in. high at the back will be large enough for two bunches.

TURNIPS FOR EXHIBITION.—*W. B.*: To obtain Turnips of a suitable size for exhibition in August make a sowing about the beginning of June, and to make sure of hitting the exact date, sow another lot about a fortnight afterwards. So much depends on the nature of the season that one cannot be sure that a sowing of a certain date will give what is required. The amount of rain and sunshine varies in different seasons so that one often finds it expedient to make a sowing at two different times. Snowball and Golden Ball are the most suitable kinds for the purpose, and you may choose either according to the taste or fashion which prevails for the one or the other in your locality.

INDIA RUBBER PLANT IN WINDOW.—*Jas. Curle*: Spring is the best time to transfer your plant into a larger pot, as it will then get established and fill the fresh soil with roots during the course of summer, and thus be better able to stand through the winter with you. Good loam with a little peat and sand to keep it porous will prove a suitable compost. Press it rather firmly round the sides of the pot. The latter need not be much larger than the one it is in, because it will keep all the better with you during winter, and but a small body of soil is necessary to keep it growing for some years. Do not overwater after potting until the plant commences to grow.

COMMUNICATIONS RECEIVED.—H. E. M.—T. M.—G. F.—A. S. G.—Scipio.—D. D.—G. O. F.—R. W.—W. M.

TRADE CATALOGUES RECEIVED.

JOHN LAING & SONS, Forest Hill, London, S.E.—Special List of new and rare Clivias.

CHARLES TURNER, Slough.—Spring Catalogue of Plants.

COVENT GARDEN MARKET.

April 6th.

FRUIT.—AVERAGE WHOLESALE PRICES

	s. d	s. d.		s. d.	s.a.
Apples... per ½ sieve	1 0	5 0	Strawberries per lb.	2 0	4 0
Canadian and Nova Scotian Apples per barrel	12 0	25 0	Grapes .....per lb.	2 0	4 0
			Pine apples. —St. Michael's, eacb	2 6	6 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d
ArtichokesGlobe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Asparagus, Eng.bun.	10 0	13 0	Lettuces ...per dozen	1 6	2 0
Beans, French, perlb.	2 0	3 6	Mushrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per buncb	0 6		Radisbes... per dozen	1 6	
Cauliflowers, Eng.dz.	3 0	6 0	Smallsalading,punnet	0 4	
Celery.....per bundle	2 6		Seakale ...per basket	2 0	3 0
Cucumbers .....each	0 6	1 0	Spinach, per strike ...	1 6	
Endive. French, doz.	2 6	3 0	Tomatos..... per lb.	1 0	2 0
Herbs .....per bunch	0 2	0 6	Turnips ..... per bun.	0 6	

POTATOES.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Acacia var..per doz.	12 0	18 0	Foliage Plants, doz.	12 0	60 0
Azalea .....per doz.	18 0	42 0	Genista .....per doz.	8 0	10 0
—Mollis.....per doz.	24 0	36 0	Hyacinths,...per doz.	6 0	9 0
Cyperus .....per doz.	4 0	12 0	Lily of the Valley, doz. pots	12 0	18 0
Cineraria ...per doz.	6 0	10 0	Marguerites, per doz.	9 0	12 0
Daffodils ...per doz.	9 0	12 0	Palms in variety,each	2 6	10 6
Deutzia...per doz ...	6 0	9 0	Palms, Specimen ...	15 0	63 0
Dracæna term., doz.	24 0	36 0	Primula Sinensis per doz.	4 0	6 0
Dracæna viridis,doz.	9 0	18 0	—scarlet .....per doz.	4 0	6 0
Erica Willmoriana per doz...	12 0	18 0	Spiræas.....per doz.	8 0	12 0
— various, per doz.	9 0	24 0	Tulips.....per doz.	6 0	9 0
Evergreens,invar.doz	6 0	24 0			
Ferns, invar.,per doz.	4 0	18 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Acacia or Mimosa French per bunch	1 6	2 0	Narciss, var., Scilly, doz. bunches.	2 0	4 0
Anemone various, French, doz. bun.	2 0	4 0	Narciss, French, paper wbite, doz. bs	3 0	4 0
Arum Lilies, 12 blms.	2 0	4 0	Pelargoniums, 12 sps.	1 0	1 6
Bouvardias, per bun.	0 6	1 0	— scarlet.....12 bchs.	4 0	6 0
Carnations. 12 blooms	2 0	3 0	Primroses, doz. bchs.	0 6	1 0
Daffodils, double, doz. bunches	2 0	4 0	Primula, double, bun.	0 9	1 0
—Single, doz. bchs.	2 6	6 0	Primula single, doz. sprays	0 4	0 6
Eucharis ...per doz.	3 0	6 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Freezia .....doz. bun.	2 0	4 0	Roses, yellow, dozen	2 0	6 0
Gardenias 12 blooms	3 0	6 0	— Red..... doz. blms.	2 6	6 0
Heliotropes,12 sprays	0 6	1 0	— Saffrano...per doz.	2 0	3 0
Hyacinths, 12 sprays	3 0	4 0	— Tea ..... per dozen	1 0	3 0
Jonquils, doz. bnches	1 0	2 0	Spiræas...doz. bnchs	6 0	8 0
Lilac, French, per bunch	4 6	6 0	Snowdrops, doz. bn.	1 0	2 0
Lilium Harrisii, doz. blooms	4 0	6 0	Tuberoses, per doz	1 0	2 0
Liliumsvar.,doz.blms.	1 6	3 0	Violets, Parme, Frncb per buncb	2 0	3 0
Lily of tbe Valley, doz. bunches	6 0	10 0	— Czar, French bcb.	1 6	2 0
Maidenhair Fern,12bs.	6 0	10 0	— Dark, French, doz. buncbes	1 6	2 0
Marguerites, 12 bun.	2 0	4 0	—English, doz. bcbs.	1 0	1 6
Mignonette... 12 bun.	1 6	3 0	Wallflowers, French, doz. bunches	1 6	3 0

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From THOS. KIDNER, Esq, Montserrat Road.
"The Lawn Grass Seed you sent for a rood of ground has done remarkably well. It was sown on the 14th June, and mown for the first time on the 18th July. I hope to be able to use it for Croquet before the season ends."

WEBBS', WORDSLEY, STOURBRIDGE.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, April 19.—National Auricula Society's Show at the Drill Hall, Westminster.

WEDNESDAY, April 20.—Sale of Greenhouse Plants, &c., at Protheroe & Morris' Rooms.

FRIDAY, April 22.—Sale of Orchids, at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, APRIL 16th, 1892.

THE FRUIT TREE BLOOM.—If anticipation runs high just now with respect to the season's fruit crop, it seems to be fully justified by the present appearance of the trees, for they are literally laden with bloom buds and very soon will be as literally masses of bloom. Were there no bloom buds we should know at once the worst for the season. It is indeed a saddening sight for any grower who looks abroad at this season of the year and notes that the trees are barren of promise. It is true the worst is known soon, but it is a painful worst and none the less so because so long apparent.

Whilst this year it would seem as if with such promise of bloom nothing could rob us of a fruit crop, nothing can hardly rob us of a glorious bloom, and that is something. Still we may not be too sure that a full bloom means all that it indicates, as we have found in some preceding years when the luxuriant blossom has largely fallen and left the trees barren. We hope, indeed look for better things now for the trees are in the best of health, and so far the season has left little to be found fault with. Generally ornamental trees promise to bloom freely, indeed the almost universally grown Almond has this season been almost gorgeous in its profuseness of flowers, and the hardy Pyrus japonica, the Forsythias, Ribes, and other early blooming shrubs are singularly beautiful.

The recent warm fine weather did wonders not only in expanding tree and shrub bloom but also in permitting it to display all its beauties in the richest hues and purest of tints. So far the season has had a good beginning, may it have as good an ending. Last year gave us a heavy fruit crop in spite of a miserable, cold, wet summer. We shall not be surprised to find a very fruitful and a very fine season allied in the present year of grace.

HARDY PRIMROSES.—It is at once amusing and odd that the National Auricula Society's show in London, when hardy coloured Primroses are usually seen in pots and pans in such beautiful and varied form, should fall upon what is now politically known as Primrose Day. Comparatively few of the devotees of the common or wild Primrose have we fear little knowledge of the beautiful and varied section that are equally hardy and which bloom at the same time in gardens so luxuriantly.

There is sometimes a disposition to jumble up Primroses with Polyanthuses and call them all by the former title. This is rather exasperating, because those who understand them have full knowledge that they are distinctly disimilar. The Primrose doubtlessly because its flowers are produced singly on stems always blooms a few weeks in advance of the Polyanthus, the flowers of which, as its name implies, are borne in clusters on single stems and naturally take longer to develop or open. The wild Primrose as a rule has no Polyanth congener other than the Cowslip, but these are so dissimilar that no one will confound them. With the various and beautifully coloured garden strains there is much similarity in the flowers, both as regards size and colour, hence the frequent misapprehension as to identity. Both are so beautiful as to merit universal cultivation. The varieties seen just now on barrows in the streets and in shops are poor apologies for the real thing as seen in the best strains.

It will be a long time probably ere these fine forms become widely known, but they have only to be seen to be fully appreciated. We shall hope to see some fine examples of these flowers again this season. Happily they seed freely, are very easily raised, and will grow well in any ordinary garden soil which is fairly deep and cool. Seed should be sown at once to give strong plants for next spring blooming.

FERNS AND BEGONIAS.—We regret to note that of the several prizes offered in classes in the schedule of the Fern and Begonia Exhibition and Conference to take place at Chiswick on the 23rd and 24th of August next, none should be open to competition by members of the trade. Doubtless it is assumed that the trade are certain to exhibit. That may be so, but the trade all the same has to live and pay expenses, whilst amateurs, to whom all the classes only are open, are not so dependent.

The trade from time to time shows so liberally at the society's meetings, and in that way do so much to maintain them in interest and in excellence, that it would have been but a proper compliment to give trade growers just a "look in" in some of these classes. As at present arranged if trade growers exhibit they must look to the gardening press for their reward, not to the society which profits so much by their help. So far as the Ferns are concerned there is some fear that so far as some of the classes are concerned they have been so conceived that few growers will be in a position to compete at all, as the requirements of varieties are exceedingly restricted. Hence the Fern show may degenerate into one of fanciers or faddists, and hardly be of material interest to the general public. So far as the Begonias are concerned, so beautiful are all the flowering varieties that they will assuredly attract ample attention.

It would much enhance the beauty of the show could the Ferns and Begonias be somewhat intermixed. If set up in different tents we shall see ten persons admiring the latter to one Fern worshipper. What a few trade growers of Begonias can do in the direction of making a display we have seen at the Temple shows, but even these displays fall short a long way of what these growers present at home. Some good prizes might have encouraged them to have sent to the show in due season really representative collections of all sections of the Begonia.

Horticultural Classes.—An admirable suggestion has been made that with a view to assist during the summer the further development of horticultural taste and information which the County Councils have striven to impart in the form of lectures during the winter, the various classes should have opportunities offered during the summer and autumn to visit good gardens, nurseries, etc., where they might have ocular demonstration afforded as to the theoretical worth of the instruction imparted during the winter. That opportunities would be, if offered, seized upon with avidity there can be no doubt, especially if the County Councils will furnish competent guides.

Professional gardeners as a class are always most eager to visit places which have, horticulturally, good reputations, and it is very certain that less practical learners would be as anxious to avail themselves of the same privilege. It has also been suggested that much that is helpful might be done during the summer by sending competent judges and instructors to visit allotment and cottage garden areas, and whilst making to these some small awards, at the same time pointing to a gathering of the workers the merits and demerits of their practice as shown in the cropping and general cultivation displayed.

It would be a pity were the work so admirably begun to be entirely suspended during the summer. The season for the expounding of theory is now over, and that for the display of practice is at hand. In a few months the practice will bear fruit according to its merits, and then is the time to correct or approve the results.

National Chrysanthemum Society.—We are requested to state that Sir Edwin Saunders, Fairlawn, Wimbledon, has accepted the position of president of the society for the present year.

Mr. William Fernie has been engaged as gardener to Viscount Stratballan, Strathallan Castle, Perthshire, N.B.

Mr. David Baxter, lately gardener at Tollcross House, Glasgow, has been engaged as gardener and estate manager to Lord Cardross, Shortgrove, Essex.

Utricularia Humboldtii.—This rare and lovely bluish purple bladder-wort is now flowering for the first time in this country in Baron Schroder's garden at The Dell, Egham. Some flowers were shown at the Floral Committee on Tuesday, and a First-class Certificate was unanimously awarded to it.

The Beckenham (Kent) Horticultural Society has lately been re-organized, and under the new management the summer show will be held on July 27th.

Trowbridge Chrysanthemum Society.—The leading nurserymen and gardeners of the Trowbridge district have combined together to establish an annual exhibition of chrysanthemums and fruit.

Fluctuations of Temperature. — Mr. Dodwell, writing from Oxford on Tuesday, states that in his cold houses on Monday at 7 a.m., the thermometer registered 35°, and at 1 p.m. 81°; on Tuesday at 7 a.m. the temperature was again 35°, but at 1 o'clock it had only risen to 44°. We fear this experience was general.

The Hyacinths at Haarlem are reported to be in fine bloom just now, and will be at their best during the Easter Holidays. The public sales will begin on April 19th, and will go on every day till the beginning of May. The show beds of Hyacinths and Tulips at Messrs. Krelage's Nursery will be opened to public inspection on Easter Sunday, and will probably be on view to the middle of May.

United Horticultural Benefit and Provident Society.—The usual quarterly meeting of this society was held at the Caledonian Hotel, on Monday evening last, Mr. G. W. Cummins in the chair. Ten new members were added to the roll; and cheques were drawn in favour of the nominees of two deceased members, viz., Mr. Benjamin Coombe, who died at Victoria, Texas, and Mr. William Rosier, late of Putney. The secretary reported that the sick list had been a very heavy one during the first two months of the quarter, but at that time there was no one on the funds.

Lord Aberdeen's Fruit Ranching Enterprise.—Mr. Conkling, who has taken charge of Lord Aberdeen's fruit-growing venture in the Okanagan Valley, British Columbia, has recently visited Victoria to obtain information regarding Hop culture, for which purpose fifty acres will this spring be broken up on the Aberdeen estate. He says that the fruit throughout the Okanagan district is magnificent, and he sees no reason why the three hundred acres with which his lordship has started as an experiment should not prove a lucrative investment. The trees, including varieties of all the small fruits, have been ordered from Toronto, and are all between two and three years old. One hundred and fifty acres are to be planted at the Mission, and at the same area at Vernon. A fruit cannery will be built at the Mission this year.

Moseley Rose Show.—The Botanical Gardens and College grounds, some twenty acres in extent, at Moseley, near Birmingham, have been purchased by a gentleman with a view to opening them as a place of public resort, where concerts, fêtes, flower shows, &c., will be held at intervals with vocal and instrumental music daily. The horticultural exhibitions will be under the management of Mr. W. Dean, and a schedule of prizes for a Rose show to take place on July 19th and 20th, has just been issued. There are some fourteen classes for Roses, eight of them being open, and for the seventy-two dissimilar, £25 are offered in four prizes. Two others are limited to amateurs residing within six miles of the Birmingham Post Office; and three for Bouquets are open to ladies only.

The Howick House Sale of Orchids.—We understand that the late Mr. E. G. Wrigley's collection sold by Messrs. Protheroe & Morris last week realised about £3,000. The highest price realised for a single specimen was 100 guineas, given by Mr. George Hardy for the hybrid Lælia callistoglossa. Mr. Hardy among other purchases also secured another hybrid—Lælia bella for 85 guineas, and a Cattleya mossiæ alba for 40 guineas. Other notable prices were Cattleya Schroderæ alba, 38 guineas; Odontoglossum crispum Wrigleyanum, 36 guineas; Phalænopsis Schilleriana vestalis, 30 guineas: Cattleya Massaiana, 95 guineas, and 45 guineas; Cattleya Wagneri, 35 guineas; Lælia anceps Amesiana 21 guineas; Cattleya Reineckiana, 45 guineas; Lælia grandis tenebrosus, 16 guineas; Dendrobium nobile Cooksoni, 10 guineas, &c.

A Cold March. — With the exception of the unusually inclement March of 1883, last month was the coldest March we have had for at least 20 years past. In some parts of our eastern and midland counties it was, in fact, the coldest of the whole 20, and had it not been for the transient bursts of warmth experienced in many places towards the close of the month, there can be no doubt that this remark would have applied to the whole of England and Ireland. In the London district there were just as many cold days last month as there were nine years ago, but in 1883 there was only one day on which the thermometer reached 55°, while in the period which has just elapsed there were five days with a maximum temperature at or above that level, and two days with a maximum reaching or exceeding 60°. The number of frosty nights last month was also rather less than in 1883, the actual numbers being respectively 18 and 20. The ungenial weather of last month was due, as in 1883, to an abnormal prevalence of winds from the northward or eastward. In London no less than 68 per cent. of our winds came last month from points lying between north-west and east, the average prevalence of such winds in March being only 40 per cent.—*Daily News.*

Sevenoaks Gardeners and Amateurs' Mutual Improvement Society.—The quarterly meeting of this society took place on Tuesday, April 5th, the chair being taken by Mr. J. Westcott, who was supported by between thirty and forty members. There were some splendid exhibits placed on the table. Mr. Farmer contributed three exceedingly well grown Cinerarias, which for size of bloom and good foliage it would be hard to match—a First-class Certificate was awarded. Mr. Hilton showed two well grown and beautifully flowered Cyclamen, which received an Award of Merit; as did Mr. Westcott for a box of Tea Roses. The secretary, in submiting the quarterly report, stated that nine new members had been elected, making the number on the books about sixty. The secretary was requested to invite the Tonbridge Society to join them on Tuesday, April 19th, when Mr. J. Hughes, Edenburst Gardens, will will read a paper on Hardy Fruit Culture. The business of the society having been disposed of somewhat earlier than usual, Mr. Searing read a paper on the Azalea, which was followed by a discussion, in which Messrs. Hoadley, Fox, Westcott, Buckland, Hughes, and Cook took part.

A National Emblem for America.—The national flower craze in the U.S.A. has broken out in a new form. A "Star Pansy Union" is being formed, having for its purpose the gaining of recognition for the Pansy as a national flower, and proposing to secure "a more graceful, elastic, and emblematic union for the United States flag," by placing the cluster of stars representing the states in the form of petals in a conventionalized Pansy. For the head of the staff an Acorn is to be used—"the emblem of greatness in littleness, of strength in weakness, of life in death." An attempt will be made to secure the adoption by Congress of this design in 1893.—*American Gardening.*

Flowering of the Sugar Cane.—Mr. J. F. Duthie, the well-known botanist, writes to the *Pioneer* from Saharunpore:—"The periodical flowering of certain kinds of Bamboos is an event which attracts the attention of many people in the same way as they are interested in total eclipses, the appearance of comets, and such-like obvious phenonema. Those who are unable to regard the event from a scientific point of view are apt to hold superstitious opinions, especially the Indian cultivator, who, for instance, invariably looks on the periodical flowering of the 'Kattang bans' (Bambusa arundinacea) as directly connected with an approaching famine. This season should be recorded as a memorable one on account of the flowering of the Sugar Cane. I have not yet been able to ascertain to what extent this is taking place in other parts of India; but it is sufficient at present to notice the fact of its flowering freely in the district, after an interval of about twenty years. The particular point to which I wish now to draw attention is the possible opportunity of obtaining ripe seed. It has been supposed, and with reason, that crops like Sugar Cane, which have to be propagated year after year by cuttings, will after a time begin to deteriorate either by reason of the want of fresh blood, or—and perhaps in consequence of this—their liability to various diseases. Hence all who are interested in the future cultivation of Sugar Cane should at once endeavour to have as much seed collected as possible before it is all carried away by the wind."

THE SOUTH DEVON FRUIT FARM.

THE new Devon Fruit Farm is situated at Cockington, near Torquay, in a valley running almost due east and west, and is protected on all sides by tree topped hills, and it seemed to me that it was an ideal spot for a fruit farm. We soon came upon Mr. Luckhurst, who, with Mr. J. N. Whitehead, was superintending the work, and after explaining the nature of my calling, both gentlemen expressed their willingness to be interviewed.

"What are these glass-houses intended for?" I asked, pointing to a row of 10 houses, running north and south down the valley.

"Oh," said Mr. Luckhurst, "three of them are orchard houses, 100 ft. long by 15 ft. wide; three are vineries, 100 ft. by 18 ft., and two are Tomato and two Cucumber houses, both 100 ft. by 12 ft."

"Is not that a new process of putting on the glass?"

"Yes," said Mr. Whitehead, "that is the new lead glazing without putty—a decided advantage over the old system."

"Are you going to put up any more glass houses?"

"Yes," replied Mr. Luckhurst, "there will be one 212 ft. long by 25 ft. wide, running east and west, which will be used for pyramid Peaches and Nectarines, and a lean-to of the same length, but divided into two, will be used for late Vines and Figs."

"What is that plantation?"

"That," said Mr. Whitehead, "is a 4½ acre field, and in it are planted 25,000 different trees and plants, including 10,000 Strawberry plants, and Apples, Pears, Plums, Raspberries, Gooseberries, and Currants."

"Are they to be transplanted, or will they be kept where they are?"

"They are permanently planted," said Mr. Luckhurst, "and we shall have fruit from them in two years. In another place there you will find a thousand Rhubarb plants, 1,700 Asparagus and Seakale, with any amount of Horse Radish and early Vegetables."

"Are you going in for any speciality at all?"

"Yes, we shall have a French Bean house, and intend to go in largely for Mushroom growing, both indoor and out. I hope to have an acre or two of Mushroom beds before long."

"What do you intend to do with this field?" I asked, pointing to a nine acre field at the top of the valley.

"That," said Mr. Whitehead, "will be planted with Apple trees principally, but Strawberries will also be grown there, and we expect to raise a lot of early Strawberries."

"I suppose you will extend your borders later on, if you succeed as you expect to do?"

"Yes," said Mr. Whitehead, "we have the option of purchasing thirty or more acres which surround this spot"

"Will there be any permanent building on the spot?"

"Yes, the manager's house will be built close to the entrance, and there will be a cottage and stable at the rear. If necessary a jam factory will be established on the spot."

"I suppose you will be able to employ a considerable amount of labour during the picking season?"

"Yes, we may look forward confidently, from the scale on which the work is being done, to finding employment for from 100 to 150 women and children in the picking season. This would enable them to make something to lay by for the winter."

"I understand that the project is being started by a syndicate; would there be any objection to their names being published?"

"I should think not," said Mr. Whitehead. "At any rate I will give them to you, and here they are: Mr. R. Mallock, M.P., Mr. J. N. Whitehead, Mr. Wyndham Fitzherbert, Capt. Bainbrigge, Mr. Peyto Shrubb, Admiral Le Hunt Ward, Mr. Lee (Syracusa), Mr. Sandford, Mr. Morris, and Mr. W. Winget."

"Shall you have anything ready this year?"

"Oh yes," said Mr. Luckhurst, "we shall have Tomatos and Cucumbers this year."

"I suppose there will be no difficulty in getting rid of your produce?"

"Not in the least," said Mr. Whitehead. "Our primary object is, of course, to supply the town, and if the tradesmen will come to us in a fair way and buy from us, they will get it cheaper and better than in town, but if they think they are going to combine to hurt us, they will only be combining to cut their own throats."

"We are perfectly independent of them," added Mr. Luckhurst, "because the establishment of a jam factory would stop them at once. Some of them have already asked whether they can buy from here wholesale."

"We are doing it for the sake of Torquay," remarked Mr. Whitehead. "Mr. Mallock is our representative, and represents us all alike. He is interested in this because he knows it will give labour and work to others."

In the course of further conversation I learned that the glass houses were being erected by local firms. The boilers consist of two Rochford boilers, of exactly the same pattern as are being used with so much success at the fruit farm of 600 acres at Lord Sudeley's estate, at Teddington. The boilers are tubular, and can each heat 3,000 ft. of four-inch pipe. There are nearly 6,000 ft. of piping in the ten glass houses, over 22,000 square feet of glass, and over five tons of sheet lead have been used for putting the glass in place. There are nearly thirty tons of ironwork in the houses.

The possibilities which open up through this undertaking are innumerable. Looking down the vista of years one can almost see a large and thriving farm, employing hundreds of hands, large jam factories, prettily laid out tea gardens with all their accessories. Certain it is that the farm has every promise of success—a success which will be none the less deserved because of the enterprising spirit shown by the promoters.—*H. S. L., in the Torquay Times.*

SCOTTISH NOTES.

SCOTTISH HORTICULTURAL ASSOCIATION.—A paper on "The Vineyards of Castle Coch," by Mr. A. Pettigrew, gardener to the Marquis of Bute, at Cardiff Castle, was read at the meeting of the Association held on the 5th inst. The paper dealt with an experiment in Vine growing in the open air at Castle Coch. Before the experiment was made Mr. Pettigrew visited France and inspected the methods adopted in the Vineyards around Paris, in Burgundy and the Champagne country. As a result of the visit and on the advice of French growers, he planted at Castle Coch Vines of the Gommy Noir and Millie Blanch varieties. The Vineyard occupies the face of a gentle slope, with a southern exposure, protected on the north by a plantation, and on the east and west by slight hills. The Vines were planted in rows, from north to south, 3 ft. apart, with the same distance between the plants. They were trained to sticks 4 ft. high, after the manner of Raspberry plants, and pruned each year to within two buds of the previous year's growth. The three or four seasons following the planting were successful, Grapes being got such as those to be found on tables d'hote in France. No attacks from the dreaded Phylloxera were suffered, a fungus easily got rid of being the only troublesome parasite. In 1877, 40 gallons of wine were got. The 1879 crop was a failure. At the end of May the yield promised to be great, but the cold, wet summer prevented the fruit from ripening. Because of the wood failing to ripen in 1879, the 1880 crop was also a failure. But in 1881 a good yield was got, the whole vintage selling for 60s. per dozen bottles. In 1884, 2 hogsheads of wine were got; and the same in 1885, but the 1886 crop was a complete failure. 10 hogsheads of wine were got in 1887; the 1888 crop was a failure; in 1889, 7 hogsheads of wine were got; in 1890, 6 hogsheads, and last year 3 hogsheads. From a pecuniary point of view Mr. Pettigrew was of opinion that the experiment had not been satisfactory, although it had proved that good wine could be got from Vines grown in the open air at favourable places in the country. Samples of the wine got from the Castle Vineyard were given the members, who testified to its good flavour. The discussion which followed showed that members were impressed with the success of the experiment from a climatic point of view, but its costly nature and its questionable pecuniary utility were recognised as being against the adoption of vine growing in the open air in this country.

THE NEW ROCKERY AT CHELSEA.

SOME time ago a house was fitted up with rockwork for the accommodation of Orchids in flower, in the nursery of Messrs. J. Veitch & Sons, Chelsea. Quite recently a larger span-roofed house was fitted up in the same way for the reception of various plants in flower or otherwise. The rockwork consists of Derbyshire tufa, fitted together, and put up in an artistic and interesting way. A large bed occupies the central position of the house, and the sides of this are built of tufa, with bold projecting angles and ledges all round. Both sides and the ends of the house are built in the same way, forming a narrow border all round. The centre of the middle bed is occupied with a few tall plants in pots set in a groundwork of Maidenhair Fern, and enlivened here and there with the highly-coloured foliage of Acalyphas, Dracæna Lindeni, D. Doucetti, and flowering plants, such as Amaryllis, Anthuriums, Clivias, Epiphyllum Gærtneri, Hybrid Greenhouse Rhododendrons, including R. balsamæflorum album, and other subjects.

The side shelves are similarly adorned with smaller plants of various kinds, such as Caladiums, Bertolonias—grown without the aid of bell glasses—and the beautiful-leaved Pavetta borbonica, which ought to be more extensively grown than it is, as well as Gardenias and Begonias. A batch of seedlings of Anthurium Rothschildianum, in small pots, is very interesting as showing how early the plants come into bloom. The large, bright, orange-scarlet flowers of Clivia Madame Van Houtte are borne in huge trusses, and are very showy. Some of the Streptocarpus are already in bloom and have been brought into this house. They are grown in pots, so that they can be moved as they go out of bloom. Other interesting pot plants in bloom are Tillandsia tricolor and T. Zahnii.

The pockets and ledges are variously planted with Ferns, Selaginellas, Saxifraga sarmentosa tricolor, and other interesting fine foliaged plants. The house may be described as an intermediate one, the temperature being sufficiently high to enable various stove plants to be kept here while in bloom. The pot plants can be replaced by others in season whenever desired, while those planted out will form the permanent occupants of the house. Considering that the house was only filled with plants a fortnight ago, it already looks interesting and varied.

Gleanings from the World of Science.

Prevention of Smut in Wheat and Oats.—It has long been known that the spores of the fungi known as smut, and which attacks wheat and oats, adhere to the grains, and are thereby carried to the field in the following season. The spores germinate with the grains of those cereals and set up a fresh attack. In 1887, Mr. J. L. Jensen, of Denmark, discovered a method of prevention, and this has been carried out by the U. S. Department of Agriculture—Division of Vegetable Pathology, as recorded in the *Farmers' Bulletin, No.* 5. The seed of wheat to be disinfected is put in a basket of wire or in some strong bag (such as a gunny sack), and plunged in water ranging from 110° to 130° Fahrenheit. Immediately after the bag or basket of seed is lifted and plunged again several times in order to reach all parts of the seed and warm it up. Then the whole is lifted out, and after the water has partly drained from it, plunged in a second vessel with water at 132°, but in no case exceeding 135° Fahr. Here it is kept for fifteen minutes, while the bag is well shaken or agitated, so that every seed will be properly reached by the scalding water. The bag is then taken out and cold water thrown over the seed, or the whole may be plunged in cold water, and then laid out to dry. This treatment does not injure the germinative power of the wheat, while the spores are killed. Oats may be treated in the same way or some modification of it, such as having the water in the second vessel at a temperature of 143½° Fahr., and immersing the seed for five minutes; or the water in the second vessel may be kept at 132½° Fahr., immersing the seed in it for ten minutes. In the first of these modifications the seed is treated with cold water immediately it is taken out of the hot water, but in the second case the seed is simply spread out to dry, which the heat soon enables it to do.

FLORICULTURE.

The Fertilization of the Pansy.

I AM sure "Veritas" and I have a higher object in view than to cavil at unimportant differences of opinion, either with regard to scarlet Pansies, or the intentional or accidental crossing by the agency of bees. I think we are both anxious to profit by the experience of others, and willing to communicate what has come under our own observation, or has been proved by our experiments. But with regard to the action of bees I must not be supposed to claim —as I fear "Veritas" thinks I do—any intentional or purposive selection, nor anything beyond an instinct which is guided by colour and perfume. Sir John Lubbock, in his fascinating work on "British Wild Flowers in Relation to Insects," says:— "It is difficult to account for the relations which exist between flowers and insects by the hypothesis of a mere blind instinct on the part of the latter. That bees are attracted by and can distinguish colours was a just inference. . . . . I thought it, therefore, worth while to make some experiments. . . . . I placed slips of glass, with honey, on paper of various colours, accustoming different bees to visit special colours, and when they had made a few visits to honey on paper of a particular colour, I found that if the papers were transposed, the bees followed the colour." My own observations of the behaviour of bees have largely confirmed this; and it was this I had in view when I deprecated the "chance" theory of crossing by bees. I am altogether opposed to the doctrine of chance in the operations of nature. As to the manner in which fertilization—or *pollination* rather—is affected by bees, "Veritas" has fallen into a slight error. The pollen which is to effect the cross is borne on the proboscis—not the legs—of the bee. Professor Sachs, in his "Text Book of Botany," gives a full account of the process, which is also described by many other writers.

Passing from this, however, I am concerned to know that my theory has not received such support as I would like from the experiments of "Veritas." Still his observation that the seedlings from Mrs. E. P. Frame generally resembled that variety is part confirmation. The colour being similar does not disprove my theory, for the colour of the fertilizing parent may have been like that of Mrs. E. P. Frame. I have not my last communication before me, but I think I only claimed that the male parent *influences* the colour of the offspring. In my latest experiments I used Duchess of Portland and Lord Hamilton as seed-bearing parents, crossing these with pollen from several well-marked varieties. The seed was carefully kept apart, sown in separate boxes, and the seedlings planted out by themselves. I had about 150 seedlings of the former, and about 100 of the latter variety. Not only was the habit of each marvellously reproduced in almost every one of its seedlings, but the peculiarities of the flowers of these varieties were transmitted with equal fidelity. But only one of the seedlings — one from Lord Hamilton — preserved the colour of the female parent. These experiments, the last of a long series, naturally confirmed my faith in the theory stated, and which I had previously formed.

I can only now touch upon the question of the best time for fertilizing. In the Pansy the *pollen* practically matures coincidently with the *stigma*, and both reach this step previous to the full expansion of the flower. Darwin, as quoted by Sir John Lubbock, says:—"A certain state of the atmosphere seems to be necessary to the secretion of nectar." In the Pansy it appears to be bright sunshine following rain. In such a time the bees are most numerous and most active, attracted, as Darwin suggests, "by the odour emitted by the flowers." It will be found that after such weather seed is set in greatest abundance.—*J. D. Stuart.*

Auriculas.

LATE as the season undoubtedly is, some of our leading Auricula growers say their plants will be past their best by the 19th inst., the date of the annual exhibition of the National Auricula Society, at the Drill Hall, Westminster. They say they never force their plants, but I presume they keep them out of reach of frost, which means ample covering up or some artificial heat. I cannot quite understand this statement, because I shall scarcely have an expanded pip by the 19th, and some other growers who rely entirely on a cold treatment say the same. We shall therefore look with some interest for the show on the above date. The plants coming into flower should have only the morning sun, and in this way the bloom can be prolonged for two or three weeks. A liberal supply of water is requisite, and plenty of ventilation. Cleanliness is all important; any attempts at fertilization should be made only between two varieties of the same class, such as two green edges, two grey edges, two white edges, or two selfs.

Azaleas.

AZALEAS are now in their glory, at least such plants as were pushed on a little to secure early bloom. Those coming on to flower will require careful watering, never allowing them to become dry enough to affect the bloom buds. Plants thoroughly pot-bound will be helped by a little manure water once or twice a week, or perhaps, better still, Standen's manure or some other fertilizer of a similar character and quality. Any plants going out of flower can be placed in a cool part of the greenhouse, and air freely given on all favourable occasions. As the sun is now gaining considerable power, the plants should be shaded from its rays. One cannot say too much in praise of the varieties of A. mollis for forcing purposes. We have this season seen these in fine character at the spring shows, small plants densely laden with bloom. They bear forcing remarkably well, and it is right to give them some protection, for the characteristic of flowering early renders them liable to injury by spring frosts.

Calceolarias.

I THINK it may be said that if any plant dislikes confinement at the root it is the Calceolaria, and if allowed to become pot-bound and suffered to want water, the foliage at once loses its desirable healthy appearance, and a specimen, however densely bloomed, if bereft of healthy foliage, is at best a sorry spectacle. No position is better suited to the plants than a low cold frame with the plants near the glass and abundant ventilation. A syringing overhead with soft water on mild mornings will be found of great advantage, and as the plants are very subject to green-fly, a fumigation once a fortnight with tobacco smoke should be resorted to. If the plants are required for house decoration, the branches should be tied out so that the shape may be improved as much as possible.

Carnations and Picotees.

I AM a strong advocate for early potting in the case of plants required to produce blooms for exhibition purposes, and I am in cordial agreement with an old florist who says it is better to have pots full of roots than pots filled with soil only. When potted, the pots should be provided with shelter, at least by night, for a time, and by the end of the month they will bear full exposure. The pots should be stood as level as possible, so that water can be equally distributed throughout the soil when applied. Any varieties of tall growth, or any plants that have gone ahead of the others, should be secured by means of stakes. Seeds of Carnations should be sown without delay, either in pans or shallow boxes of fine soil, or in a well prepared bed in a cold frame, the seeds put very thinly in drills. As soon as the seedlings show through the ground they should have abundant ventilation to cause them to become stocky.

Chrysanthemums.

UNDER this heading I think I cannot do better than quote from an excellent article in Mr. H. J. Jones' Chrysanthemum Catalogue. He states:—"In this month (April), the cultivator must decide what style of growth is to be adopted. If for bush plants, the tips of the shoots may be pinched out, but if for the purpose nine-tenths of Chrysanthemum lovers desire, namely, well-developed blooms, the plants must be allowed to proceed in the single stems. A free, uninterrupted growth is generally the most conducive to that end; from an exhibitor's point of view, however, naturally early and naturally late varieties must be so managed that they produce their blooms in perfection at the same time." So much for general directions as to training. Furthermore, it is stated that "In favourable seasons the plants can be placed out of doors the first week in April, provided that they are placed in a position thoroughly protected from the north and east, and at the same time receive all possible light and air. Provision must also be made, by light frameworks of wood attached to stakes driven into the ground, to permit of substantial covering being placed over the plants in the event of frost. Let the plants stand on a thick stratum of coarse ashes in order to keep the worms from entering the pots. Worms will pass through a thin layer of ashes, especially if sifted very fine. Great care must be taken in watering, for the plants, being in such small pots, a sudden accession of sun heat rapidly dries the soil, and the plants should never suffer for want of water. On the other hand too much water will make itself evident by yellow leaves and sickly growth." Experience is the best guide on this point, and the grower can soon detect the difference between overmuch and not enough water at the roots. Apply rain water when it can be obtained, and if hard water alone can be obtained it should be allowed to stand in the open for the sun to warm it a few hours before it is applied.

Cinerarias

ARE now in flower, and are helped by a little weak manure watering being given twice a week. On no account should the plants be suffered to want for water. If it is desirable to take seed from two or three of the best varieties, they should be isolated to prevent indiscriminate crossing by insects.

Dahlias.

ROOTING and the potting off of rooted cuttings is now the principal work of the grower. The plants should be kept close until they are established, and then gradually hardened off to keep them as stocky as possible. Those who exhibit blooms at shows held in August should grow on their plants freely, so as to have them of good size for planting out the first week in June.

Hollyhocks.

YOUNG plants should be placed in the open at once, putting them in good rich soil, and helping them in every way to get a good start. Old stools now throwing up shoots from the ground should be top dressed with good soil, and be well looked after in the matter of water while the weather is dry. Two or three good shoots should be left to each stool, if the plants are required for decorative purposes, the remainder can be used for cuttings.

Pansies.

So many useful cultural hints respecting the management of these have been supplied of late that it only suffices to say plants in beds will now be helped by a top dressing of good soil, and when the expected showers come, great assistance will be rendered to the plants.

Pelargoniums

OF the show and fancy sections are now displaying their flower buds, those to flower in May especially. Shade will not be required until the plants come into bloom, but if it is desirable to keep any back as long as possible, it is best to place them in a cool house on a north aspect. A watchful eye should be kept to the matter of watering, as the pots being now full of roots, the plants soon suffer for want of moisture. It is wise to give a good fumigation before the plants come into bloom.

Pinks.

THE old growers were always very particular in keeping the surface of their Pink beds well stirred, so as to aerate the soil, and also because they held that by allowing the soil to harden about the stems and become encrusted with a greenish moss, there was danger of canker. The usual method of top dressing is to remove one inch of soil from around the plants, and put into its place a compost made up of good decomposed manure and fine soil. If placed all over the surface of the bed so much the better, as the weather is very drying. Sun and wind alike acting upon the soil care must be taken to water the bed if necessary.—*R.D.*

Plants Certificated in Ghent. — At the last meeting of the Belgian Chamber of Horticulture at Ghent, Certificates of Merit were awarded to Mr. Louis De Smet, for Azalea nudiflora lilacina, A. nudiflora M. Jacque, Adiantum grandiceps, and Cattleya Trianæ virginalis; to Mr. A. Van Imschoot for Cypripedium selligerum majus; to Mr. Aug. Van Geert for Cypripedium Lathamianum; to Messrs. E. Vervaet & Co. for Cypripedium Huybrechtianum; to Mr. Jules Hye for Odontoglossum excellens Hyeanum, Od. Alexandræ insignis, Od. Chamberlainianum, Od. Pescatorei var., Od triumphans var. nigrum, and Od. Andersoni var.

MELONS.

Early Melons will now be rapidly swelling their fruit, and the succeeding batch will be about in flower. Fertilization ought to be easily effected with careful manipulation, as the weather has been all that could be desired for Melon culture. Sowings ought to be made now, or before the end of the month, for if grown on rapidly the plants would not produce fruits ready to cut before the middle or end of September, after which time Melons are almost useless in point of flavour unless the autumn is an exceptionally bright one. With early houses, unless they are kept well syringed, red spider and other pests will soon make their appearance, especially if the pipes are allowed to get unnecessarily hot.

Constant damping is necessary so as to always maintain a moist atmosphere, while avoiding a too humid one, as I am of opinion that this is one of the causes of gangrene. Whenever this disease makes its appearance I always rub the affected part with either lime or cement until the stem is dry, and at once lessen the atmospheric moisture, and have generally succeeded in arresting the decay. The same remedy will also apply to canker, but this may also be prevented if the plants are not planted too deeply and the base of the stem is kept clear of soil. Whereas, on the other hand, Cucumbers may be covered up to the seed leaves with the certainty that roots will readily push out from the stem.

It is a common practice in gardens where large quantities of Melons are grown to sow the seed on mounds of loam, placed at equal distances apart, on a hot-bed of fermenting material; fine, strong-looking plants are produced (capital subjects for the attack of gangrene), which in due course produce a crop of handsome looking Melons. But what of their flavour? So far as my observations go they are little better than a garden Turnip. To produce highly-flavoured Melons, they should be grown from the commencement in pure loam, with the addition of a little burnt clay, lime rubble, and wood ashes, occasionally watering with liquid manure, and sprinkle with Thomson's when the fruit is set. If grown in large pots a little fermenting material will be of assistance in keeping up the bottom heat where there are no hot water pipes in the beds, but I am of opinion that it is better to avoid litter as a rooting medium.

There are endless varieties of Melons now-a-days, and I often think we make a great mistake in growing too many; if we were to have about three good varieties and grow each sort together there would be less chance of producing mongrels than when so many varieties are grown in one house. If I were to confine myself to three varieties I should select Hero of Lockinge, white-fleshed, Blenheim Orange, scarlet-fleshed, and Wm. Tilley, green-fleshed. The latter is a most exquisitely flavoured Melon, but rather a shy setter, consequently the atmosphere of the house should be kept a little drier during the setting period.

To produce good Melons requires more than a suitable compost, as watering and ventilating are two very important points, for unless good healthy foliage is maintained until the last the fruits never ripen so well, and how often do we see canes destitute of foliage from the base up to the trellis before the fruits are set. This is mainly owing to careless watering; in some cases an insufficient supply, in others giving them waterings with very cold water, thus chilling the roots and giving the plant a check. Some growers plant Melons and Cucumbers in the same house, but I don't advocate the system (although I have seen fair crops produced in a good season), as both at times require just the opposite treatment to each other. For instance, Melons at the setting and ripening periods require little or no atmospheric moisture, whereas on the other hand Cucumbers require to be constantly growing in a moist atmosphere. If the plants get infested with mealy bug it is better to clear the whole lot out and thoroughly cleanse the house with petroleum, as if allowed to remain the fruit, if any were produced, would be dirty and scarcely presentable on a gentleman's table.—*A. K. L.*

Ranunculus cortusæfolius: Flowers Yellow.

RANUNCULUS CORTUSÆFOLIUS.

It is not usual for very much attention to be given to a Buttercup in gardens unless it should happen to be double, or a native of some other country than Britain. Truly it may be said that "a prophet is not without honour save in his own country," and the saying applies particularly in the case of Bttercups. Some leaves and cut flowers of the species under notice was exhibited at the Drill Hall, Westminster, on the 22nd ult., by Mr. Charles Wood, gardener to the Right Hon. Lord Hylton, Merstham House, Merstham, Surrey, when a considerable amount of public interest was created by their handsome appearance. We are now in a position to give an illustation of it taken from living specimens. The species was originally introduced to this country in 1826, and was figured in the *Botanical Magazine*, t. 4625. Its native country is the Canary Islands and the Madeira, consequently we can hardly expect it to be perfectly hardy in this country, as the plants coming from those islands usually require greenhouse treatment to bring them safely through our changeable and sometimes severe winters. In warm soils and sheltered positions some growers may however be able to keep it alive in the open air. It would be well, however, to preserve seeds, if any are matured upon the plants, so as to provide against contingencies. Those shown by Mr. Wood had been grown in pots and kept in a greenhouse temperature. The lower leaves are of large size, handsome, nearly orbicular, shallowly lobed, toothed, and like the stems thinly hairy. The large, bright yellow flowers measure 2 in. to 2½in. across, and are borne in branching, terminal cymes.

TOMATOS.

When good strong plants fully six inches in height can be purchased at one penny each, it hardly seems worth while to wait fully a month, if not longer, before such plants can be now obtained from seed; of course those who have special preference for certain kinds or strains must raise their own, as there is little dependence to be placed on cheap market or hawkers' plants being true to name. Still these are Tomatos, possibly very good ones, and the amateur grower who wishes to cultivate some in a greenhouse during the summer or to plant them out against a south wall, a fence, or on a warm border, will find his chances of getting a good crop greatly enhanced by starting early, with strong plants.

Under glass, where the temperature may be regulated even without artificial heat, it is very easy to accommodate the atmosphere to the requirements of the plants. Outdoors the plants must be accommodated to the temperature, and a good method of doing so is to have them strong, stout, not at all drawn, but fully 12 in. high, well established in 6 in. pots, ready to turn out the moment the weather will admit of their being exposed safely. That may very well be about the middle of May, provided the plants have protection till the end of the month at night. The more thoroughly the plants have been seasoned or hardened, the better for them, and it is obvious that the needful exposure in a cool frame can only be given when they are raised early from seed. It is very difficult to impress upon amateur growers the importance of pinching out all side shoots from the plants and keeping them rigidly to single stems. That method of treatment, however, constitutes the primary cause of success in cropping, indeed ordinarily a plant so severely pinched will then produce more fruit than it can properly finish. Excessive watering should also be scrupulously avoided, and nothing in the shape of stimulants should be given until the fruits are commencing to swell.—*D.*

DAFFODILS & NARCISSI.

(Concluded from page 500.)

Daffodils as Cut Flowers for Decoration.

These flowers have a double qualification. In the growing state, either in the open border or in pots, they are highly decorative, and as cut flowers for the drawing-room, for the fashionable dinner-table, or for the mantel-piece of an ordinary sitting-room, there are few flowers more lovely, none more graceful, and few, indeed, that so lighten up and brighten a dark room. For cut flowers those varieties which have long stalks are much to be preferred. Such varieties as Golden Spur, maximus, cernuus, Horsfieldii, Sir Watkin, Stella, poeticus ornatus, the grand old-fashioned Codlings and Cream, with its more striking sister, Eggs and Bacon, and the beautiful double poeticus, or Gardenia flowered Narcissus. The last three are doubles, and much to be recommended; but, for cutting single flowers, as a rule, are more useful and profitable, for they are lighter in appearance and they last longer. Fashions in flowers change as in everything else. In the days of our forefathers it was considered the correct thing to have everything in the way of house furniture as massive as it was possible to get it. The Codlings and Cream and the Eggs and Bacon Daffodils were consequently thought highly of. They accorded with the prevailing taste. Now, however, when we are on the æsthetic tack, the fashion in Daffodils has changed, too, and the single varieties, with their airy elegance and refinement of form, are happily in the ascendant. These three kinds are however indispensable in ever so modest a collection. The Codlings and Cream has a rich, soft, creamy hue, while the Eggs and Bacon is unique with its orange coloured petaloid stamens rising from their milk-white setting like a phœnix from its ashes. The lovely cernuus plenus, which has a perfectly double creamy-white trumpet, is a grand flower. Sometimes, as in the case of the fine old Double Daffodil the trumpet instead of being entire is split and the flower then assumes the form of a full-bloom rose. The latter appearance is likely to occur after a hot summer, or if the bulbs are grown in a warm sandy soil. In a shady situation or in stiff soil they are more likely to retain their trumpet shape. All kinds should be cut before they expand into full bloom, just when they have slipped their hood or flower sheath and are showing the colour of the calyx, or perianth, as the calyx of a Daffodil is called. Immediately after being gathered they should be placed with their stalks in water, in a darkened room, say, in a potting shed, or any other cool place, where they are not exposed to sunlight or to any artificial heat. The flowers will then open clean, fresh, and pure in colour, and will have three times the enduring qualities which those would have which were allowed to be in full bloom before cutting. Early morning is the best time for cutting Daffodils, and, if it is intended to pack them and send them away, they ought to be placed in water two or three hours previously. One of the very best for packing is the Tenby, the trumpet being short and stout, and not easily damaged.

In arranging Daffodils in glasses it is well, if possible, to place them in slender and fairly tall glasses, never upon any account crowding them together, but arranging them loosely and naturally. As far as it can be done, so dispose them as they would have looked when growing. Nothing looks worse than to see these lovely flowers huddled together in fat, podgy bunches. They ought always to be garnished with foliage becoming them, their own leaves. Daffodils do not readily mix in any kind of society. They like to move in their own set. As the natural foliage is recommended, the question might fairly be asked, would it not be robbing the plant to denude it of its leaves as well as its flowers? Certainly it would; and the plant would quickly resent such treatment. In the Daffodil world, as among ourselves, while some command others must obey. We must therefore look to the commoner sorts, such as the common Trumpet Major, the Lent Lily, or the Double Daffodil, to provide foliage to set off their more aristocratic brethren and sisters. If you take the leaves as well as the flowers from the finer sorts, many of which are not only costly to begin with but are slow in reproducing themselves, you must not expect great things in the way of increase, nor must you look for fine flowers from them the following year. What I would recommend to those who grow the select sorts is to have dotted up and down the kitchen garden in small clumps some of the cheapest kinds to pick foliage from, and so be able to leave intact the leaves of the choicer-named sorts. There would not only be economy in this plan, but it would be the means of enlivening the kitchen garden in the early months of the year, when it is often little else than a howling waste of naked stems and leafless branches.

Cultivation in Pots.

My remarks under the heading of cultivation I propose to devote chiefly to cultivation out of doors, but as all kinds of Narcissi do well in pots, I may say a word or two upon indoor cultivation. For greenhouse or conservatory decoration they go well with Hyacinths and Tulips, so there should always be a few potted up in October to come in about March. They may be potted singly in 4-in. or 5-in. pots, or in threes in 6-in. or 7-in. pots. Some sorts such as Emperor, Empress, Horsfieldii, and Sir Watkin, have very large bulbs at times, and for three bulbs would require a 7 in. or 8-in. pot, but a smaller pot suffices for the others. The Hoop-petticoats may be planted five in a 5-in. pot. For a good potting soil I would recommend two parts of rich loam, one part of leaf mould, and one part of rough sand. A little soot and well-rotted cow manure mixed with the soil would be a help. See that the drainage of the pot is perfect, and do not pot the bulbs too tight, as that seriously hampers root action. Place the bulbs with their tops about an inch under the surface, and then put them out on ashes in a cold frame to winter. When they begin to show bloom give plenty of light and air. If they are brought into the house they should not be left in a room where fire and gas is burning, else they will soon flag. When they are done blooming they may be put out of doors to dry off until June, then knock out the bulbs, and let them have the sun on them for a few days, after that storing them away until September or October in a dry, airy place. They require very little water during winter, but must never be allowed to get dry after they have shown the bloom scape.

Cultivation Out of Doors.

In growing Narcissi in the flower-border, it may be presumed that the soil is, to some extent, made free and friable; for, in a heavy clay, only the very strongest growers would have any chance, and even they would not be very happy in it. Bulbous plants cannot brook tightness or strangling. To grow a collection of Daffodils to perfection, different soils and situations would be required. Beginning with the commonest kinds, plant them in the poorest soil, and in such a position that they may be left undisturbed for years. Strong growing kinds, like Emperor, Empress, and Rugilobus, should be planted deep, say, not less than 8 in., and the best soil for them is a deep, strong loam. Do not press the soil around them. If planted by September (as they ought to be) the autumn rains and the long spell of winter will do all that is required in firming the soil about the bulbs. You must bear in mind that in a week or two from the time of planting the roots begin to grow, and, as they keep on growing during the winter, they want breathing space. Although these are strong growers they should not get any manure after planting. If the ground requires enriching, old cow manure or thoroughly well rotted stable manure should be applied the year before, so that it would have become wholly incorporated with the soil before the bulbs came in contact with it. Horsfieldii, Countess of Annesley, Golden Spur, Ard Righ, and others of the spurious type should be planted very early, in August if possible, or, at all events, not later than September. They do not require to be planted so deep, nor in so strong a soil. They do well when lifted every July and planted again the following month, just giving them a month or six weeks to harden their bulbs. The white trumpet varieties, Cernuus, Moschatus, Tortuosus, Pallidus, Prœcox, and that grand Daffodil—Maximus—are all weaker in growth and like shallow planting. The soil for these must be light, the aspect southerly, and getting plenty of sunlight. They do well at the foot of standard roses, for they seem to like being relieved of some of the moisture in the ground. On gravelly or warm sandy banks they do admirably. In moist or retentive clay they ultimately perish. The Double Cernuus is a delicate grower, and wants to be tenderly dealt with. A light soil and a warm situation is indispensable for its welfare. The dainty little hoop-petticoat Daffodil should be planted at the foot of some ornamental tree and left alone, provided the situation is not damp. If it is, it must be lifted about July and replanted in August. It is rather long winded, for although it begins growing early in autumn it is a late bloomer. The peerless or star Narcissi, such as Cynosure, Queen Bess, Stella, Princess Mary, and Leedsii Amabilis should not be planted deeply. Being all of them garden hybrids, they have been used to rather a rich soil and take well with it. They may be lifted and replanted annually. As in the case of the White Trumpet varieties, so with the White Star Narcissi, they are delicate and shy in growth and want a little nursing. The lovely little Cyclamen flowered variety Triandrus Albus, poetically called Angels' Tears, may be grown on a north border, or where it is not exposed to the full force of the sun, but it is much more satisfactory to grow it in pots. The Poet's Narcissus section want careful management. It is of no use attempting to grow them in heavy clay soil. The soil must be light and in fine condition when the bulbs are planted, a deep, rich, sandy soil suiting them well. Sometimes the Double White is apt to go blind. This, it is said, may be obviated by lifting every second year, so that to ensure a number of flowering bulbs half the stock might be lifted annually. The foregoing remarks apply to those planted in the open border, but many, if not all, of the kinds named do well in the grass, and they look uncommonly pretty peeping up here and there on a lawn that is not kept too closely cut. The whites and the smaller ones are very pretty when grown on a grassy bank. I am told that Mr. Robinson, the editor of the *Garden*, has thousands of Daffodils growing in a grass meadow at his place in Sussex, leaving them alone year after year, and that they reward him by coming stronger every year. Queen Anne's Daffodil, a lovely gem with the petals overlapping each other with geometrical accuracy, likes a gravelly soil, and should be planted pretty deep for its size. It is best to lift it in July, and after hardening the bulbs plant again in a month or so. Before leaving the subject of cultivation, I may mention that in preparing these cultural notes I have had the valuable assistance, for the sake of comparison with my own notes, of the experience of one of the highest authorities on the Daffodil, Mr. F. W. Burbidge, the able and accomplished Curator of Trinity College Botanic Gardens, Dublin, and Mr. Hill, who so successfully manages the great Daffodil grounds of Percy J. Kendall, Esq., at Newton Poppleford.

The Best Kinds to Grow.

Any of those I have named are worth growing, and in a good representative collection it would be a pity to leave any of them out. But if I were restricted to a list of twenty sorts I would name the following:—Large trumpet section: Golden Spur, maximus tortuosus, Emperor, Empress, Horsfieldii, Countess of Annesley, capax plenus (Queen Anne's Daffodil). Medium trumpet section: Sir Watkin, Queen Bess, Cynosure, Stella, Codlings and Cream, and Eggs and Bacon. The true or Poet's Narcissus section: poeticus ornatus, poeticus flore pleno, Burbidgei, and triandrus albus. To these I would add the three Jonquils: the single sweet-scented, the Campernelle, and, in addition, the Queen Anne's Double Jonquil, which, by the way, must not be confounded with Queen Anne's Daffodil, a totally different variety. The old Double Daffodil, now so popular with Americans, is well worth growing. In conclusion, I would strongly recommend a more extended cultivation of these lovely flowers. They have a long blooming season, they come in the spring, when there are few out-of-door flowers to be had. They are bright and cheerful looking under all conditions, either indoors or out of doors, and they are easy of culture. They are, indeed, as the poet has put it, "things of beauty and joys for ever." The time at my disposal has prevented me from going into the question of raising Daffodils from seed and the wide field taken up by hybridisers of this flower, from whom we have received many beautiful forms of the Narcissus, but I hope that I may have led some of my hearers to see that there is in the study of this flower a great field open to the botanist, the florist, and the amateur.—*A. Hope.*

The Carnation: its History, Properties, and Management, with a descriptive list of the best varieties in cultivation. By E. S. Dodwell. Third edition, with supplementary chapter on the yellow ground. London: Gardening World Office, 1, Clement's Inn, Strand, W.C. 1s. 6d.; post free, 1s. 7d.—[Advt.

HARDY PRIMULAS.

THE various species of Primula contribute not a little to the ornamentation and interest attached to a garden in spring. The early-flowering kinds being of a dwarf habit, they may properly be considered as rock plants, and if planted in suitably moist and somewhat shady positions, in the case of those that require it, they may be expected to succeed, and to prove an ever-recurring source of pleasure each returning spring. A good body of soil is necessary in order that the supply of moisture from below may not fail during the drought of summer; and if it is intended to plant any of them in narrow pockets amongst stones the soil in the pocket should be continuous with the body of soil below. The more leathery leaved kinds do very well even under full exposure to the sun provided the opportunity of obtaining moisture is ample. Many of the undermentioned kinds may be seen on the rockery in the nursery of Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, but the bulk constituting the stock are grown in cold frames, which are just sufficient to throw off the wet in winter. The shelter thus afforded has also the effect of bringing the plants earlier into bloom than would be the case in the open.

PRIMULA CLUSIANA.—The flowers of this species are amongst the largest of the European kinds. The corolla is of a rosy-purple with deeply bifid segments, and from three to eight of these are produced on scapes 2 in. to 3 in. high. The leaves are elliptic, rather leathery, smooth, and of a deep shining green. It is a native of the Tyrol, and flowers naturally in April and May, being later than usual as far as outdoor plants are concerned.

P. CALYCINA.—At first sight this bears a strong resemblance to the last both in habit and flowers, but the differences are readily discernible to the observant. The leaves are oblanceolate-elliptic, dark green, and of the same leathery character as those of the last named. The flowers are of large size, of a deep purple, and borne in umbels of five to twelve. They differ from those of P. Clusiana in the broad segments being merely emarginate and dentate on the margin, instead of being deeply bifid with diverging lobes. It is equally beautiful as its congener, and as hardy. The leaves have a slightly glaucous hue, and the plant is known in some gardens under the name of P. glaucescens.

P. MARGINATA.—The specific name in this case refers to the thick coating of a sulphur yellow powder all round the margin of the leaves, which are obovate or sometimes spathulate, serrate and often thinly powdery on the upper surface. The flowers are lilac-purple in the type, but they vary considerably tending towards a shade of blue in the variety P. m. cærulea. They are also agreeably fragrant, which is an additional recommendation. Mr. Ware has a large quantity of it in stock, and has made a selection of a sort or variety which is much larger in all its parts than the type. If it proves a stronger grower than the better known form, it will prove invaluable for cultivation on the rockery.

P. AURICULA.—The wild form of this plant bears small flowers, and would be ignored as rubbish by those who believe only in the highly improved show and Alpine kinds; but to the lover of hardy flowers in general it is both pretty and interesting. The flowers vary considerably in being creamy-yellow, creamy-white, sulphur and deep yellow. The paste is not very plentiful, but consists of a thin powder around the mouth of the tube. The leaves themselves are more or less mealy. In the same frame is a beautiful variety named P. A. marginata, with the margin coated with a sulphur-yellow powder as in the case of the species P. marginata. Both surfaces of the leaves are also more thinly dusted with powder. The flowers are large, and bright yellow with a prominent ring of paste round the eye, and they are also agreeably fragrant.

P. VISCOSA.—The leaves of this species are small, obovate, toothed and arranged in a dense rosette, from which the dense umbel of flowers rises only an inch or two in height. The flowers in the type are of a deep purple with a white eye. The white variety P. v. nivalis, with snowy white flowers, is even regarded with greater favour than the type. In cultivation it proves very hardy and flowers year after year in the same position, if slightly shaded from the midday sun so as to keep it cool.

P. LONGIFLORA.—The flowers of this Primula are of a deep purple with obversely heart-shaped segments, and are thinly mealy in the throat. The leaves are oblanceolate, crenate and of a dull green or thinly mealy, but they are always much longer than those of P. viscosa, and appear less compactly arranged.

P. CILIATA.—The flowers of this species are small and bright yellow, while the leaves are obovate, crenate, and somewhat mealy. In its native home on the Alps it grows under the shade of rocks, so that a similar position would suit it here.

P. ELATIOR CŒRULEA.—This is generally known as the Blue Oxlip. It is an old garden form that might be more widely cultivated than it is, on account of its distinct and attractive appearance. The flowers are large, salver shaped, and of a deep slaty-blue, margined or laced with creamy-white, and having a five-lobed orange eye, surrounded by a pale yellow line next the blue. The blue is usually pretty well defined and very distinct amongst the garden forms of Polyanthus. Propagation is readily effected by means of cuttings of the short, fleshy rhizome or by division of the crowns; but the former is the speediest means of increase when numbers are required. It should be planted in good sized patches to obtain the best effect.

P. ROSEA.—Of all the Himalayan species this is the most universal favourite, a fact that may be accounted for by the ease with which it may be grown and the beauty of its warm or rich rose-coloured flowers. Here it is grown in quantity, and when so planted it is very effective. Seeds are ripened in great abundance, and germinate very freely. It does not seem that this quality has been properly taken advantage of in raising new varieties, or of propagating it extensively for the ornamentation of the rockery or garden. It should always be planted in a moist position, so that it may be able to make good foliage after flowering is over and during the heat of summer.

NOTES ON PEAS.

MANY growers I understand anticipate considerable failures this season among the Pea crops. Now, as one of the oldest Pea growers as a gardener--my experience, dating back to the time when the Messrs. Cormack, of New Cross, were in an extensive way of business, in fact, one of the largest firms in this country, who made Peas a speciality—I may be allowed a few words on the subject. More than fifty years ago the Messrs. Cormack purchased from Mr. J. D. Parks (with whom in my early days I lived, and whose name is associated with the early introduction of the Chrysanthemum), a variety said to be the earliest in cultivation, and which was sent out as Early May, and I aver, without fear of contradiction, that, although so many new or supposed new kinds have since been brought out, that not one of them has in any way proved earlier or more prolific than the one in question. Cormacks introduced just subsequent to this time other kinds, notably the famous old British Queen, one of the best Peas ever placed before the most fastidious epicurean; Champion of England, sent out by Fairbeard soon after, remains now one of the very best that can be grown, if obtained true to name.

Gardeners of the olden times were as good kitchen gardeners as now, and produced crops of Peas in their time which I have never seen surpassed. About twenty years ago I raised one which I would not exchange for any sort at the present time in cultivation, not that I have any wish or desire to insinuate that it is better than many well known sorts.

A lengthened experience has taught us much with reference to failures and vexatious disappointments. Some of these may be under control and some not. Of the elements we have no control whatever, hence the uncertainty of crops sown in the open ground in some soils and situations. The round early kinds as a rule survive our ordinary wintry weather, but the wrinkled sorts are more tender and susceptible to extremes of wet and cold, and to obviate failures it is, I may say, absolutely necessary to secure new seed entirely, without any admixture of old seed, for in very many instances it is the fact of old seed being sown that is the cause of failures, and not the unpropitious weather, which frequently gets the blame. It is sometimes attended with very disastrous consequences when the unfortunate gardener does not get his crops to grow, and places him ofttimes in a very perilous position, because it is not always understood by his employer what the real conditions are. He, the gardener, is supposed to succeed and have no failures; thus to him it is of paramount importance that he should be supplied with new and true seed.

I saved last year a prime lot of the Prince Imperial for my own use, and although sown in a very cold aspect in the open and inclining to the east, upon examination I find them in a very satisfactory condition indeed. I have also Abundance, the seed of which I saved last season, which is breaking through the ground in admirable condition, very strong and healthy, growing in the same spot as last year but with the rows reversed. Again, I have two seedlings from my Prince Imperial saved last summer, one of especial promise so far as I can judge up to the present time; these are all that can be wished. What would be expected should a decrepit army be sent to oppose one of nerve and robust health? In the animal as well as the vegetable kingdom, debilitated forms must be placed in the same category as being conducive alike to signal failures and disastrous results. In all phases in life if we wish to succeed we must sow perfect seed to bring our labours to a happy issue.—*Man of Kent.*

EARTHQUAKES AND VEGETATION.

WE find the following paragraph going the round:—"The effects of earthquakes on vegetation have been investigated by Signor A. Goiran, in the case of the seismic disturbances which occurred last June throughout Northern Italy. He found in this instance the uniform result to be to induce a more rapid germination of seeds, and a more rapid growth of the young plants, giving rise to a more luxuriant vegetation in the pastures, arable lands, vineyards, and shrubberies, accompanied by an unusually deep green colour of the leaves. These results he believes to be due, not to the direct influence of the tremor, but to three secondary causes, viz. (1) an increased production of carbon dioxide; (2) a diffusion of nutrient fluids through the soil, acting as a kind of natural manuring; (3) an increased production of electricity. In other instances earthquakes have apparently had an unfavourable influence on vegetation; but this Signor Goiran believes to be due to their having been associated with a long period of drought."

Now here is an excellent opening for some enterprising horticulturist or horticultural company promoter. Seeds are in many cases germinating badly, mainly owing no doubt to the cold and wet character of last season, and the nipping east winds and dry character of March and the early days of April. What then is wanted at the present moment is a supply of earthquakes. Who will start upon the business? The nursery business is especially just now undergoing marked changes, and the cry is, Who will show us any good thing? Let some enterprising horticulturist at once open a depôt in London for a supply of earthquakes with branches in all our great cities and towns. Who knows what an amount of business there is to be done in this way, or what fortunes there are to be made by securing royalties on earthquakes at per cubic yard!

ROCK PLANTS.

MANY plants are well suited for cultivation on rockeries, and which are not in any sense of the term Alpine plants. In lowland districts, where rockeries are constructed for the growth of dwarf-habited plants, those coming from flat or but slightly elevated positions often succeed better than those that are purely of Alpine habitat. The natural conditions are more nearly conformable to their likings, and if shady and sunny places respectively are selected for those that affect such places and conditions in a state of nature, the cultivator often succeeds better than with the more fastidious Alpines. The latter may be grown if the lover of hardy plants so desires; but in order to render the rockery as effective as possible, the showier and easier grown kinds should be planted in masses in prominent positions for general effect. The undermentioned kinds include those now in bloom, although several of them are much behind their usual time owing to the long-continued cold weather during February and March.

SAXIFRAGA OPPOSITIFOLIA.—The stems of this truly Alpine species are procumbent, densely covered with leaves imbricated in four rows, and form a close carpet covering the ground. The bright purple flowers are produced singly on short shoots that only

rise about an inch or so above the general surface. The white variety S. o. alba is interesting by way of contrast. Then there is a form named S. o. pyrenaica, with rosy-purple flowers about twice the size of those of the type. All three are distinct and worthy of a place in the rock garden. The type is a native of the mountains of Britain as well as the Continent. All should be planted where the soil is sufficiently deep to supply moisture to the roots during periods of heat and drought in summer.

Saxifraga sancta.—The habit of this species is tufted and dense, forming compact cushions of a bright green that is varied only in spring while the plant is in bloom. The flowers are produced in a compact spike that rises only an inch or two above the foliage; the petals are of a bright yellow, and, though not very large, are aided by the long stamens of the same hue, in making a display. Where planted with this species the ground never looks bare.

Draba Mawii.—A patch of this Draba constitutes a beautiful object on a rockery on account of its dwarf habit and profusion of white flowers. The linear-oblong, deeply toothed leaves form little rosettes or tufts such as are common in this genus. The flowers are relatively large for the size of the plant, so that the species is altogether choice in its way. It was introduced from the mountains of Spain as recently as 1873, yet is not so common as might be expected in gardens where rock plants receive some attention.

Draba Aizoon.—The leaves of this species are linear and densely arranged in small rosettes, from which the flower scapes arise to a height of 1 in. or 2 in., bearing an umbel of golden yellow flowers. The general effect is therefore very different from D. Mawii for horticultural purposes, so that there is room for both species even in a select collection.

Hacquetia Epipactis. — Umbelliferous plants that flower in spring are rare, and there is probably no other species of the order in cultivation which blooms at this early period of the year. The flower stems, with their whorls of large greenish yellow bracts, rise only to a height of 2 in. or 3 in., and bear in the centre of the bracts a dense cluster of golden yellow flowers. This constitutes the most that is to be seen of the plant at this period of the year. The deeply three parted and lobed leaves are mostly produced later on, when the weather is more conducive to growth.

Iberis saxatile.—The linear, ciliated and somewhat fleshy leaves of this species are smaller than those of most other kinds in cultivation. The slender, ascending stems are generally about 4 in. to 6 in. long, and terminate in umbels of small white flowers. In the shelter of a cold frame this neat, Alpine species often flowers during the winter months if the weather is at all mild, but on the exposed ledges of the rockery it does not bloom till the warmth of spring is making itself felt. It is a native of South Europe, and was originally introduced in 1739.

Erysimum ochroleucum helveticum.—The habit of this plant is more erect than that of the type, which has the stems procumbent at the base. It is also of biennial duration as a rule, and is erect, branched near the base, about 6 in. to 1 ft. in height, and well clothed with linear-lanceolate or slightly toothed leaves. The flowers are darker in colour than those of the type, but smaller and bright yellow. It requires the shelter of a frame, however, to get it in flower thus early.

EUCHARIS SUBEDENTATA.

The flowers of this species are produced during the winter months, but it varies more or less as to the time of their appearance according to the particular treatment accorded it. With exception of E. Hartwegiana, the flowers are smaller than those of any other species of Eucharis, but pure white and very pretty. They are produced in umbels as in other cases, and are horizontal or slightly drooping. Both this and E. Hartwegiana are sometimes separated from the rest and placed in the genus Caliphruria, owing to the reduced condition of the corona, but this action is untenable in the face of the fact that E. Sanderiana has no crown at all, even although it has large and well-developed flowers. The specific name subedentata refers to the teeth, which should characterise the genus Caliphruria, and which is the distinguishing feature of C. Hartwegiana, being absent or nearly so. The leaves of the plant under notice are ovate-oblong, and the flower scape about 18 in. high, and the general appearance of the plant is that of a dwarf species of Eucharis. The cultural treatment required is precisely that of Eucharis, and, as the plant comes from Columbia, stove temperature is necessary. Repotting may be done after the bulbs have flowered, using a compost of loam, leaf soil, and sufficient sand to keep the whole porous and open. When this operation is necessitated the pots of bulbs should be placed in a higher temperature to encourage fresh growth.

GARDENING MISCELLANY.

TRADESCANTIA REGINÆ.

As recently as 1890 this Tradescantia was introduced from Central Peru by Messrs. Linden, Parc Leopold, Brussels. It is named after the Queen of the Belgians, who, with the king, on a visit to the establishment took particular notice of this plant. There is an illustration of it in *L'Illustration Horticole*, Pl. 147, which shows a plant with the large and showy leaves arranged in two ranks in the same way as Zebrinia pendula. All parts of the plant however are larger and the habit more erect. The leaves are of wonderful size for this genus, and measure 6 in. or more in length, and 1¼ to 1½ in in width, as represented in the coloured plate, although they are stated to have been reduced by the artist. A broad band along the centre of the upper surface is striated with transverse lines of deep green, purple, and rose, arranged like the bones of a fish. On each side of this is a broad grey band showing longitudinal green lines upon it. The margin again has a band of clear green lines. The under surface as well as the stems are of a beautiful violet purple. Flowers are therefore unnecessary to establish the reputation of the plant, as the foliage alone will constitute a sufficient reputation for it.

Eucharis subedentata.

CAVE'S NURSERIES, NEWPORT, ISLE OF WIGHT.

Persons visiting the Island, who are interested in horticultural pursuits, will find innumerable objects of interest in Mr. Cave's well-conducted nurseries. The stock of fruit trees is very large and most complete, embracing all the best varieties of Plum, Pear, Apple, and Cherry trees, particular attention being given to the sorts suitable for culture upon the Island. All kinds of forest trees, conifers, and shrubs are well grown; the Coniferæ assume in many cases a brilliant and dazzling foliage, which cannot be excelled in any portion of the kingdom. This is no doubt due to the pure atmosphere and the large proportion of sunshine they receive. Early spring is not by any means the best time to see a nursery, although to the lover of horticulture there is plenty of objects which will command interest here at all seasons of the year. For several years past Mr. Cave has been devoting a good deal of time and attention to the formation of a collection of Orchids, and I am pleased to say that his efforts in this direction have been most gratifying and encouraging. The collection is a representative one, composed of Cattleyas, Lælias, Dendrobiums, Oncidiums, Odontoglossums, etc., etc., all healthy, thoroughly well grown, and absolutely clean. There are also fine collections of all kinds of stove and greenhouse plants, suitable for the local trade.—*J. McNab.*

THE BROAD BEAN.

In my article under this heading on p. 503, there ar two or three points that appear a little obscure, ;1 need to be made clearer. At the end of the second paragraph in the middle column of the page I meant to say, "which produces more than *three* beans in a pod." In the last paragraph, the remark "gathered at night time" is obviously incorrect; what was meant was, "gathered at the *right* time." —*R. D.*

DIEFENBACHIA OLBIA.

The habit of this plant is similar to that of the plants already in cultivation, but the leaves are very beautifully marked. They measure about 14 in. long and about 6 in. across, and are of a rich dark green with a broad white band along the centre gradually merging into the green, which is variously blotched with clear yellow and a few white markings. The above indicates what is shown in *L'Illustration Horticole*, but each leaf varies from another in colour and is sometimes half-a-yard in length. The plant was introduced from Peru in 1890, by Messrs. Linden, Parc Leopold, Brussels, who consider that the warm and temperate countries of tropical America yet contain marvellous plants worthy of those which have preceded them in European cultures. Both this and Tradescantia Reginæ were gathered by a collector who was desired to seek especially for novelties with ornamental foliage.

FORSYTHIA SUSPENSA.

The beauty of this shrub in the early spring months cannot be over-estimated, as no other shrub produces such a wealth of clear yellow flowers at this early period of the year. The branches being naked, show off the large yellow flowers to advantage, and the latter harmonise well with the twiggy, straw-coloured branches. In growing this shrub the object should be to get as much young wood as early in the season as possible, so that it may ripen before the leaves drop in autumn. Plenty of flowers can be secured in this way. Pruning cannot be accomplished till after the flowering period, otherwise the flowering branches would be cut away. The sooner it is done however after this the better. Young and vigorously-growing bushes, or those that are annually pruned, flower best.

THE CHINESE YAM.

When I went to Coollattin as general foreman, the gardener drew my attention to a plant and asked me to take special care of it. It was potted in an 8-in. pot and grown in a cool greenhouse, where it made a tremendous growth, covering a good sized wire trellis where it was expected to flower. Both of us were quite ignorant as to what it was until an

old gardener, visiting the place, told me it was the Chinese Yam. It died down in the autumn and was stored under the stage along with the Gloxinias. In the spring it was taken out and planted in front of a wall, where it grew well the following summer, and was to be left out all the following winter, but as I left at Martimas, 1890, I cannot say whether it is alive or not. If it stood the winter it is more than likely to be still there.—*Gray, West Meath.*

TILLANDSIA ZAHNII.

THE flowers of this beautiful species are produced in branching spikes clear above the foliage on an erect stem. The closely crowded bracts, the ovary and the sepals are of a bright yellow, while the petals are pale yellow. It is true that the basal part of the larger bracts is of a deep red, but this colour is not sufficiently prominent to effect the general appearance of the plant. The arching leaves are of medium width, 12 in. to 18 in. in length, deeply channelled and beautifully striped with red or crimson on the lower half, but particularly on the under side. The plant is therefore sufficiently ornamental to be grown for the sake of the foliage alone, and may be grown for a number of years before it flowers. It then dies as far the central rosette of leaves is concerned, but not as a rule till it has developed some young suckers at the base to take the place of the old plant. A flowering specimen may be seen on the new rockery at Chelsea in the nursery of Messrs. J. Veitch & Sons.

AKEBIA QUINATA.

THE general appearance of this Chusan plant does not much recall that of the Barberry family, to which it belongs, owing to the climbing habit of the stems and the digitate or fingered leaves which consist of five oval leaflets. So nearly hardy is it that it may be grown against a wall in favoured parts of the country without any shelter than that afforded it by the wall. The flowers are pretty freely produced in clusters all along the shoots of the previous year's formation, and are sweet scented. They are also of a dull purple and make their appearance during the early part of the year in greenhouses, but out of doors not till March even in favourable or mild winters. The past winter, but particularly the month of March, has delayed the appearance of the flowers, so that should we have a continuance of fine weather they may be finer than usual. Naturally the stems are twining, so that in favourable parts of the country it may be allowed to ramble over bushes or an old tree stump, where it would appear more natural than against a wall where it must be trained in rather a formal way.

THE CHILIAN CROCUS.

THE hardiness of Tecophilæa cyaneo-crocea does not seem to have come up to expectation judging by the comparative scarcity of it in gardens at the present day. The beauty of the flowers is however unquestionable, and equals that of the Gentian except the base of the segments, where pure white contrasts with blue. There is considerable variation, in the amounts of blue and white respectively, amongst the different individuals of an importation, some having a great part of the segments white. There are about three channelled and wavy leaves to a bulb. Rich, sandy loam is the best soil in which to grow it, and the bulbs should be kept dry during the season of rest. It would be a beautiful addition to the hardy plant house at this season of the year, when blue flowers of any kind are not by any means plentiful. We noted it in fine condition the other day in the Hale Farm Nursery, and with Messrs. J. Laing & Sons.

Amaryllis at the Birmingham Show.—At the Birmingham show last week, Messrs. R. P. Ker & Sons, Liverpool, exhibited a splendid group of upwards of one hundred Amaryllis, all remarkable for their sturdy growth, and many having two spikes of flowers. Eurydice and Flora were awarded First-class Certificates; and Eurydice, Aspasia, Hercules, a giant flower, Melpomene, and Serapis were the cream of the lighter coloured varieties; Crimson Gem and Terentina, intense glowing crimson colour; Masterpiece was another extra large and fine shaped flower; the Warrior, a perfectly formed orange-scarlet, and President, a very fine orange-scarlet, were also conspicuous. The group well deserved the special certificate awarded by the judges, Mr. Owen Thomas, Frogmore Gardens, and Mr. Bennett, Rangemore.

ORCHID NOTES AND GLEANINGS.

A Fine Cattleya Trianæ Schroderæ.

THIS Cattleya is now getting pretty plentiful in collections, but as a rule the pieces are very small. That is usually the case not only with Cattleyas but with all popular Orchids until the desire to possess it has been pretty well satisfied, after which one may expect to see specimens allowed to get to some appreciable size. A fine plant consisting of thirty-six pseudo-bulbs and bearing thirteen flowers, is now in bloom with Mr. P. McArthur, 4, Maida Vale, and which is probably the finest piece in the country. The flowers are of a pale shade of colour with a rich orange blotch in the throat, and they are so distinctly fragrant as to be perceptible when one enters the house in which the plant is grown.

Trichopilia suavis alba.

THE typical form of this Orchid is notable for the numerous rosy purple blotches on the white ground colour of the lip. The white variety has no other colour except the usual yellow blotch on the disc. The flowers are as large as those of the type and equally freely produced, that is, a number of flowers arise from every pseudo-bulb, so that a small plant is very ornamental. The size of the blooms should also render this variety very popular with growers. Many Orchids having the name alba attached to them frequently have a considerable amount of colour and are less worthy of the name than that under notice. We noted a piece of it in the nursery of Messrs. J. Veitch & Sons, Chelsea, where it was suspended from the roof of a house in a small basket.

Orchis longicornu.

LIKE our early purple Orchis, this North African species flowers early in the season, say in May, in the open air, but in a cold frame it comes on much earlier, and in the Hale Farm Nurseries, Tottenham, it commenced flowering about the beginning of this month. The leaves form a rosette on the ground, while the stems rise to a height of 10 in. or 12 in., bearing a raceme of flowers on the top. The sepals and petals are pale purple or lilac and heavily striated with green, especially the former. The middle lobe of the lip is bifid, reflexed at the sides and, of a dark violet-purple, with a white band along the centre, spotted with small purple markings. The spur is long, flattened, purple, and dilated at the end, and has given rise to the specific name which means long horned. A cool, moist half shady position on a rockery would suit this as well as many others of this interesting class of plants.

Brassavola grandiflora.

THE flowers of a large number of the Brassavolas bear a considerable resemblance to one another in being more or less similar in shape and white. The leaves also in a great many cases are terete, that is, round like a straw, a fact which also increases the similarity of many of the species. Those of the species under notice, are, however, somewhat out of the usual run in being lanceolate and groved above, thereby showing a tendency to be more flattened than is usually the case. The sepals and petals are narrow, linear, and creamy-white, spotted with pink externally. The lip is large, heart-shaped, and pure white with a few purple spots on the interior of the unfolded claw. The Brassavolas are useful for basket work, as they can then be hung up near the glass. We noted it so grown in the nursery of Messrs Hugh Low & Co, Clapton.

SOCIETIES.

Royal Horticultural, *April 12th.*—The exhibits show a tendency to get more numerous and larger, but as yet they continue to be made up of indoor plants, such as Orchids, greenhouse hard-wooded subjects and forced plants. A group of Orchids, consisting chiefly of tall Vandas, Dendrobiums, and Odontoglossums, was exhibited by Messrs. B. S. Williams & Son, Upper Holloway, for which a Silver Banksian Medal was awarded. A smaller group of Orchids, consisting of Cattleya Mendeli abens and others, also Cypripediums and Vandas, was shown by Messrs. H. Low & Co., Clapton. Messrs. F. Sander & Co., St. Albans, also exhibited Orchids, amongst which Dendrobium Phalænopsis Schroderianum, the new Cypripedium Chamberlainianum, and Masdevallias were prominent; a Silver Banksian Medal was awarded. Two very pretty varieties of Odontoglossum Pescatorei, Cypripedium insigne Imschootianum, etc., were exhibited by Messrs. Linden (l'Horticulture International), Parc Leopold, Brussels. An interesting group of Cypripediums, Masdevallias, and other Orchids was shown by Sir Trevor Lawrence, Bart., M.P. (grower, Mr. W. H. White), Burford Lodge, Dorking, for which a Silver Banksian Medal was awarded. Some magnificent spikes of very fine forms of Odontoglossum triumphans, O. crispum, O. Ruckerianum, and O. Leeanum were shown by Mr. Ballantine, gardener to Baron Schroder, The Dell, Egham. Other exhibitors of Orchids were Messrs. Heath & Son, Cheltenham; R. J. Measures, Esq., Cambridge Lodge, Camberwell; M. S. Cooke, Esq. (gardener, Mr. D. Cullimore), Kingston Hill; Mr. H. A. Tracey, Amyand Road, Twickenham, and Messrs. F. Ross & Co., Bletchingley, Surrey. A Silver Banksian Medal was awarded to G. R. Le Doux, Esq. (gardener, Mr. B. Bowyer), Langton House, East Molesey, for a small group of Odontoglossums and Dendrobiums. A similar Award was made to C. J. Lucas, Esq. (gardener, Mr. G. Duncan), Warnham Court, Horsham, for a group of Angræcums, Miltonia Morelliana illustris, and a Cultural Commendation was give for Odontoglossum Cervantesii decorum. A large and well-flowered plant of Vanda Denisoniana was shown by H. J. Elwes, Esq. (gardener, Mr. Hansford), Colesborne Park, Gloucestershire, for which a Silver Banksian Medal was awarded A small group of Orchids was also shown by Messrs. J. Veitch & Sons, Chelsea, including Dendrobium atroviolaceum and Lælio-Cattleya Marriottiana.

A Silver Flora Medal was awarded to Messrs. H. Low & Co., for a showy group of hard-wooded greenhouse plants, arranged in groups of a kind, such as Heaths, Boronias, Epacris, and Pimeleas. A Bronze Banksian Medal was awarded to Messrs. Wm. Cutbush & Son, Highgate, for a group of Palms, Dracænas, Heaths, Daffodils, &c. Mignonette and Lily of the Valley from home-grown crowns were exhibited by Mr. W. C Leach, Albury Park. A basket of a white Cineraria named Improved Snowflake, and which is considered to be of some value for market purposes, was shown by Messrs. J. Carter & Co., High Holborn. A basket of double Primroses was shown by Messrs. J. Laing & Sons, Forest Hill. Two boxes of Tea and Hybrid Perpetual Roses were shown by Mr. Wm. Rumsey, Waltham Cross. He also had a very beautiful group of Roses in pots, for which a Silver-Gilt Flora Medal was awarded. A Silver-Gilt Banksian Medal was awarded to Messrs. B. S. Williams & Son, for a showy group of Amaryllis, Clivias, &c. A stand of cut flowers of Magnolia conspicua was exhibited by Mr. J. Hudson, gardener to the Messrs. de Rothschild, Gunnersbury House, Acton. A Silver Banksian Medal was awarded to Sir Trevor Lawrence, Bart., M.P. (gardener Mr. Bain), for a group of cut flowers of Anthurium of many varieties, set up with their leaves and Asparagus. A Silver Banksian Medal was awarded to Messrs. Barr & Son, Covent Garden, for a large collection of Daffodils in many varieties, set up with Palms and Ferns. A small group of herbaceous plants was shown by Messrs Paul & Son, Cheshunt.

At a meeting of the Fruit Committee a box of fruit of Vicomtesse Hericart de Thury Strawberry, and another of a very dwarf seedling raised from Keen's Seedling, and some Tomatos were shown by Mr. G. Wythes, Syon House, Brentford.

Some prizes were offered by the society for Daffodils, and the first prize for twelve varieties was awarded to H. Berkeley James, Esq. (gardener, Mr. James Gibson), The Oaks, Carshalton. The Rev. J. E. Bourne, Dunston, Lincoln, was second. H. J. Adams, Esq. (gardener, Mr. C. May), Roseneath, London Road, Enfield, had the best six varieties; and the Rev. G. P. Haydon was second. Some prizes were offered by Messrs. Barr & Son, Covent Garden, for groups of Daffodils. The first prize in this case was taken by the Rev. J. E. Bourne; A. Kingsmill, Esq., Harrow Weald, was second; Miss Reeves, Cork, took the third place; while the Rev. G. P. Haydon was fourth.

Birmingham Spring Show, held on the 6th and 7th inst., was a decided advance upon that of last year, in fact one of the best the society has ever held. The Orchid section showed a marked improvement

upon previous displays, and Mr. Chamberlain's collection from Highbury was considered one of the finest ever seen in the Town Hall. Mr. W. Bown, Beech Lanes, who was a very good second, also had an admirable group. The best eighteen Hyacinths were staged by Mr. N. Thwaites, Edgbaston, and the best twelve by Mr. A. W. Hulse, Beech Lanes. In other competitions the premier awards went as follows:—Lily of the Valley, Mr. Bown; Dielytras, Mr. Bown; Spiræas, Mr. J. A. Kenrick; Deutzias, Mr. Clayton; Roses in pots, Mr. J. R. Manley; Indian Azaleas, Mr. Bown; Azalea Mollis, Sir T. Martineau; Cinerarias, Mr. Manley; six stove or greenhouse plants in flower, Mr. Martineau; Ferns, Mr. W. Matthews; Palms, Sir T. Martineau; bouquets, Mr. W. Marriott, Coventry, and Messrs. W. Pope & Sons; cut Orchids, Mr. Bown; and Auriculas, Mr. J. Clements, Harborne.

Trade growers contributed largely to the success of the show, amongst them being Messrs. R. Smith & Co., Worcester, Messrs. Hewitt & Co., Messrs. W. Cutbush & Son, Highgate, Messrs. Thomson & Sons, Mr. R. Sydenham, Messrs. Pope & Sons, Mr. W. B. Child, and Messrs. R. P. Ker & Sons, Liverpool.

WHAT TO DO IN THE GARDEN.

Calatheas.—The present is a suitable time to increase the stock of Calatheas, including those grown under the name of Marantas, by division of the old plants, before they have made much young growth. Syringe the leaves now and again to keep them moist, but do not overwater till growth is again active.

Crotons.—Old plants of this class soon get leggy and unfit for decorative purposes; the tops may therefore be taken off and rooted, but if these are in excess of what is required, select only those with the best coloured foliage. If these tops are inserted singly in pots with all their leaves, they will soon root in a close frame if kept moist.

Dracænas.—The tops of most of the species of Dracæna will root readily if treated in the same way as Crotons. D. Goldieana is more difficult, and the usual plan is to ring it and cover it with a pot of light soil or some sphagnum kept moist till roots are developed. If a large quantity is desired then the stems may be laid along the back of the bed used for propagating purposes, slightly covering them with tan or Coco-nut fibre to encourage the development of young shoots. The latter may then be taken off and rooted in the same way as the tops. They will take longer time of course to attain a useful size.

Ferns.—Old plants that were not repotted recently will now require large supplies of water in proportion as they are growing; and if the pots are well filled with roots. Tree Ferns require large supplies, not merely at the roots, but the stems must be kept moist by pouring water over them once a day or heavily syringing them, using a coarse nozzle. If shading is used at all let it be put down only during the hottest part of the day, and rolling it up again early in the afternoon.

Cyclamens.—Plants that are going out of flower should not be dried off, but encouraged to retain their leaves as long as possible. For this purpose they may be placed in a frame, where they may be watered, syringed, and closed early in the afternoon for a time to encourage growth, and plump up the tubers. Seedlings may also be urged to make good growth by being kept in heat, so that they may be allowed a little rest later on before they commence flowering in autumn.

Zonal Pelargoniums.—For summer flowering, the plants cannot too soon be potted on in the case of old plants kept rather dry in pots all through the winter. Those that were cut back in the autumn and have started into growth will be the first to flower. Others may be pruned back now for a succession. In potting use a compost of good fibrous loam and sand with a little well-decayed manure. Pot firmly, and stand the plants in a well-lighted position, and give plenty of ventilation to ensure short-jointed, stocky growth, and a plentiful production will be the result.

Peaches.—More favourable weather now prevails, and advantage may be taken of sunshine to close early, allowing the temperature to run up, while the trees should be well syringed and all available parts of the house moistened. Heeling down and disbudding in the early houses should by this time be completed. Keep the trees well supplied with moisture at the roots, as they require it, applying it in a tepid state. Liquid manure may be given to those trees that are heavily laden with fruit.

Tomatos.—Those plants now being forced for early fruiting should have all the lateral shoots pinched out as they appear, whether they are grown in pots or planted out and trained under the roof. The atmosphere of the house should be kept rather dry while the plants are in flower. More water will be required if the plants are in pots than when planted out, but no liquid manure should be given until the fruits commence to swell.

Tea Roses.—The pruning of Tea Roses may now be accomplished. In a great many cases this will be limited to the cutting away of dead wood, and thinning out the shoots that remain so that when nailed in to the walls they will not be crowded. Those grown as standards will have to be pruned according to the strength of the shoots, the weak ones being pruned hard back and the strong ones left longer, at the same time keeping an eye upon the head so as to have it as well balanced as possible. Those grown on pillars may be tied in nearly at full length, shortening back the laterals to an eye or two unless they are very strong.

Strawberries.—Plants that have been forced and from which the crop is gathered may now be hardened off with a view to planting them out presently for autumn flowering and fruiting. A sunny and sheltered position should be chosen to make a plantation for this purpose. The plants may be put in the ground at intervals during the next six weeks, so as to insure a succession in October. Vicomtesse Hericarte de Thury is one of the best for this purpose.

QUESTIONS AND ANSWERS.

*** *Correspondents are requested, in order to avoid delay, to address all communications to* "THE EDITOR" *or* "THE PUBLISHER," *and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed* "*Bambusa London.*"

MATERIALS FOR PROTECTING TREES.—*Omega*: The frosts after this time of the year are usually not very severe, and tiffany or scrim canvas will serve to ward off a considerable amount from the blossom of your trees provided the weather is dry. Should they be subjected to a shower of rain and it should freeze while the trees are still wet, the blossom would be more liable to injury; but even then the materials we mention would do much to save it.

BUDDING PEACHES.—*Omega*: Peaches may be budded not only on two-year-old stocks but also on one-year-old stocks; but the budding in this case would have to be done near the base. If you want to bud them at 3 ft., 4 ft., or 5 ft. from the ground, as is often done, then you must have stocks that are several years old and have formed stems of some strength before the buds are inserted upon them.

NAMES OF PLANTS.—*Omega*: 1, The Double Chinese Plum (Prunus sinensis flore pleno); 2, The Neapolitan Allium (Allium neapolitanum).

DWARFING STOCK FOR PLUM.—*A. Haden*: The most dwarfing stock at present used for the Plum is Prunus Mahaleb, which is more extensively used upon the Continent than in this country. Naturally it is a slow growing tree and would therefore exercise a dwarfing effect upon trees grafted upon it. We should therefore use it for varieties of weak or medium vigour, leaving the stronger growing kinds to be worked upon some of the Plum stocks employed for the purpose.

CHARLOCK.—*J. C. L.*: If placed under garden crops you will soon be able to get rid of the pest by occupying the ground with Potatos, Peas, Turnips, or in fact anything that will permit of the ground being regularly hoed during at least the early part of summer, after which any plants that make their appearance may be hand weeded to prevent their seeding upon the ground. It will take a number of years to get the ground perfectly clean, because it is filled with seeds, and every time it is freshly dug or trenched a fresh crop of seedlings will make their appearance. This may be expected until all the seeds already in the ground have a chance of germinating. Being an annual, Charlock is a less annoying weed in gardens than Bindweed, Couch, or other pests of underground and creeping nature.

CHOISYA TERNATA.—*H. Adams*: You should try it against a wall, either on an east or west aspect. The shelter of a wall makes a great difference to the hardiness of this shrub; one of the reasons for this is no doubt, that the wall prevents the leaves from being injured by wind while in a frozen state. If the foliage was deciduous instead of evergreen it would be different, and the shrub under those conditions would have been better able to withstand the severity of our winter. Nail in the main branches, leaving the short lateral ones at full length, otherwise you will prevent the plant from flowering. Of course, should any of the branches present a straggling appearance, they may be shortened back after flowering to keep the whole neat and tidy.

VARIOUS.—*Flos*: 1. We do not know. Try a good second-hand bookseller. 2. Try Hatchard or Williams & Norgate. 3. We do not know of one. The *Zoologist* (monthly) might help you.

COMMUNICATIONS RECEIVED.—R. E.—Dobbie & Co.—W. C.—E. S. D.—J. B.—J. R. P.—J. McN.—E. H. K.—W. H. S.—P. & M.—E. C.—W. R.—A. K.

TRADE CATALOGUES RECEIVED.

J. CHEAL & SONS, Crawley, Sussex. — Dahlias, Chrysanthemums, Bedding Plants, &c.

LONDON SEED TRADE.

April 12th, 1892.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a steady demand for agricultural seeds. White Clover and Alsike are dearer, Red Clover and Trefoil steady, Ryegrasses easier.

COVENT GARDEN MARKET.

April 13th.

FRUIT.—AVERAGE WHOLESALE PRICES

	s. d	s. d.		s. d.	s. d.
Apples... per ½-sieve	1 0	5 0	Strawberries per lb.	2 0	4 0
Canadian and Nova Scotian Apples per barrel	12 0	25 0	New Grapes, per lb.	4 0	5 0
Tasmanian Apple per case...	8 0	20 0	Grapes .....per lb.	2 0	4 0
			Pine apples. —St. Michael's, each	2 6	6 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d
Artichokes Globe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Asparagus, Eng. bun.	10 0	13 0	Lettuces ...per dozen	1 6	2 0
Beans, French, per lb.	2 0	3 6	Mushrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	6 0	Small salading, punnet	0 4	
Celery.....per bundle	2 6		Seakale ...per basket	2 0	3 0
Cucumbers .....each	0 6	1 0	Spinach, per strike...	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	1 0	2 0
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Acacia var., per doz.	12 0	18 0	Foliage Plants, doz.	12 0	60 0
Azalea .....per doz.	18 0	42 0	Genista .....per doz.	8 0	10 0
—Mollis.....per doz.	24 0	36 0	Hyacinths,...per doz.	6 0	9 0
Cyperus .....per doz.	4 0	12 0	Lily of the Valley, doz. pots	12 0	18 0
Cineraria ...per doz.	6 0	10 0	Marguerites, per doz.	9 0	12 0
Deutzia...per doz ...	6 0	9 0	Palms in variety, each	2 6	10 6
Dracæna term., doz.	24 0	36 0	Palms, Specimen ...	15 0	63 0
Dracæna viridis, doz.	9 0	18 0	Primula Sinensis per doz.	4 0	6 0
Erica Willmoriana per doz...	12 0	18 0	—scarlet .....per doz.	4 0	6 0
— various, per doz.	9 0	24 0	Spiræas.....per doz.	8 0	12 0
Evergreens, in var. doz	6 0	24 0	Tulips.....per doz.	6 0	9 0
Ferns, in var., per doz.	4 0	18 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Acacia or Mimosa French per bunch	1 6	2 0	Narciss, var., Scilly, doz. bunches	2 0	4 0
Anemone various, French, doz. bun.	2 0	4 0	Narciss, French, paper white, doz. bs	3 0	4 0
Arum Lilies, 12 blms.	2 0	4 0	Pelargoniums, 12 sps.	1 0	1 6
Bouvardias, per bun.	0 6	1 0	— scarlet.....12 bchs.	4 0	6 0
Carnations, 12 blooms	2 0	3 0	Primroses, doz. bchs.	0 6	1 0
Daffodils, double, doz. bunches	2 0	4 0	Primula, double, bun.	0 9	1 0
—Single, doz. bchs.	2 6	6 0	Primula single, doz. sprays	0 4	0 6
Eucharis ...per doz.	3 0	6 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Freezia .....doz. bun.	2 0	4 0	Roses, yellow, dozen	2 0	6 0
Gardenias 12 blooms	3 0	6 0	— Red..... doz. blms.	2 6	6 0
Heliotropes, 12 sprays	0 6	1 0	— Saffrano...per doz.	2 0	3 0
Hyacinths, 12 sprays	3 0	4 0	— Tea ..... per dozen	1 0	3 0
Jonquils, doz. bnches	1 0	2 0	Spiræas...doz. bnchs	6 0	8 0
Lilac, French, per bunch	4 6	6 0	Tuberoses, per doz	1 0	2 0
Lilium Harrisii, doz. blooms	4 0	6 0	Violets, Parme, French per bunch	2 0	3 0
Liliums var., doz. blms.	1 6	3 0	— Czar, French bch.	1 6	2 0
Lily of the Valley, doz. bunches	6 0	10 0	— Dark, French, doz. bunches	1 6	2 0
Maidenhair Fern, 12 bs.	6 0	9 0	—English, doz. bchs.	1 0	1 6
Marguerites, 12 bun.	2 0	4 0	Wallflowers, French, doz. bunches	1 6	3 0
Mignonette... 12 bun.	1 6	3 0			

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Agricultural Economist.

An ILLUSTRATED MONTHLY MAGAZINE of 52 pages and cover Exponent of scientific and high-farming; advocate of co-operation in agriculture, in the supply of farm requisites and the sale of produce; organ of the Agricultural and Horticultural Association, the pioneer society for mutual supply of pure oilcakes, complete manures, reliable seeds and implements on wholesale terms. Specimen copy free. Subscription per annum, 5s. inclusive of postage. Single Copies 6d. each, through all Newsagents.—3, AGAR STREET, STRAND, LONDON. W.C.

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For Index to Contents see page 538.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, April 26.—Flower Show in the Town Hall, Manchester. National Auricula Society's Show, Northern Section, at same place. Sale of imported Odontoglossum crispum at Protheroe & Morris' Rooms.

WEDNESDAY, April 27.—Royal Botanic Society's Second Spring Show. Sale of Greenhouse and Hardy Plants, &c., at Protheroe & Morris' Rooms.

FRIDAY, April 29.—Sale of imported Orchids, at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, APRIL 23rd, 1892.

NATIONAL EMBLEMATIC FLOWERS.—We are told in the papers that our American cousins are pining for a national flower. We beg pardon of our Canadian compatriots; they object to these sweeping terms being applied to the denizens of the United States, as being too comprehensive. We will rather term the aspirators after a national flower as our brethren the "Yankees," for it seems absolutely impossible to find for them any more expressive appellation that is at once so short and so generally accepted.

Now England has its floral emblem in the Rose, and yet having about the most popular and beautiful of flowers seems to regard it as a national emblem with about the same respect that a donkey would. Our Scottish neighbours on the other

hand have but a Thistle for an emblem, and common, unsentimental, and prickly as it is, yet is it regarded by that nation with profound esteem. Such is the difference in temperament which distinguishes the phlegmatic Briton and the enthusiastic Scot. We do not learn that of the congerie of nations which make up the vast continent of America any other but the United States hunger after an emblematic flower. Canada is a gigantic part of that continent, but its people after all form only a colony probably, and are not yet a nation, though they will be such some day.

The United States would copy some of our big European nations in having its emblematic eagle, and sometimes its screams have been heard far and wide. It seems now as if the people were of a more humble disposition in seeking to have the lowly Pansy adopted as the national flower. We do not at all object. Unlike some other national floral emblems it blooms over a long season, and if the Americans like the Pansy no one will complain as we shall still have plenty left for our enjoyment as well as for all the rest of the world.

Expensive Patronage.—As some enthusiastic members of committees of flower shows sometimes think that the best way to steer a sinking ship out of trouble is to obtain Royal Patronage, the following facts may help to elucidate the value of this form of assistance. A Chrysanthemum society of some considerable reputation last year resolved to invite the attendance of some popular members of the Royal Family, at their Chrysanthemum exhibition. The day was fine, and the Royal visitors duly attended. There was also a large attendance of the public, especially of carriage folks. When the accounts are published, as they recently have been, it is found that whilst the special charges for fitting up a room, attendance, refreshments, &c., for the use of the distinguished visitors amounted to some fifteen guineas, the takings at the doors on the first day amounted to only fifteen shillings and sixpence more than the corresponding day of the previous year—rather a poor outset against the extra special expenditure. Nor was this all, as the second day's takings were less by twenty-four pounds than last year, so that the returns with the added special expense showed a total loss of about forty pounds.

The facts seem to illustrate the dangers incidental to seeking for patronage from high sources, and shows that after all it is safer to walk than to fly. Horticultural societies of any description can only hope to secure what is so needful—pecuniary success, by making their various exhibitions as attractive as possible to the mass, and not merely and meretriciously to the few or select. After all it is the paying patronage at the doors which leads to profit. Trust solely in the patronage of a limited body only leads to failure. It is too often found that the tune played is not worth the cost of the piper, and the society above referred to certainly found such to be the case. There will probably be less anxiety to have to bear the burthen of such White Elephants henceforth. Flower shows, if worth seeing, want no aids of the kind mentioned, whilst no one would object to their presence if they cost nothing. We must cater to secure the earnest co-operation of the mass, and then, as has been found in so many instances elsewhere, success seems assured.

"Chestnuts."—Amongst the appellative curiosities of an age of Americanisms is the use of the term "chestnuts," only with a stronger emphasis upon the first "t" than is usually given, to what we formerly called Munchausens, and our more frigid progenitors boldly called lies. There is no accounting for the origin of certain slang phrases, and they not unfrequently take their rise from very trifling causes. We have two very distinctive "Chestnuts" in vegetation—the Horse-chestnut, and the Sweet or Spanish Chestnut, of which something interesting has of late been said as to its original introduction into this country, in one of the London daily papers, and of the fruits of which we partake—both home-grown and imported—with considerable avidity.

We do not at all like the idea of classing fruits of this kind with ancient stories, howsoever humorous they may seem to be. The real deceiver of the nut tribe is the Horse-chestnut, for that is perhaps of all nuts the handsomest, as it is of home-grown produce the finest, and wears in its external appearance so much that is enticing. And yet we find in the flesh of this beautiful product that which is so obnoxious that partaken of unwittingly it is found to be a miserable deceiver. It is a literal as well as a figurative "chestnut," and yet spite of this deceitful character of the fruit, the tree which bears it is far from being of an unornamental aspect.

We really have in the Horse-chestnut one of the noblest of forest trees, one of the grandest of ornamental elements our Parks and Gardens can furnish. Not that its timber is of much use, much less so than is the wood of its sweet-fruited congener, which also in some soils attains to very noble proportions. We appreciate our vegetable Chestnuts with some respect and admiration, whilst abominating the "chestnuts" of the vocabulary of slang. However, there is solace in knowing that whilst the trees will flourish and fruit for centuries, that vulgarism may soon be buried in oblivion.

The Auricula.—Although the Auricula Show of Tuesday last was productive of no surprises, indeed having regard to the abnormally early date at which it was held, anything startling could hardly be looked for, yet the very accommodating nature of the show sections, as seen in the edged, selfs, and Alpines, was pretty freely demonstrated, and showed forcibly that after all, in spite of the assumed hardiness, those exhibitors who can do so prefer to treat them as greenhouse plants than as hardy ones. It is indeed an odd comment on the common assertion that Auriculas are perfectly hardy, that every plant in Tuesday's show should have had to be brought on in warmth.

We cannot believe that such constant culture in warmth conduces to perpetuate that hardiness of constitution which always marks the Auricula when naturally grown. Ordinarily the progenitors of the Florists, Auricula came to their hands originally from the regions of snow and therefore may well have ranked among the hardiest of nature's products. They have gone through a wondrous process of evolution since first operated upon by the hybridist, and we have now in the finest edged flowers probably Auricula perfection in form and in marking. Truly a first-class show Auricula flower is one fearfully and wonderfully made. Nature has done it all, but then only under the guidance of the Florist who has directed the process, manipulated the machinery, and compelled nature to obey his behests. Left to nature's sole guidance the Auriculas of to-day would never have seen daylight.

After all the human power which can call the lightning at command, and direct the electrical forces of the unniverse in a thousand useful ways, does nothing so very wonderful when it can in the course of perhaps a century change the simple Primula of the Alps into one of the most perfect flowers, showing also the most wonderful combinations in material and marking to be found in Floriculture. An Auricula pip is not much to look at. It is small and almost insignificant compared with a Poppy, a Rose, a Hollyhock or a Dahlia, but as an element in confounding the horticulturally wise it is little less than marvellous.

The Chicago Exhibition.—We are requested by Sir H. T. Wood, Secretary of the British Royal Commission, to state that owing to her Majesty's Government having increased to £60,000 the grant of £25,000 originally made for the purposes of the British Section at the Chicago Exhibition, the Royal Commission for that exhibition are enabled to dispense with the revenue it was proposed to raise by charging the exhibitors in proportion to the extent of space occupied, and that therefore all space in the British Section will now be granted free of charge.

The late Mr. Thomas Statter, of Stand Hall, Whitefield, steward to Lord Derby, and whose fine collection of choice and rare Orchids is shortly to be disposed of by auction, left personalty valued at £78,673.

The Rainfall.—It is stated that the aggregate rainfall for the present year is now far short of the average, the total since the beginning of January being less than two-thirds of the normal over the eastern and midland counties of England, and very little more than half in the west of Scotland and the south and south-west of England.

"Hints and Helps to Amateurs," is the title of a little work that will be found of much use to northern amateur gardeners requiring guidance in the cultivation of hardy and half-hardy Annuals, Biennials, Perennials, and Vegetables. The author, Mr. William Reid, 8, Haddon Street, Aberdeen, who is also the publisher, states that the cultural directions are by practical men, resident about Aberdeen, and therefore can be thoroughly relied upon.

Tasmanian Apples.—Messrs. Duthoit, Sansbury & Co., of Fenchurch Street, state that the P. & O. Steamer Victoria, which arrived in the Thames on the 10th inst., brought 8,984 cases of Tasmanian Apples, and that the Orient liner Oroya, which commenced discharging cargo on Tuesday, brought 7,600 cases. The shipments of Tasmanian Apples of the present season are expected to amount to about 175,000 cases—by no means a large increase over last year.

Mr. J. Carruthers, son of Mr. William Carruthers, F.R.S., head of the Botanical Department of the British Museum, has accepted the post of Lecturer in Botany at the College of Agriculture, Downton, for the coming summer. Mr. J. Carruthers is the author of a useful paper on "Larch Disease," and has been for some time Demonstrator of Botany under Professor Murray in the Royal Veterinary College, London.

Mr. John Barry, who for some years was clerk in the Royal Horticultural Society's Garden, at Chiswick, has been engaged as traveller in the Southern Counties to Messrs. W. Clibran & Sons, Oldfield Nurseries, Altrincham.

Peach Stones as Fuel.—It is stated that in California Peach stones are found to burn as well as the best coal, and give out more heat in proportion to weight. The stones taken out of the fruit that is tinned or dried is collected, and sold at the rate of 24s a ton. Apricot stones also burn, but not so well as peach, and do not command so good a price.

Royal Agricultural College, Cirencester.—In the examinations which brought the spring term to a close at this College, last week, a former student in the Royal Horticultural Society's garden at Chiswick, Mr. Arthur Noel Joseph Whitley, carried off the highest honours, he being first on the list of successful candidates for the College Diploma of Membership with a total of 1,908 marks out of the maximum number of 2,100. Mr. Whitley also won the Ducie Gold Medal.

A New Hybrid Rose.—A correspondent of *The American Florist* states that a Boston grower has been awarded a Certificate of Merit by the Mass.

Horticultural Society for a hybrid between R. rugosa and General Jacqueminot. "It is regarded as the finest hardy single rose ever produced, the flower being very large and of a colour rivalling if not excelling the General Jacqueminot. Habit robust like that of R. rugosa."

A Valuable Cherry Tree.—The *Newcastle Daily Chronicle* says that £220 has just been paid at Niedlahnstein, in the Rhine provinces. Owing to the extension of a railway, it became necessary to destroy a Cherry tree. The proprietor demanded 3,600 marks as compensation, but his claim was disputed as excessive. After long negotiations he has been awarded 2,400 marks. This amount may also be considered exorbitant, but it is the price which has to be paid for compulsory expropriation, and teaches a lesson which some English politicians would do well to learn just now.

The Severe Weather.—An extraordinary change in the weather from the heat of midsummer to the cold and snow of midwinter took place on Friday night or Saturday morning of last week, when a heavy snowstorm set in over all our southern and eastern counties, the depth amounting in many cases to 6 in., or more. The clinging snow, which was wet and heavy, soon wrought great damage to the telegraph wires, and by midday on Saturday communication was either entirely interrupted or seriously delayed between London and all coast towns lying between Lowestoft and Portsmouth. So extensive a breakdown in the middle of April is probably without precedent in the history of our telegraphic system. The bad weather was occasioned by a small barometrical depression which moved along the Channel, and which afterwards skirted the south-east coast of England on its way to the North Sea and Denmark. The downfall of snow was heaviest in Kent, in some parts of which county roads were blocked up with drift, and telegraph poles were brought down in all directions. Telegrams from various parts of the kingdom on Monday reported the continuance of severe weather. Snow and hail fell heavily on Monday in the West, and in Berkshire and Hampshire. The cold at Plymouth was intense throughout the day. In North Wales and Yorkshire the fall was particularly heavy. So far we have received no serious complaints with regard to injury to fruit blossoms.

Flower Destroyers.—As spring and the holiday-time arrives we hear, as usual, of the depredations of the flower destroyer. Almost every rare and therefore marketable fern in Great Britain has been rooted up where its locality is at all accessible, and the same fate has so frequently been meted out by so-called botanists to species in less popular favour that now-a-days the discoverer of the hiding-place of the Pink of the Five Wounds, the Yellow Oxytrope, the Acrid Lobelia, or the willow-like Fleabane, will reveal it only under an oath of secrecy to the most discreet of his friends. Otherwise it is soon transferred to that mass of learnedly-labelled hay known as "herbarium." The Swiss Cantons have been compelled to put the Edelweiss under Government protection, and from Japan we hear loud complaints from the Japanese botanists—and there is already a botanical journal in Japan—that the once abundant Alpine flora of Fusi Yama is fast being rooted up by the globe-trotting tourist. Now a wail comes from the Basses Pyrénees over the disappearance of the Daffodils of many species for which that region was formerly famous. And it is alleged that the offender is, in this case, an English resident who is robbing France in order to enrich himself and the dealer in roots for whom he is the agent.—*Manchester Courier.*

A Real Land of Flowers.—On Saturday afternoon last the Queen received a deputation from the Horticultural and Agricultural Society of Hyères. After the deputation had been formally introduced, M. Villard, the president, addressed her Majesty in the following terms: "Madame,—The very modest tribute which the Horticultural and Agricultural Society of Hyères has come to lay at your Majesty's feet was undeserving of the honour which your Majesty is pleased to vouchsafe in allowing us to greet the Sovereign who rules over such a vast portion of the globe. Our little corner of land and sea is indeed proud of having been chosen as the residence of a Queen whose presence cannot but prove as beneficial to our husbandry as many days of sunshine. May our flowers ever be the interpreters of our wishes for your Majesty's happiness here and in England for many years to come, and of the grateful and respectful feelings which are entertained for your Majesty by our agriculturists and horticulturists, and which are everywhere in our country associated, as they have been in the history of our century, with your most gracious Majesty's name." The Queen then accepted a bouquet presented by two little girls, dressed in white, who had accompanied the deputation, and after expressing her thanks, added that Hyères, which she liked so much, was a real land of flowers.

NEW & RARE PLANTS.

THE undermentioned subjects were exhibited at the meeting of the Royal Horticultural Society on the 12th inst., and received Certificates according to merit. Orchids receiving awards at the same time are recorded under "Orchid Notes and Gleanings."

UTRICULARIA HUMBOLDTII.—This noble species is a native of Guiana, from whence it was introduced in 1886, but has never before flowered in this country. The leaves are curious and variable in form, obreniform, wedge-shaped, or transversely oblong, and tapering into a long petiole, smooth, leathery, deep green above and very pale beneath The scapes reach a height of 2 ft. or 2½ ft , and bear a raceme of large bluish-purple flowers at the apex. The upper lobe of the two-lipped corolla is relatively small, orbicular, and elevated in the centre, forming an oval ring where it abuts against the palate of the lower lip. This latter process is very prominent, closing the throat of the flower, and has two elevated yellow ridges along its centre. The spur is very long, awl-shaped, decurved, and then upturned at the acute point which exceeds the lamina of the lower lip. The latter is transversely oblong, and all parts of the flower are darker when they first open. Cut flowers and leaves were exhibited by Mr. H. Ballantine, gardener to Baron Schroder, The Dell, Egham, and were awarded a First-class Certificate.

UTRICULARIA LONGIFOLIA.—The leaves of this species are linear-spathulate, smooth, somewhat leathery, tapering into a short petiole, and 3 in. to 8 in. long. The scape is about 15 in. high, and bears a raceme of flowers at the apex. The upper segment of the corolla is ovate and purple, as is the lower lip, which is reniform, notched at the apex with a prominent palate, on which there is a yellow blotch. A piece grown in a pan was exhibited by Messrs. F. Sander & Co., St. Albans, and received a First-class Certificate.

TECOPHILÆA CYANEO-CROCEA.—For description of this beautiful blue-flowered plant see p. 521. It was exhibited by Messrs. J. Laing & Sons, Forest Hill, and received a First-class Certificate.

RHODODENDRON CAMPYLOCARPUM.—The leaves of this Himalayan species are oblong-oval, cordate at the base, leathery but not very thick, deep green above, and paler beneath. The flowers are truly bell-shaped, five-lobed, pale sulphur in hue and without spots. They are borne in terminal trusses of six to eight and are honey-scented. The capsules or fruits are long and curved upwards, as is indicated by the specific name. The plant forms a branching and twiggy bush, ultimately reaching a height of 6 ft., requires greenhouse treatment, and flowers some time between April and June. A flowering shoot was shown by Messrs. R. Veitch & Son, Exeter, and received a First-class Certificate.

AMARYLLIS CRIMSON KING.—The dwarf habit and the dark crimson flowers of this species should recommend it to cultivators. A plant shown by Messrs. J. Veitch & Sons, Chelsea, bore two scapes from a bulb, and each about 12 in. high. One scape bore three flowers, while those of the second were only in bud, thus securing a succession. The flowers were widely bell-shaped and of a rich crimson-scarlet with darker veins; the outer segments were very broad and the inner ones not much narrower, while the leaves were about as long as the flower stalks. An Award of Merit was accorded the variety.

AMARYLLIS FIRE BRAND.—Here we have a vigorous variety with scapes about 2½ ft. high, bearing four flowers each. The latter are large, funnel-shaped with a tube of medium length, and the segments heavily striped with crimson-scarlet on a white ground. Exhibited by Messrs. Paul & Son, and accorded an Award of Merit.

NARCISSUS GOLDEN BELL.—The name of this Daffodil applies to the crown or trumpet, which is very large, bell-shaped or funnel-shaped, deeply toothed at the widely-spreading mouth, and of a bright yellow. The segments are broadly oblong, blunt, somewhat longer than the corona and sulphur yellow; the inner ones are somewhat narrower than the outer. Cut flowers of it were exhibited by the Rev. G. H. Engleheart, at a meeting of the Narcissus Committee, when a First-class Certificate was awarded them.

NOTES FROM NEW SOUTH WALES.

HORTICULTURAL matters have been somewhat "mixed" here during the past few months. The science is still under the fostering care of a society whose doings I will not stay to offer much comment upon. There has been much "hot-water" about already, and with the thermometer standing at blood heat in the shade more of it than can be avoided is not desirable. Suffice it to say that our Sydney Horticultural Society was working splendidly and had become popular, when some latter-day saint discovered that the executive were culpably mismanaging affairs, and in due time got them turned out, in such a way that speedily brought about the retirement of most of the trade members and many of the leading gardeners.

The summer has been a trying one for show flowers. Roses were decidedly wanting in quality, and Dahlias were by no means up to the mark. Chrysanthemums of course have time in their favour, and those varieties of the Queen of Flowers which will bloom at all in the autumn may yet give perfect satisfaction. After several weeks of excessively hot and dry weather we have just had the inevitable downpour, and will feel the benefits thereof for many weeks to come. In such seasons—and they are the rule rather than the exception—the Tea Rose with its hybrids comes to the fore to the exclusion of the H. P.'s; in fact so popular have the former become that the show Rose proper is at a discount.

Some time ago your valued correspondent out here, "G. H. K.," wrote with respect to the Dahlia on the disadvantage we are placed at in being unable from English trade catalogues to distinguish between true Cactus varieties and mere decorative sorts. We also labour under the same disadvantage with regard to the Rose. The descriptions which the catalogues give us of Bourbons generally leave us quite in the dark on the—to us—all important point of continuous blooming qualities. In a back number of THE GARDENING WORLD I noticed a comparison drawn between the respective merits of Souvenir de la Malmaison and Reine Victoria. Now Reine Victoria is, with us, a once-a-year Rose, and must consequently take a back seat, while the old "Souvenir" is one of the most popular sorts we possess, and is the variety above all others which gives satisfaction at all seasons.

Quite recently "Mrs. Paul" has come to us in the garb of a Bourbon, but has it not been stated that the seed parent is "Mme. Isaac Peréire," which we are accustomed to see in flower only in October and November, and then nothing remarkable as regards size or brilliancy of tint. "Mrs. Paul" is growing well, but so far the flower bud which we expect to see at the end of 15 ins. or 18 ins. of growth is still wanting. One of your contemporaries, I believe, has made mention of a climbing form of Souvenir de la Malmaison which originated here, and which will no doubt shortly appear on your side. From personal observation I can vouch for its vigour and genuine climbing habit.

We have yet another grievance. The word "full" appears to have a different signification in Europe to what we are accustomed to, and it is but the bare truth to say that many of the newer Roses have to be rejected absolutely because they are too thin unless their be some extraordinary feature in petal or tint. The colonial customer is somewhat exacting; for instance one day a gentleman walked into an arcade seed shop and asked for a packet of "mixed seeds." Being recommended Phlox Drummondi he remarked, "I want just a sixpenny packet of useful things for the garden, including Roses and Camellias," whereupon the seedsman of course collapsed. Our seedsman, however, are not wanting in enterprisise, for one of the leading houses offers seeds of Eucalyptus suitable for planting on the banks of Phlegethon—at least this is the inference we draw from the fact that the tree is warranted to stand 230° Fahrenheit. To judge from the terrible hot blasts we have been having at times, that historic river might have its source on the Australian continent.

The market for Colonial fruit just now is watched with considerable interest here. We notice that Peaches and Grapes from the Cape of Good Hope have realised well. Good Hamburgh Grapes have been retailed here at 2d. per pound, so you can

judge of the return to the grower! But how they are to be got to London is the problem. Recently, by way of experiment, a case was sent from Sydney to Fiji and back. The journey occupied about a month, and considing the season and climate the test must be looked upon as a pretty severe one. The result is considered highly satisfactory, but judging from the appearance of the fruit alone I have grave doubts on this point. The variety was apparently the Black Hamburgh—not the most suitable one I should say to stand such a journey.

We have yet to make a discovery before Peaches of high quality can be exported. At present they are scarcely to be obtained at all in Sydney. We propagate fine sorts, but the demand for the trees is restricted, as we are told "it is too difficult to market such fruit, and it will not pay for extra care in packing." One of the very best free-stone peaches here is Hale's Early. A soft cling stone—Governor Garland—recently received from America appears to be first-rate, and of their kind Crawford's Early and Shanghai are unsurpassed. We have been overwhelmed with novelties, but so far nothing very startling has been discovered among them, and some have been found quite unsuitable.—*C. B., Homelash, N.S.W., March 5th.*

THE WALLFLOWER.

The fields of Wallflower which are so largely grown for cutting for the London markets are fast getting into bloom, and the rich fragrance the flowers dispense fill the air with sweetness. But somehow or the other odoriferous Wallflowers and chilling east winds and snow storms do not go well together, and so much of the beauty of the pleasant springtime is lost. A local poetess, writing a few days since, says:—

"Winter is dead, and o'er his bed
The jewelled seraphs of springtime tread."

think winter is far from dead. The footsteps of the "jewelled seraphs" can be imprinted in snow; and their jewels seem to partake of the character of sleet. I think we must admit winter is very much alive, the fancies of the poet notwithstanding.

The Wallflower is a native of Southern Europe, and I am not quite certain if we can claim it as an indigenous plant. But it has made itself quite at home among us, growing on old walls, in quarries, and on sea cliffs. In its wild state the flowers are always single and of a bright yellow colour, but cultivation has done wonders with it, and in the present day we are in possession of varieties of various shades, pale yellow to gold, and bright chestnut to deep maroon. The habit of the Wallflower is almost perfect—dwarf, bushy, compact, very free blooming; but unhappily, hardy as the plant undoubtedly is, it is often wrecked during a severe winter. Fields of Wallflowers show great gaps of dead plants, thus demonstrating the trying character of the winter, which at the late Eastertide seems as if it will have no ending.

One authority tells us the Wallflower was introduced from Spain under the name of the Wall-Stock-Gillofer, which afterwards became Wall Gilliflower, and finally Wallflower; the facility with which it grows upon old walls accounts for the latter name. An amount of romance attaches to the flower, and tradition gives a poetic origin to it. It tells that, in by-gone days, a castle stood near the River Tweed, in which a fair maiden was kept a prisoner, having plighted her troth and given her heart's affection to the young heir of a hostile clan; but blood having been shed between the chiefs on either side, the deadly hatred cherished in these lawless days forbade all thoughts of the union. The gallant tried various stratagems to get possession of his betrothed, all of which failed, until at last he gained admission to the castle disguised in the garb of a wandering troubador, and as such he sang before his lady love, and finally arranged, with the aid of a serving woman, that the maiden should effect her escape, while he should await her with a noble courser and armed men. Herrick tells us the conclusion of the story in the following lines:—

"Up she got upon a wall,
Attempted down to slide withal,
But the silken twist untied,
So she fell and, bruised, she died.
Love in pity of the deed,
And her loving luckless speed,
Twin'd her to this plant we call
Now the flower of the wall."

From the fact that Wallflowers grew upon old walls, and were seen on the casements and battlements of ancient castles, and among the ruins of abbeys, the minstrels and troubadours were accustomed to wear a bouquet of these flowers as the emblem of an affection which is proof against time and misfortune.

I find in 1817 we had in cultivation in this country the single yellow and the single dark, and the double varieties of each. It would be interesting to know the origin of the latter, for they are very distinct in character and quite different in type from the German double varieties. I can quite regard the latter as essentially distinct from the former. I have never known the former to seed; the latter are obtained by means of seed. I think there is no doubt the German varieties originated as sports from the single Wallflowers. They are like the single German Wallflowers in growth, but as their business appears to be to throw up one gigantic flower spike when well grown, they rarely make much in the way of side growths. The old double varieties, which are frequently found in cottage gardens, take on a rather tall and somewhat free branching growth, which is altogether unlike the double German varieties. I think they came originally from some part of Southern Europe. Can any of your Scotch readers inform me how many varieties of the old double Wallflower there are? Of the single Wallflowers, there is a fine selection of the Blood-red, which is known under various names, and is largely grown in West Middlesex and elsewhere for market purposes. Perfect in habit, colour, and shape of flower, it appears to give all that can be desired. Cloth of Gold, Cranford Beauty, Golden King, Golden Tom Thumb (a name which is somewhat of a misnomer because of its somewhat tall growth), and Bedfont Giant Yellow, are all very fine types of the single yellow, and well worthy a place in the garden. Belvoir Castle Yellow, which is the Golden Tom Thumb of some, and Ware's Dwarf Golden represents a dwarf, compact, early-flowering variety, so pure in colour that the buds are yellow and the flower stalks pale green. It has a marked individuality of its own, and can be readily detected. The seeds are small, and pale in colour, unlike those of the larger single yellows, which are generally of the same colour as the seeds of the dark variety. Primrose Dame is a pale sulphur-coloured variety of the Belvoir Castle, and Faerie Queene is something of the same colour, both selections, to all appearance, from the Belvoir Castle.

The Single German Wallflowers are remarkable for their diversity of colours, and among them may be found purple tints. I have sometimes tried to perpetuate some of these, but without success. All the Single German Wallflowers appear to be of a lanky growth, and apparently wanting in constitution.

Wallflowers should be sown earlier than they usually are, as it is important they have time to mature their growth and so produce good heads of bloom. May is not too early to sow; certainly not later than June. A seed bed can be formed in any open, airy spot; it is not necessary the ground be rich. To make effective bedding plants it is a good plan to transplant to nursery beds as soon as large enough, and encourage the plants to form surface roots, and then at the end of the summer they move well to beds and borders without receiving a check. The aim of the cultivator should be to develop a short, stubby, free-branching, shrub-like growth; and then fine heads of bloom may be looked for. An over-rich soil induces a sappy and soft growth; at the same time it should have sufficient heart in it to help the plants to carry a good head of flower.

IRIS SINDARENSIS.

The falls of this Iris are of a light shade of blue with a median yellow line, while the erect standards are narrow and pale blue. The petaloid stigmas are darker. The light green, arching and channelled leaves are arranged in two bold ranks, and are of that type which shows that the plant belongs to the Xiphion section of Iris, having for its companions I. persica, I. tuberosa, and I. Rosenbacheana, to the last of which it has probably the closest affinity. Like the rest of this class it requires to be well ripened off after having made good foliage, and to be kept rather dry while it is resting. It flowered recently in the nursery of Mr. T. S. Ware, Hale Farm Nurseries, Tottenham.

THE HERBACEOUS BORDER.

Choice Plants in Flower.

Fritillaria latifolia.—The radical leaves of this plant are the broadest, and they are best developed on bulbs that are not sufficiently strong to flower. The stem leaves are linear-lanceolate, glaucous, and often grooved, especially the larger ones. The flowers are produced singly on stems about a foot in height, and are large, bell-shaped, drooping, of a brownish purple externally, marbled with pale greenish yellow, but of a deep brownish red internally and tessellated with a brighter yellow. Owing to its dwarf habit it should be planted in the front line of the herbaceous border in loose, friable soil if possible, and left alone so long as the bulbs are not crowded.

Iris caucasica.—This was originally introduced in 1821 but for some cause or other has never become common. The rootstock is tuberous as in the case of I persica, and may be grown in any good garden soil that is well drained. The leaves are subulate, channeled, sharply arched or curved and of a bright green. The flower stems rise about a foot in height and bear a number of flowers from spathes near the top of the stem. They are yellow with two brown blotches on the recurved lamina.

Anemone Pulsatilla.—The Pasque flower is a native of the English chalk downs, and when grown in gardens should be planted in open sunny positions in firm but well-drained soil. These conditions would often be found on the rockery, but in the absence of such a position it may be grown on an ordinary border and let alone so that it may get well established. The finely divided leaves form a compact tuft scarcely rising above the ground, while the one-flowered stems are not much higher. The sepals are purple and brightest internally, because the outer surface is densely covered with silky hairs which no doubt constitute a sort of protection to them during the cold weather of early spring.

Corydalis solida.—Although not an aboriginal native of this country, yet this plant has become naturalised on banks and cultivated ground, often not far from gardens or human habitations, thus showing that it finds conditions suitable to its well being. The glaucous leaves are two or three times divided and form a low, compact bush in early spring when flower stems are produced in great abundance just above the foliage. The flowers are purple and showy, but not appreciated at their value, because the plant is old fashioned and easily grown. It may be cultivated with success either in the open border or on the rockery.

Puschkinia scilloides.—In this we have another old garden plant often seen in gardens under the name of P. libanotica because it comes from Mount Lebanon as well as other parts of Syria, the mountain plants of which generally prove hardy in this country. In fact so hardy is it that the bulbs may be planted any where in well drained garden soil, or upon the rockery if so desired. The flowers are borne on racemes like those of a Scilla and are white with a sky blue line down the middle of each segment. They may be described as pretty, although not showy as they lack striking colour. Plants, however, that are able to take care of themselves when planted in the open ground should receive encouragement at the hands of the cultivator.

Anemone Hepatica.—An old fashioned flower, yet ever new, as it blooms afresh each succeeding spring, this never fails to captivate the lover of hardy plants when seen in its best condition. Good-sized clumps have the finest effect, especially if accompanied by good foliage, and the latter should be expected, seeing that it is perfectly evergreen when the necessary conditions are present. The plant is perfectly hardy, but evidently prefers a cool rather moist climate far removed from the smoke of towns, and to be left alone when once it is established. In town gardens it is too frequently lifted, and divided for the sake of numbers rather than size. The flowers vary from blue to rose, pink, and pure white, both single and double.

Sisyrhynchium grandiflorum.—Even in the far north this beautiful Iridaceous plant opens its flowers in April, if the winter and spring has not been all the more cold and protracted. Like Crocuses it seems to last longest in cool weather, and soon shrivels up in bright sunshine. The leaves are

narrow and grass-like, clothing the base of stems which rise to a height of 12 in. generally bearing about three, nodding, bell-shaped flowers of a dark purple. It is a native of North America and proves perfectly hardy in this country. In fact it does better in the open ground, in well drained moderately moist soil, than when protected by frames or in any other way which hastens the flowering period, weakens the leaves, and renders the flowers much less durable. There is a white variety that might be grown by way of contrast to the typical form. Where the garden soil is heavy a little peat would do much to correct it.

THE APPLE BLOSSOM WEEVIL.

The Apple blossom weevil (Anthonomus Pomorum) frequently causes much harm to Apple and Pear trees. In the last four or five years its injuries have much increased in fruit-producing districts, and in some instances these have been attributed to the caterpillars of the winter moth. Close examination of the blossoms has, however, shown that the larvæ or maggots of the beetle were in the centres of the flowers, destroying their powers of fructification, though at the same time caterpillars were feeding upon the blossoms and leaves. The action of this beetle upon the fruit-blossoms of Apple and Pear trees is also often taken for the effects of white frosts, when the petals have become brown or rusty coloured; but if they are closely examined, either the pupa of the weevil will be found within them, or the little round hole in the side of the withered flower-bud will be noticed, showing that the perfected weevil has cut its way out of its cradle.

The blossoms of Pear trees are attacked in a similar manner by this weevil, and great mischief is sometimes caused, especially in orchards where Pear and Apple trees are planted together.

In France this weevil has lately occasioned incredible damage in the orchards of Brittany and Normandy. So great have the losses been in the Department of Morbihan that a syndicate of defence against it (Syndicat de défense contre l'Anthonome) has been formed at Pontivy, consisting of a committee in each commune, to carry out a series of operations calculated to destroy this enemy of Apple-growers. It is only by unity of action among cultivators that injurious insects of this and many other kinds can be stamped out, or their baneful effects upon crops materially decreased.

Description of the Weevil.

It is a very small creature, only about one-fourth of an inch long, and not the eighth of an inch across its body. It is reddish or chestnut-brown, with down or pubescence of a greyish hue upon it. Some specimens are almost piceous in colour. The wing-cases have pale marks upon them below the middle. There is a conspicuous white mark, or scutellum, at the base of the wing-cases. The legs are reddish; the thighs of the anterior, or first pair, are large and furnished with a formidable tooth on each; and the feet, or tarsi, are darker coloured. Its rostrum, or snout, is the most remarkable feature, being half as long as its body, slightly curved, with antennæ near its extremity, furnished with oval clubs having four joints.

Like many other weevils, it falls down when disturbed, tucks in its snout and legs, and remains motionless, feigning death until the danger has passed.

Its Life History.

In the first warm days of spring the weevil issues from its winter retreat under the bark of trees, among lichen and mosses upon their branches, or under stones, grass, leaves, and rubbish under them. Curtis and Schmidberger considered that the females seldom use their wings, but that the males fly freely. Dr. Henneguy, to whom a special mission was entrusted by the French Minister of Agriculture to investigate fully the habits of this insect in Brittany, states that both sexes fly easily, and with equal frequency.

Either by flying or by crawling, the female finds its way to the blossom buds of Apple and Pear trees, and boring a hole with its snout, places one egg within each bud, and carefully closes up the aperture. This is the mode of oviposition described by Curtis and other economic entomologists. M. Petit, Departmental Professor of Agriculture in Morbihan, who has studied this insect, states, however, that the female does not perforate the flower-buds with its snout for egg deposition, but with a stylet placed in the extreme end of its body like a bee's sting. M. Petit remarks that by pressing the body of a female weevil this stylet is protruded, and can be seen with a glass. "It is hard to admit," he adds, "that the insects should execute a complicated manœuvre obliging it, after having pierced the bud with its snout, to turn round and place the egg in an invisible hole, smaller than the egg."

A female lays from fifteen to twenty eggs, but places one only in each flower-bud. Dr. Henneguy observes that the process of laying one egg takes about three-quarters of an hour. The egg is yellowish white, and oval. Authorities agree that the period of egg-laying in an individual female may be continued for at least a fortnight. The eggs are hatched in from five to nine days, according to the condition of temperature, and the larvæ come out.

The larva, or maggot, is without feet, about four lines long—the third of an inch—when full grown. It is wrinkled, and white at first, gradually becoming of a yellowish hue, having a brown head with two little brown spots on the first segment. It lies in the bud in a curved form, and attacks the stamens and pistils, but, according to Dr. Henneguy, it rarely touches the ovary. It soon causes the petals to wither, the flower-bud changes to a rusty hue, and decays.

Then the larva turns into a pupa, close upon a quarter of an inch long, yellowish white, with its long rostrum, or snout, and feet folded on the under side of its body. It remains in pupal state for about ten days, and then assumes weevil form and bores a hole through the petals and emerges.

Most practical entomologists have held that the weevils after this live during the summer feeding upon the leaves of Apple trees. Dr. Henneguy, from close observation, has come to the conclusion that they do not feed at all, but derive sustentation from a reserve of fat, *corps graisseux*, stored up in their bodies during the pupal state. Towards the end of September the weevils can no longer be seen. They retire for hibernation to chinks in the bark of Apple and Pear trees, also in the lichenous and mossy growths upon their branches, as well as under stones and rubbish beneath and around the trees, and possibly in many other refuges. Dr. Henneguy thinks that they may pass the winter under the bark of other trees than Apple trees, as he has found them upon Oaks during the summer.

Circumstances of the Attack.

According to the natural and unfailing instinct of insects, the weevils do not appear until the weather is mild and the flower buds have begun to swell. If the season is, and continues, warm and growing, the effects of the attack are usually of a comparatively slight character. But should the weather be cold and changeable, as is so often the case in Great Britain and in the north and western parts of France, the flower buds are slowly developed, and the weevils consequently have time to lay their full complement of eggs, whose period of hatching is accomplished before the buds have become full flowers. As Dr. Henneguy remarks, this makes cultivators say that the cold winds have rusted the Apple blossom.

The varieties of Apple trees which blossom very early and very late are more likely to escape the attacks of the weevil than those of the main crop, whose blossom comes late in May in ordinary seasons. Dr. Henneguy observes that in 1888 in France some varieties resisted the attack, especially one known as Douce du Jarrell, very free blossoming, three parts of whose buds produced flowers from the 14th to the 29th of May, and another variety named La Goupillière, which blossomed from the 17th to the 31st of May without having a bud invaded by the weevil.

Modes of Prevention and Remedies.

A method of prevention adopted in France and strongly recommended by M. Petit, who has been before referred to, is to spray the limbs and branches of Apple trees between October and February with a solution of sulphate of iron, in order to destroy the lichens and mosses which serve as harbours for the weevils and other insects. M. Petit's recipe for this solution is one pound of sulphate of iron to one gallon of water. This can be sent up among the branches by means of a strong garden engine with a powerful pump.

Another good way of killing lichens and mosses on fruit trees, adopted in Kent, is to throw freshly slaked powdered lime over the branches in foggy weather in winter. This is done by men having scoops like flour scoops fastened to poles.

It is advised that all grass, leaves, and rubbish should be cleared away underneath fruit trees on grass land, and on cultivated land it would be well to dig round the trees and apply lime or lime ashes, or soot and lime mixed.

The tarred or greased bands put round fruit trees to prevent the ascent of the female winter moths might hinder female weevils from ascending, assuming that Curtis, Schmidberger, and others are correct in their opinion that the female weevils do not care to fly.

In Brittany, some Apple growers scrape the bark of the trunks and large branches of the Apple trees with a scraper, and brush every part with a stiff carpet brush, having placed a cloth round the tree to catch the pieces of bark and the beetles that may fall on it. These are collected and burnt. Some limewash the trunks and limbs after this process. Others apply a composition of lime and naphthaline, but Dr. Henneguy reports that this is not effectual in keeping away the weevils.

In Great Britain it has been found that limewashing trees is not effective against insects unless the bark is thoroughly cleared off and the wash worked well into every cranny while it is fresh and hot.

Insecticides have been tried in France at the time of flowering but without good results. Sulphur is burnt in a vessel at the end of a pole and applied close under the branches of the trees. It takes, it is said, about a quarter of an hour to treat one tree, at a cost of about 5d. According to some who have tried this it has answered, but experiments made at Rouen and Saint Ouen de Thouberville proved far from encouraging.

It is most difficult to employ insecticides with advantage, as compositions strong enough to kill or drive away the weevil would probably injure the tender buds, and after the larva is in the bud it is hopeless to attempt to reach it.

A mode of decreasing the number of these weevils adopted in parts of France, and recommended by several who have practised it, is to shake the branches of the trees to make the insects fall on a cloth spread below.

The cloth, an old rick-cloth being best, is cut and arranged so as to fit close round the trunk of the tree. A labourer gets up into the tree and shakes the branches violently, while two others, having long poles with hooks at the ends, also shake the branches within their reach. Other labourers sweep the cloth with stiff carpet brooms, and shovel up the debris together with the weevils into a sack. This must be done rapidly, and before the weevils can fly away. It is stated that four men and two boys treated in this way 110 trees in a day.

Experiments proved that it is necessary to perform this operation two or three times on each tree, as the weevils are not all shaken off at first. A tree, for instance, from which at the first shaking nearly 1,000 weevils had fallen, yielded 385 five hours later, and 145 the next day. In the orchard of the Ecole pratique d'Agriculture des Trois Croix, near Rennes, with 347 Apple trees on eight acres, the cost of treatment, which occupied three days, was only £1. Nearly 450,000 weevils were destroyed, and there was a satisfactory crop of Apples.

This operation must be carried out before the weevils lay eggs, and in order to accomplish this it is necessary to watch closely for their first appearance, and to begin with the earliest varieties of trees.

It is, of course, most desirable that the Apple growers in a district should combine and arrange to wage war in this fashion simultaneously, and with the same care and energy.

This mode of destroying the Apple blossom weevils might advantageously be practised in Great Britain. It would also be useful in the case of the attacks of other insects, as the winter moth caterpillars, for example.

There are several parasitic Hymenoptera which destroy the larvæ, and some kinds of birds devour both larvæ and weevils, as the robin, tomtit, and chaffinch, and some species of linnets. It is believed that the tomtit and chaffinch extract the larvæ from the buds.—*Communicated by the Board of Agriculture.*

Mexico has applied for 8,000 feet in the horticultural building at Chicago, and Germany for 10,000 feet and as much more as they can get. Chief Samuels says the question is not of exhibits to fill space, but how to satisfy those who apply for it. It is the same in all departments.

THE INTERNATIONAL HORTICULTURAL EXHIBITION

The International Horticultural Exhibition, to be opened at Earl's Court on the 7th of May, and of which we give a plan on the opposite page, is now in such an advanced condition as to insure its being practically complete at the date of the inaugural ceremony. It bids fair to be the most interesting and attractive exhibition that has hitherto been held in these spacious grounds, which have undergone a transformation truly remarkable, the configuration of the landscape having been changed almost out of recognition with its former self, and it will be admitted the alteration has been for the better.

It was a happy idea to hold an exhibition devoted mainly to the illustration of the various phases of the horticultural arts. The last International Horticultural Exhibition held in England was in 1866, and in the interval that has elapsed since that date great strides have been made in the art of cultivating flowers, plants, and vegetation generally. The object and purpose of the exhibition, therefore, are something more than mere amusement; although, as will be seen, the recreative element has been lavishly provided for. In aim, plan, and scope, it is not too much to say that the scheme embraces the science of horticulture in its entirety, and with a gentleman of such eminence in his profession as Mr. Henry Ernest Milner, F.L.S., Assoc. M. Inst. C.E., as director-in-chief, the best attainable results are likely to be realized. Knowing his subject thoroughly, Mr. Milner has been able so to arrange the building and grounds that when completed they will present a succession of scenes in which "Flora and country green" are laid under contribution, constituting a charm and a delight to the eye at every turn. On all sides, the beauties of Nature, full of glow, and colour, and fragrance, will be there to captivate the spectator, no discordant features being allowed to encroach. The bazaar element has been excluded completely. It will be in every respect a genuine, wholesome, healthy exhibition, in which all classes of the country will find delight and instruction, and for those who want lighter amusements there will be military bands, the best that England and the Continent can provide, such miscellaneous outdoor sports as archery, shooting, and so forth, while the great arena and the adjacent ground will be given over to the attractions of Buffalo Bill and his augmented horde of Red Indians, whose interpretations of life in the Wild West are sure to afford excitement enough for everyone.

Strenuous efforts are being made so that by the opening day every vantage point will be aglow with flowers and foliage. In the large entrance hall a large fountain occupies the central position, and will throw its spray up admist a delicious setting of palms and ferns, whose refreshing greenness will form a beautiful point of radiation for the general picture. Figures and groups of statuary will show forth from masses of bloom, and one section of the hall will be ablaze with Roses and cut flowers of various descriptions, a constant succession being insured for the entire season. The side halls to the right and left are set apart as picture galleries, the contents of which will be chiefly illustrative of horticulture.

In the main building, a central avenue 20 ft. wide will extend down the whole length of the building, interrupted only at the half-distance (at the foot of the Earl's Court entrance steps) by an open space, where another large fountain, grouped round with masses of tropical greenery will form a striking object of beauty. Branching off from the main avenue on either side, will be a series of groups of exhibits of plants and flowers, and specimens too numerous to indicate here of garden accessories and implements of every kind. The side halls will form a continuation of the picture galleries previously referred to; and a very pretty decorative idea is given effect to in the large central space, the four corners being occupied with groups of statuary and flowers illustrating spring, summer, autumn, and winter respectively. The columns that support the roof are daintily painted and decorated with bloom and foliage, and the roof itself is charmingly draped with coloured muslin, from which are suspended festoons of rose wreaths. A little distance beyond the fountain a band-stand has been erected, where, as occasion serves, one of the military bands will discourse sweet sounds. Conservatories and greenhouses of the most approved patterns, specimens of garden pottery, ferneries of exquisite grouping, designs in rock-work, and appliances of every description will help to make up the general completeness of the display. A large space at the northern end of the building, as shown on the plan, has been devoted to an undulating stretch of English landscape garden under cover, laid out with the utmost picturesqueness, with grass plots, gravel walks, and raised beds, and surrounded by a background of painted scenery that seems to carry the illusion to regions remote, where purple hills and smiling valleys of rare verdure melt away into the horizon. Great palms, tree ferns, flowering shrubs, and the choicest flowers will combine to make this portion of the exhibition an exceedingly popular feature. Month by month the beds will be changed, so that the plants and flowers proper to the season may always be seen in perfection. Mr. Turner, of Slough; Messrs. B. S. Williams & Son, of Holloway; Messrs. Cutbush & Son, of Highgate; Mr. Lane, of Berkhamstead; and Mr. Phippen, of Reading, will supply the beds direct from their several nurseries. Mr. Halley, the well-known scenic-artist, is responsible for the panoramic and other paintings, and they do him very great credit.

In the pleasure grounds all is changed from last year. The level stretches of ground upon which the theatre looks are no longer waste patches, but will be found laid out in great beds of flowering shrubs; banks of brilliant Rhododendrons, clusters of golden Yews, and masses of Azaleas, &c., and the outer boundary lines have been treated in such a manner as to largely enhance the beauty of the view. From the wall of the main building to a point near the theatre, a scenic background representing an elegant terrace garden has been erected; and the top portion of the ground beyond the theatre is walled in as it were by a gigantic painting, the perspective of which is so cleverly managed that the walks seem to stretch away into distant space. This monster picture depicts the Long Walk in Windsor Park, which blends most effectively with the general scene, the illusion being perfect. The space between the theatre and the painted vistas of Windsor is devoted to the purposes of an enclosed flower market, where floral delights of every description will be on sale. At the other end of the picture there will be found a reproduction of a Japanese Garden, with its temples and tea-houses arranged in dainty quaintness; and close by an Indian Tea Garden will offer a very special attraction, Tea plants being shown in a state of healthy growth, while in an adjoining house visitors will be able to witness the manipulation of the precious leaf through its various stages of treatment until ready for the tea-pot, and after that they will be at liberty to sip the newly decocted beverage under conditions particularly acceptable and enjoyable. Before crossing one of the bridges to the switchback side of the grounds it may be well to take a peep into the Insectivorous House, however, near the main building, and there be initiated into one of the most remarkable of the many curiosities of plant life.

Crossing to that extensive portion of the grounds that forms the western boundary, occupying the entire space between the railway and the switchback, the visitor will come upon a bewildering series of gardens, each separated from the other by some cunning device of Mr. Milner's in the shape of hedgerows or banks, terraces, or trees.

A special object of attraction here also will be a massive presentment of a Tudor mansion and garden, with frowning battlements and other architectural features characteristic of the period. A short distance away the scene changes from Tudor England to Ancient Rome, and in a charmingly arranged enclosure will be found reproduced with marvellous fidelity a Roman garden, with its colonnades and terraces adorned with statuary, and having as its dominating feature a villa built after the style of that of Pliny. After that comes a bit of ancient Egypt, where the landscape gardener and the scenic artist have achieved a veritable triumph. A temple such as the Pharaohs worshipped in with the mystic rites is depicted for us, the entrance thereto being guarded by a model of the Sphinx, while intermingling with the view we have a glimpse of the Nile shown, its banks studded with Lotus trees and Date Palms. Another variety of garden is presented in a sample of a modern Italian garden, in which zig-zag walks, giant shrubs, sparkling fountains, and elegant statuettes and vases will form a fascinating combination of the beauties of art and nature. There is also a counterpart of a Jacobean garden, taking us back to a time when an affected pastoral simplicity was associated with a systematic attempt to "improve" nature; trees, hedges, and flowers being cut, trained, and trimmed into geometrical shapes whose severity of outline was in direct opposition to natural growth and development. Here will be seen the prim, shaven and shorn yew hedges, the clipped trees, and the straight flower beds that may be regarded as typical of the artificiality of Jacobean times and manners. The Georgian era has also its representative garden, and finally our own Victorian age will be amply illustrated, not only in a special garden to itself, but in the thousand and one evidences of floral beauty scattered over the exhibition generally.

The exhibition is divided into sixteen different groups, ranging from A to Q, inclusive, and these groups again have their own particular sub-divisions. Every possible aspect of horticulture is provided for in these groupings, and in each of the sixty odd classes therein specified, prize medals of gold, silver, or bronze, and certificates will be awarded, as well as money prizes of considerable amounts. Not the least important feature of the exhibition, also, will be a series of daily lectures and practical demonstrations, which will take place in the lecture and experimenting halls.

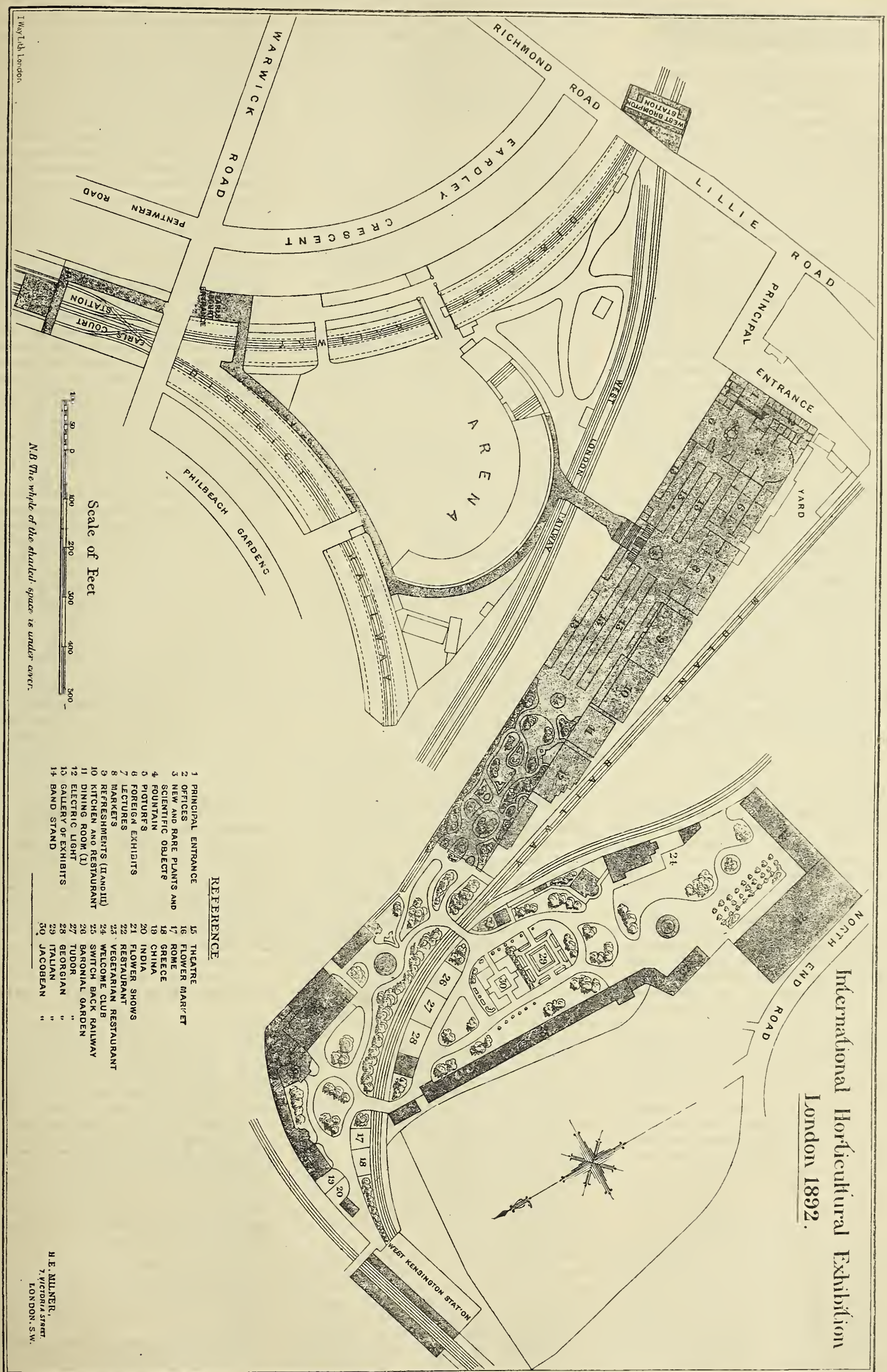
In the two large buildings near the North End Road, each measuring some 50 ft. wide by 200 ft. long, flower and fruit shows will be held from time to time, and there will be occasional flower fêtes, in which we may expect to see festive displays recalling the famous floral festivities so common in Southern Europe. The dates of these special gatherings have not all been positively fixed as yet, but the following may be mentioned as having been already arranged for: Show of groups of plants (flowering and foliage) from nurserymen, on May 7th, the opening day; the great summer flower show on May 27th and 28th; the market growers' show on June 6th, 7th, and 8th; the show of Roses, table decorations, etc., on July 5th and 6th; the market growers' and cottagers' show on August 1st, 2nd, and 3rd; and the show of autumn flowers on September 9 and 10.

It ought to be added that the entire net profits of the exhibition will be devoted to such gardening charities as the executive committee may select.

THE YULAN.

When seen as a bush 3 ft. or 4 ft. high, Magnolia conspicua, or the Yulan of the Chinese, is attractive enough, but it is far more imposing when allowed to attain a height of 20 ft. or 30 ft., which it will do in this country where sheltered from the north and east winds, as it is at Gunnersbury House, Acton, where a tree in such a position is now one of the grandest objects of the garden. It is about 20 ft. high, and more than that in diameter, and flowers every year, but not always with the same profusion as it is doing just now. The flowering period lasts for about three weeks, and during that time the ground could not be better occupied by any tree. What frost we have had does not seem to have injured the blossoms, judging from those shown at the Drill Hall on the 12th inst., by Mr. J. Hudson, gardener to the Messrs. de Rothschild. Neither have the flowers ever been of a purer white, a fact which may be attributed to the dry state of the atmosphere and the comparative absence of fog since Christmas last. There has therefore been no deposit of soot or other filth upon the flowers from the atmosphere to spoil either their purity or fragrance. The fleshy nature of the petals enables the bloom to last in a presentable and useful condition for some time in a cut state, while several basketfuls would never be missed where the quantity is so great. Some people consider that the want of leaves is an objection or a fault in the tree; but the flowers are seen to great advantage as they are, and would be greatly hidden by the presence of leaves.

Preston and the Jersey Potato Trade.—At a meeting held at Preston last week, it was demonstrated that a vessel sailing from Jersey with Potatos would, by putting in at Preston, enable the cargo to be delivered at its destination three hours and a half earlier than if it had been taken to Fleetwood, while the cost of railway carriage would be considerably reduced.


International Horticultural Exhibition
London 1892.
RICHMOND ROAD
LILLIE ROAD
WEST BROMPTON STATION
WARWICK ROAD
EARLSFIELD CRESCENT
PENTWERN ROAD
CARLS COURT STATION
PRINCIPAL ENTRANCE
ARENA
WEST LONDON RAILWAY
PHILBEACH GARDENS
YARD
NORTH END ROAD
WEST KENSINGTON STATION
Scale of Feet
N.B. The whole of the shaded space is under cover.
REFERENCE
1 PRINCIPAL ENTRANCE
2 OFFICES
3 NEW AND RARE PLANTS AND SCIENTIFIC OBJECTS
4 FOUNTAIN
5 PICTURES
6 FOREIGN EXHIBITS
7 LECTURES
8 MARKETS
9 REFRESHMENTS (II AND III)
10 KITCHEN AND RESTAURANT
11 DINING ROOM (I)
12 ELECTRIC LIGHT
13 GALLERY OF EXHIBITS
14 BAND STAND
15 THEATRE
16 FLOWER MARKET
17 ROME
18 GREECE
19 CHINA
20 INDIA
21 FLOWER SHOWS
22 RESTAURANT
23 VEGETARIAN RESTAURANT
24 WELCOME CLUB
25 SWITCH BACK RAILWAY
26 BARONIAL GARDEN
27 TUDOR "
28 GEORGIAN "
29 ITALIAN "
30 JACOBEAN "
H.E. MILNER, 7, VICTORIA STREET, LONDON, S.W.
I Way Lith. London.

FLORICULTURE.

National Auricula Society.—Southern Section.

The annual exhibition, held in the Drill Hall, James Street, Westminster, on Tuesday, was greater in extent than was generally anticipated, but as on account of the early date fixed, the plants had more or less been brought on in heat, that the flowers should have been rough and uneven in quality to such a marked extent was not to be surprised at. The Rev. F. D. Horner, of Kirkby Lonsdale, was the only northern exhibitor, though not present in person, and northern growers generally were represented only by Mr. Ben Simonite. We noticed the names of a few new growers in the small classes, but the exhibits all round call for no special comment. The attendance was poor throughout the day.

The following is the prize list:—

Twelve Auriculas, dissimilar.—1st, Mr. James Douglas, Great Gearies, with Elaine (Horner), Prince of Greens (Traill), Black Bess (Woodhead), Rev. F. D. Horner (Simonite), Mabel (Douglas), Mrs. Potts (Horner), Acme (Read), Marmion (Douglas), Fanny Glass (Douglas), Abbe Lizst (Douglas), and Magpie (Horner); 2nd, Mr. T. E. Henwood, Reading; 3rd, Mr. C. Turner, Slough; 4th, P. J. Worsley, Esq., Rodney Lodge, Clifton; 5th, Mr. A. J. Sanders, gardener to Viscountess Chewton, Bookham Lodge; 6th, G. Edgar Frere, Esq., The Camels, Wimbledon Park.

Six Auriculas, dissimilar.—1st, Mr. Douglas, with Mrs. Potts, Rev. F. D. Horner, Abbe Lizst, Marmion, Acme, and George Lightbody (Headly); 2nd, Mr. T. E. Henwood; 3rd, Mr. A. J. Sanders; 4th, Mr. J. Sargent, Millfield, Cobham; 5th, Mr. C. Turner; 6th, P. J. Worsley, Esq.

Four Auriculas, dissimilar.—1st, Mr. W. Badcock, Reading, with Rev. F. D. Horner, Marmion, Black Bess, and Richard Headly (Lightbody); 2nd, Mrs. Kyrke Penson, Dinham, Ludlow; 3rd, Mr. C. Phillips, Reading; 4th, Mr. W. L. Walker, Reading; and 5th, the Rev. L. R. Flood, Merrow Vicarage, Guildford.

Two Auriculas, dissimilar.—1st, Mr. W. Badcock, with Rev. F. D. Horner and Richard Headly; 2nd, Mr. C. Phillips; 3rd, Mr. W. L. Walker; 4th, Rev. F. D. Horner; 5th, Mrs. Kyrke Penson; 6th, Rev. L. R. Flood.

Single specimens. — Green - edged: 1st, Mr. Douglas; 2nd, Mr. W. Badcock; and 3rd, Mr. Henwood, with Rev. F. D. Horner; 4th, Mr. Douglas, with Monarch; 5th, General Neil (exhibitor's name not discoverable); 6th, Mr. Henwood, with Rev. F. D. Horner; 7th, Mrs. Kyrke Penson, with Colonel Taylor (Leigh); 8th, Mr. W. Badcock, with Rev. F. D. Horner. Grey-edged: 1st, Rev. F. D. Horner, with Samuel Barlow (Bolton); 2nd, Mr. W. Smith, Bishop's Stortford, with George Rudd; 3rd, Mr. W. L. Walker, unnamed; 4th, Mr. Douglas, with Marmion; 5th, Mrs. Kyrke Penson, with Conqueror of Europe; 6th, Mr. A. J. Sanders, with Lancashire Hero; 7th, Mr. C. Turner, with A. Meiklejohn; 8th, ———, with General Bolivar (Smith). White-edged: 1st, Mr. T. E. Henwood, with J. Simonite (Walker); 2nd and 3rd, Mr. Douglas, with Acme; 4th, Mr. Turner, with Beauty (Traill); 5th, Mr. A. J. Sanders, with Acme; 6th, Mr Henwood, with Mrs. Dodwell (Woodhead); 7th, Mr. W. Badcock, with Conservative (Douglas); 8th, Mr. Turner, with Gannymede (Turner). Selfs: 1st, Rev. F. D. Horner, with Precision (Horner); and 2nd, with Kathleen (Horner); 3rd, Mr. Douglas; and 4th and 5th, Mr. Henwood, with Mrs. Potts; 6th, Mr. W. Badcock, with Heroine (Horner); 7th, P. J. Horsley, Esq., with Heroine; and 8th, Mr. R. Dean, with Mrs Potts.

Fifty Auriculas.—1st, Mr. Douglas; 2nd, Mr. Turner; 3rd, Mr. W. Harper, Mill Mead Nursery, Guildford; and 4th, J. Weston, Esq.

Twelve Alpine Auriculas, dissimilar.—1st, Mr. W. L. Walker, with Mrs. Martin, Hotspur, Defiance, Edith and eight seedlings; 2nd, Mr. Turner; 3rd, Mr. Douglas; 4th, J. Weston, Esq.; and 5th, Rev. L. R. Flood. Six Alpine Auriculas.—1st, Mr. W. L. Walker, with unnamed seedlings raised by Mr. Henwood; 2nd, Mr. Turner; 3rd, Mr. C. Phillips; and 4th, Mr. Douglas. Four Alpine Auriculas, dissimilar.—1st, Mr. A. J. Sanders, with King of the Belgians, Diadem, Sensation and Mercury; 2nd, Mr. C. Phillips; 3rd, J. W. Melles, Esq., Chingford; 4th, Rev. L. R. Flood. Single specimens, gold centre.—1st, Mr. Turner, with J. Beswick; 2nd and 3rd, Mr. Henwood, with Florie Henwood and Hotspur; 4th and 5th, Mr. Douglas, with Unique and Nellie Hibberd. White centre.—1st, Mr. Henwood with Mary Francis; 2nd, Mr. Turner, with Countess; 3rd, Mr. Henwood; and 4th, Mr. Turner, with Edith.

Six Gold-laced Polyanthuses, dissimilar.—1st, Mr. R. Dean, Ealing, with Lord Beaconsfield, George IV., S. Smith, William IV., and two seedlings. Three Gold-laced Polyanthuses, dissimilar.—1st, Mr. A. Mottershead, Slough, with Napoleon, Prince Regent, and George IV.; 2nd, Mr. J. Douglas; 3rd, J. Weston, Esq. Single Specimen Polyanthus, Gold-laced.—The winning flowers were George IV., William IV., Lancashire Hero, and Prince Regent, but we could not discover the names of the exhibitors.

Twelve Fancy Auriculas.—1st, Mr. Douglas. Twelve Polyanthuses, dissimilar.—1st, Mr. R. Dean; 2nd, Mr. Douglas. Twelve Primroses.—1st, Mr. R. Dean; 2nd, Mr. Douglas Twelve Primulas, distinct species.—1st, Mr. Douglas. Six Primulas, distinct species.—1st, O. T. Hodges, Esq., Lachine, Chislehurst. Basket of Primroses.—1st, Mr. R. Dean.

Seedlings.—First prizes were awarded to the Rev. F. D. Horner, for a green-edged variety named Commander; and to Mr. C. Phillips, for a self-named Mabel Phillips. In Alpines Mr. Phillips took 1st and 2nd prizes with Evelyn and Emily, gold centres; and Mr. Henwood took a first, and Mr. Turner a second, with Winifred and Phyllis, white centres.

ROSES.

Both in the forced and the cold houses, these flowers will now be making quantities of young growth. All gardeners and amateurs know how very necessary it is to keep these clean, but very few of them start upon the right lines and begin the war against insects in time. Here and there a fly may be seen, and too often these are neglected for a few days. In such a case, before a week is gone the house will often be badly infested; whereas a very slight fumigation or gentle syringing would have stopped and prevented such harm.

My plan, after considerably over twenty years of practical work among Roses under glass, is to begin as soon as I see the first insect. There are bound to be many that do not meet our eyes, and when we bear in mind how very rapidly they increase, it stands to reason that it is the height of folly to neglect them for a few days. Oftentimes they are left under the impression that it is scarcely worth while to fumigate for so few. This is altogether bad economy; stop the few first, and you then prevent the birth of thousands during the next few days.

It does not matter what insect or disease you are threatened with, prompt and early measures must undoubtedly be the best. Whether it be scale, fly, red spider, thrip, maggot, or mildew, no excuses can be made for leaving it a few days because in your opinion it is not bad enough yet to take much trouble over. If you allow yourself to be deluded with such an idea as this, you will soon discover that their increase and spread has got beyond your control with injury to the plants.

I cannot too earnestly recommend that all insect pests be battled against immediately they appear. The saving in labour and insecticides is sufficient reason for this, independently of the more satisfactory results to your plants. You will find it is an excellent plan to use a solution of half, or even of a third, of the strength recommended upon the bottles. If you will only use this very weak solution three times a week, giving them a thorough good syringing with it, you will prevent any insects from establishing themselves. This is really the great point in cultivating Roses under glass, and far more general success would be met with if such a simple idea was more strictly carried out.

As for insecticides, bad ones are not worth putting upon the market, and so my readers may use any of those advertised in your columns with confidence. If your plants are already much infested you must take measures to get them clean, and then follow on upon the lines I have already indicated. This operation will require a great deal of care as the young growth of Roses is very tender; consequently it will need judgment to apply sufficiently strong measures for killing the insects without injuring the young growths. Proceed in this way:—Give the house a fumigation at night, not filling it with dense fumes of smoke but keeping up a slighter fumigation for a much longer time than is generally the case. You need use no more material, and will most assuredly do more good and with far less risk of injury. A lengthened fumigation of less strength is more effectual. It worries or suffocates the insects to death, if I may so describe it, and will kill older flies as well as the younger ones. A stronger and shorter application may kill the young flies, but many of the older ones will recover, to say nothing of the risk of injuring the plants. I apply a little tobacco paper or rag early in the evening and again the last thing at night. Never have the fumes so dense that you cannot see fully ten to twelve feet into the house.

After fumigating give a thorough syringing the following morning, using the weaker solution I have recommended. Syringe again the next morning, but use the insecticide at the full strength advised on the bottle. This will effectually clear off the young insects born or hatched in the meantime, and also finish off the few that may have survived the weaker solution and smoke. Continue to use the weaker solution as I advised in the earlier part of this paper; you then keep the enemy down with very little trouble. Sometimes, more especially after an easterly wind with bright sunshine, green-fly and other insects increase with extraordinary rapidity, so much so that it has even been considered they were borne to their quarters by these winds. It is the same indoors and out, therefore this cannot be the case. However, it is very certain that there are times when these pests increase much more quickly than usual, and in such cases it will be well to fumigate and follow this with a syringing. Fumigation will not kill scale. It is best to burn the plant, or at any rate remove it from all others, giving it a stronger solution of the insecticide and applying this with a sponge or brush. You cannot kill scale with any solution that would not be too strong for the young foliage, therefore you must take due care when trying to eradicate this very injurious and hardy insect.

A few words devoted to mildew, and this short paper will close. It is generally accepted that cold draughts, drought, and sudden changes in the temperature are the causes of this very insiduous disease. By avoiding the causes as much as possible, and syringing with a weak solution of any good insecticide, mildew may be prevented. To cure this disease when it has once gained a foothold is a very difficult matter, and one which takes time. Flowers of sulphur, wet into a paste and smeared here and there upon the hot-water pipes, will check it; but I find that any ordinary insecticide with a solution of half strength, and quarter of a pint of paraffin to about twenty gallons of the solution, will kill. Care must be taken to keep the whole well stirred, as the oil does not assimilate readily. The moral of this paper is to syringe your Roses frequently, and use a weak solution of some good insecticide; of these there are many, and I have no preference for one over the other.—*Experience.*

CULTIVATION OF THE PLUM.

In offering a few remarks on the cultivation of the Plum, the first question which presents itself is one of very grave importance, and one which I am afraid we shall have to leave just where we found it, as it is in a state of great confusion at the present time. Our authorities are not at all agreed regarding the most suitable stocks on which to grow our Plum trees for particular purposes. There are several stocks, all called Plum stocks, but the term is very misleading, as we have the Mussel, Brussels, Brompton, St Julien and several more all called Plum stocks. But there is no certainty which is the most suitable for working different varieties of Plums upon. Plums to a very great extent are not influenced very much by any of the known stocks, but all seem to grow very much alike. The stock has yet to be discovered to influence the Plum in the same manner as does the Paradise the Apple and the Quince the Pear. This question of stocks is one that it is hoped the next Plum Conference will take in hand and leave in a satisfactory state.

As a rule Plums succeed best in a good sound loam of fair depth, resting on an open dry subsoil. They are not, however, very fastidious as to soil, and will

thrive fairly well in any ordinary garden soil, provided it is efficiently drained; particular attention must be paid to the drainage, as they cannot stand a wet, sour soil at any price. It is also important that the situation should be sheltered; if not naturally, artificial means must be resorted to, by planting belts of pines or other quick growing subjects. If the ground is open to the south and slopes in that direction it will be an advantage.

All planting where possible should be done in the autumn, also root pruning. The Plum is one of the most manageable of fruit trees under the modern system of cultivation, and the roots of no other fruit tree are so easily kept within bounds.

The trees should be planted in an alternate manner, and sufficiently far apart so as not to overshadow each other; 6 ft. is about the average to plant bush or pyramid trees, which are to be root pruned or lifted bi-annually. Generally speaking young Plum trees grow too strongly the first few years after planting; to counteract this I strongly recommend them to be lifted and replanted. Replanting and root pruning are the same in effect, but in all cases where the trees are growing rampantly I would lift entirely and replant, root-pruning those which are not growing quite so strongly. In planting care should be taken to have a solid foundation for the tree to rest upon, and have the roots laid out horizontally as near the surface as possible, as in such a position they are readily influenced by any extra treatment we feel disposed to give; and to keep trees in a bearing condition under what I might call the high pressure system it is absolutely necessary to have the roots under control. Heavily cropped trees which show signs of distress can also be improved by lifting the roots and replanting in fresh soil; if they are carefully lifted and replanted immediately in good soil, no check will be given; large trees can be done half at a time for safety.

The pruning of the branches is an important item in the cultivation of Plums, not that there is an amount of labour required, but rather the other way, as the less pruning done the better, at least for a profitable crop of fruit. When the foundation of a good tree is laid, the pruning knife should be laid aside, and only brought into use to remove cross branches and regulate the young growths where too thick.

The most natural shape for the Plum to grow in is the bush form, and undoubtedly it is to be recommended where it can be adopted.

Pyramid Plum trees are however very beautiful objects when in flower, and more so when carrying a good crop of fruit. A good crop of fruit, however, does not always follow a good show of blossom, as that dreaded enemy of the Plum (a late spring frost) very often intervenes and separates the two, by the destruction of the reproductive organs.

All feeding given to the trees must be applied on the surface in the form of mulchings, and during a dry summer copious supplies of water should be given.

The fan shape is the best form in which to train wall trees, and the branches should be kept sufficiently far apart to allow every leaf full exposure; as the leaves of different varieties vary greatly so will the distance between the branches. The pruning of wall trees differs somewhat from that which I recommend for those grown in the open; the regulating of the growths should be done while the tree is growing, any branches which take the lead of the remainder should be pinched to keep the tree well balanced. If sufficient growths can be obtained to cover the wall, without cutting back the branches in the winter, it will be an advantage. I would only advise hard pruning when more branches are required to fill up, all shoots not required to furnish the tree must be pinched in the summer at about the fourth or fifth leaf, and in the winter spurred back to about two eyes.

Frequent washings in dry weather are very beneficial in all cases, but more especially when grown on walls, as then the foliage is more liable to get choked with dirt. Heavy waterings must be given to the border during summer, especially in the early part of the season when the fruit is swelling, and its beneficial effect will be plainly seen in the size of the fruit. Wall trees are very often allowed to suffer greatly from drought. The object in planting the trees against a wall is to obtain in the majority of cases an increased amount of heat from the sun, in doing which we lessen the supply of moisture by the increased warmth and the shelter of the wall. This deficiency must be supplied to obtain the finest samples of fruit; it is also important that the border be mulched to keep in the moisture. Over-cropping should be guarded against, where quality and size are preferred to numbers; a little timely thinning of the clusters should be practised and a marvellous difference will be made

In a private establishment where choice dessert Plums are in demand, an unheated house devoted to their culture is a great acquisition, as under the protection of the glass the finer varieties can be brought to that pink of perfection which it is impossible to obtain in the open air, with such an uncertain climate as we possess. The season is also considerably prolonged and the fruit efficiently protected. Orchard house culture differs very little from that of the open walls. A little more attention is required in watering and syringing, but with this exception the other details of cultivation are practically the same. The trees should be planted out in a prepared border, which does not need to exceed 18 in. in depth. Pot trees should only be grown where a great variety is required from a limited space.

Uses.

The different uses to which Plums can be put are very numerous, and the majority of us are familiar with them in various forms I have no doubt. When perfectly ripe they form a most wholesome dessert, and for culinary purposes they are invaluable. Preserved in various forms they are also very acceptable, as then they are available all the year round.

In France and other parts of the Continent large quantities of Plums are dried and sent to market in various forms, and are sold as French Prunes, Plums, etc. They form a very important item of export in some places.

There is one form of preserving them to which I would like to call your attention for a few moments, and as briefly as possibly. It is with the "American Evaporator," one of which we have in the gardens here (Chiswick), and no doubt many gardeners saw it in operation last season. With this machine the fruit is preserved in a wholesome and palatable manner for several years, thus tending to equalise the prices and give us a supply of good culinary Plums all the year round. By this method the fruit is evaporated, not dried; and I would strongly recommend to you to try the difference in flavour of the evaporated produce. When there is an abundant crop of Plums, as was the case last season in some districts, the surplus should be evaporated, and thus prevent the market being glutted with fruit for which there is no sale, and thus save money to the country by supplying our own wants.

Varieties.

As already mentioned, the number of varieties there are to select from is very numerous. Victoria is the most popular Plum of the present day. It is the *best* culinary Plum, and is grown successfully all over Great Britain; for dessert it is only second-rate. It originated in Sussex, and was first known as Sharpe's Emperor, but was ultimately sold by a nurseryman named Denyer, at Brixton, under the name of Denyer's Victoria, in the year 1844. Jefferson I recommend as the best dessert Plum; I am well aware that several other varieties possess quite as good a flavour, notably several of the Gage type, but the majority of them are such shy bearers as not to be worth growing. Jefferson came originally from America, where it was raised by a Judge Buel, and named in honour of President Jefferson. The following twelve varieties are the best dessert Plums in general cultivation:—Jefferson, Coe's Golden Drop, Green Gage, Kirke's, Early Transparent, Oullin's Golden, Transparent Gage, Lawson Golden, Reine Claude de Bavey, Denniston's Superb, Washington, and Angelina Burdett. And the twelve most useful culinary Plums are:—Victoria, Pond's Seedling, White and Red Magnum Bonum, Early Prolific, Goliath, Diamond, Early Orleans, Washington, Kirke's, Grand Duke, and Prince Englebert. And if I had to select three for each purpose, the desserts would be, Green Gage, Coe's Golden Drop, and Jefferson; and for culinary purposes, Early Prolific, Victoria, and Kirke's.—*T. W.*

The Carnation: its History, Properties, and Management, with a descriptive list of the best varieties in cultivation. By E. S. Dodwell. Third edition, with supplementary chapter on the yellow ground. London: Gardening World Office, 1, Clement's Inn, Strand, W.C. 1s. 6d.; post free, 1s. 7d.—[Advt.

THE TRILLIUMS.

Trillium stylosum is a shy little beauty, hiding its wavy pink petals under its top cluster of three sessile leaves, so that you must look closely to find it. The leaves are oblong, tapering to both ends, and the rose-coloured petals of the flower are much longer and broader than the greenish sepals. I believe this species is not common north of Virginia.

The queen of all Trilliums is T. grandiflorum, or White Wood-Lily, as it is sometimes called. It blooms later than the others, and in the northern states is somewhat rare, but in the southland is perhaps the commonest of all the species. The plant is usually about a foot in height, with only one stem, springing from a tuberous root-stalk. Its three leaves near the top are of a bright, shining green, deeply veined, a little longer than broad, and barely sessile. On a peduncle 2 to 3 in. long is borne a single nodding white flower, showy and handsome. The petals are often 2 in. long, and change with age to rose colour.

Three other white Trilliums are sometimes found in our woods—T. cernuum, another nodding wake-robin hiding beneath its leaves, and T. album and declinatum, varieties of T. erectum. The last two are not clear and snowy, like T. cernuum, nivale and grandiflorum, but are somewhat clouded with pink or yellow.

T. grandiflorum is somewhat given to sporting, and besides its snowy white form with sessile leaves, it has been found in various states with petioled leaves and pink flowers, marbled with yellow and deep rose.

The Trilliums are truly American plants, only one species being known outside of America; this is found in Japan. If we were obliged to import Trilliums from Japan, or Holland, or Asia, instead of merely digging them in our own woods, we might appreciate them better and plant them oftener in our gardens. English gardeners import these American plants, and besides using them for lawns and shaded walks, are trying to naturalise them in half-open woods and moist, rich places.

The Trilliums adapt themselves readily to garden culture. The only special point to be observed in their cultivation is that they need partial shade for full leaf-development, without which large perfect flowers are an impossibility. T. grandiflorum likes a drier soil than most other varieties, and under cultivation gives flowers as large as the White Lily of our gardens.—*American Gardening.*

GARDENING MISCELLANY.

ANGELS' TEARS.

The above name is aptly given in allusion to the delicately coloured and drooping flowers of Narcissus triandrus, the corona or crown of which varies exceedingly, both in size and colour. The species was introduced from Portugal in 1629, and is probably not much more common now than then. A figure of it was given in an early number of the Botanical Magazine, t. 48. The segments are reflexed or turned in the opposite direction from the corona, hence the flowers may be compared in some respects to those of a Cyclamen, though structurally they are very different. The corona is of the same pale hue as the perianth segments in the variety N. t. concolor, but in other varieties or forms it is of a clear yellow, short, and cup shaped, elongated and narrow, or very wide and inflated. All these forms may be seen in the nursery of Mr. T. S. Ware, Hale Farm, Tottenham. The bulbs should be planted in light sandy soil, and left undisturbed for a number of years, for then they grow strong and flower every year. Although they may be flowered in pots, yet it is by no means conducive to the longevity or vigour of the bulbs which get smaller under that treatment.

BEGONIA CORALLINA.

The merits of this Begonia have not yet been fully recognized, otherwise its dissemination in gardens would have been more universal since it introduction from Brazil in 1875. The height to which it grows may be objected to by some, if the intention was to grow it in pots for ordinary decorative purposes. Its proper place is in the stove or intermediate house where it should be grown as a climber, and where it will grow to a height of 6 ft. to 12 ft., and keep on flowering from the axils of the leaves as it grows.

The leaves are obliquely oblong, of a rich dark green above, and often of a purple hue beneath. The flowers are produced in large pendulous cymes, and their beauty depends upon the female flowers which persist for a long time after the others have dropped. The five sepals are not very large, but the ovary itself, its three broad wings, and the branches of the inflorescence are all of the same bright coral-red hue. During the winter months when flowers are comparatively scarce, the large bunches of bloom produce quite a showy and livening effect. No less beautiful is it in spring, for it seems to flower continuously all the year round, provided it is kept growing. It is flowering at present with Mr. D. Cooper, gardener to E. M. Nelson, Esq., Hanger Hill House, Ealing.

RHODODENDRON CHAMÆCISTUS.

A BED of peaty soil on a sheltered part of the rockery would be the most convenient and suitable place for this dwarf Alpine shrub. It is very different from other species of Rhododendron in cultivation, and more sesembles a Cistus, as the specific name implies. The branching stems seldom if ever exceed the height of 6 in., and are closely covered with lanceolate, strongly ciliate evergreen leaves. The flowers are produced in pairs from the tips of the previous year's shoots, and are deeply divided, somewhat bell-shaped, with five segments, of a pale purple or almost white except on the basal half, which is pinkish both outside and in, and striated with a deeper purple at the very base internally. The anthers are black. The species has a pretty wide distribution in cold countries or at high elevations both in Europe and Asia, so that the want of hardiness cannot be brought against it.

OMPHALODES VERNA.

THE small, bright blue flowers of this plant strongly resemble those of a Forget-me-not, but the botanist finds a great difference in the fruit between the two subjects independently of the broad ovate leaves. With exception of Myosotis dissitiflora and two of the Pulmonarias there are few if any other Borageworts to compete with Omphalodes verna at this early period of the year. It has been flowering for some time past in the gardens at Hanger Hill House, Ealing, and the blooms although small are interesting and attractive.

PASITHÆA CÆRULEA.

THE habit of this little known Liliaceous plant may be compared to that of an Asphodel, as it has fleshy fibrous roots, radical leaves, and long, branching flower stems. The leaves are linear, channelled, light green, and 12 in. to 18 in. long. The flowers are of a rich deep blue, including the oblong segments, the stamens which completely cover the young ovary, and the style. The ovary is green, but, as already stated, it is hidden, so that the golden yellow anthers only are different in hue from the rest of the flower. The scape is branched or panicled in the upper portion, bearing a considerable number of flowers. The general appearance and the colour of the flowers may be compared to those of Dianella cærulea, but the habit of the plant is different. As the latter does best when planted out in a cool conservatory, so we believe that Pasithæa cærulea would give most satisfaction when treated in that way, as we doubt its being hardy as hardy plants are reckoned. No doubt it would prove hardier than Dianella because it is perfectly deciduous.

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.

ROOT GALLS ON CATTLEYAS.—In a previous calendar I referred to the root galls on Cattleyas, and as this is about the time the flies emerge from their hiding place, I would advise that this house be fumigated twice weekly should there be any trace of the pest. This will also get rid of any thrips and aphis that may have escaped the vigilance of the man in charge. When dipping the plants most subject to these pests, we remove the plants that are in flower to another house during the operation. We generally fumigate lightly late in the evening, and again early next morning, choosing a dull day; should the morning be bright the blinds are rolled down before the sun gets on the plants, and the atmosphere kept on the dry side whilst the fumigation is being done. Another troublesome pest is the stock-seed scale, which if allowed to gain any hold is very difficult to eradicate. As fumigation does not touch it other means must be employed to destroy it. Sponging is, so far as I know, the only means of effectually combating it. It attacks the young growths of Cymbidiums, Cyripediums, and sometimes Vandas, from which it is very difficult to dislodge, as any insecticide strong enough to kill it would injure if not kill the plant. We use soft soapy water when syringing.

The past week has been a trying one for Orchid growers and gardeners generally. The utmost care in giving air has had to be exercised, whilst the fires have been kept going during the night as if we were in the depth of winter so bitterly cold has the wind been, and the snow that fell this morning, April 16th, covers the fields in this district to a depth of 12 inches.

COOL HOUSE.—Odontoglossum Hallii coming into flower will receive much benefit if watered with manure water once a week, this also applies to Od. triumphans, Od. Crispum, &c., that are pushing spikes. I am a great advocate for giving these manure water when they are in a fit state to derive benefits from it, as by this I mean when they are in robust health, making strong growths and have plenty of roots. It would of course be folly to give manure to any plant in a sickly condition, with the idea that this will restore it to health. Odontoglossum cordatum is a pretty Orchid not often met with in the best condition. I find it does best when grown in a basket, putting but a small quantity of material about its roots which are large and fleshy, and seem to delight in rambling about the basket at will. Some of the roots of our plants hang quite six inches below the basket. Should the weather continue cold there will be no necessity to raise the temperatures in any department by having recourse to fire heat, but should it set in mild a few degrees higher at night from those given in my last calendar could be maintained with ease.—*C.*

Cypripedium Chamberlainianum.

THE leaves of this fine new species are strap-shaped, leathery, channelled along the centre, and of a uniform green hue; on the whole they are similar in character to those of C. Rothschildianum or C. Sanderianum. The plant shown by Messrs. F. Sander & Co., St. Albans, on the 12th inst., had a scape about 12 in. high with one flower open and four others in bud, or more. The upper sepal is creamy white, except at the base, which is brownish-purple, with six or eight broad veins of the same hue extending upwards upon the pale ground colour. The petals are oblong, undulated at the edge, nearly horizontal, slightly twisted above the middle, ciliate, and heavily spotted with blackish-purple on a pale yellow ground. The lip is short, inflated, densely spotted with deep purple on a paler purple ground, with the mouth of the pouch and the claw of a creamy-yellow. A First-class Certificate was awarded it.

Cypripedium Lawrebel.

IN this we have a garden hybrid between C. Lawrenceanum and C. bellatulum, the name of the hybrid being compounded of those of the two parents. The leaves are oblong, greenish-yellow, variously and irregularly tessellated or marked with dark green, resembling those of the first named parent which we understand bore the seed. The one-flowered scape is only about 6 in. high. The upper sepal is roundish or almost oblate, and deep purple with darker veins, a white edge, and slightly shaded with green at the base. The petals are oblong and of a deep purple, spotted with black and shaded with green at the base. The lip is somewhat compressed at the sides and of a deep purple. The staminode or process on the apex of the column, is reniform, deep purple, and pubescent. The dwarf habit of the plant and the short, broad, upper sepal as well as the lateral flattening of the lip remind us of C. bellatulum. The plant was shown at the Drill Hall on the 12th inst., by Sir Trevor Lawrence, Bart., M.P. (grower, Mr. W. White), Burford Lodge, Dorking, and received a First-class Certificate.

Dendrobium Euryclea.

THE parentage of this hybrid was D. Wardianum crossed with D. lituiflorum. The sepals are oblong-linear and rosy purple, while the petals are oblong, slightly twisted, and white with a purple tip and a slight shading of the same hue near the base. The lip is ovate with an involute claw covering the column, two large purple blotches at the base, separated by a paler line, and blush white upwards with a purple tip. The above was exhibited by Chas. Ingram, Esq. (gardener, Mr. Bond), Elstead House, Godalming. A plant was also shown by Messrs. J. Veitch & Sons, Chelsea, and which was derived from D. lituiflorum as the seed parent, crossed with the pollen of D. Wardianum. In this case the petals were broader, and more purple, while the lip was of a purer white in the middle. Both plants received an Award of Merit.

Odontoglossum Pescatorei Lindeniæ.

A VERY beautiful variety of O. Pescatorei under the above name was exhibited by Messrs. Linden, l'Horticulture Internationale, Parc Leopold, Brussels. The arching scape bore seventeen fully expanded flowers and some buds, and was branched towards the base. The sepals were lanceolate, white, shaded with rose on the back, and furnished with a dark purple blotch above the middle. The petals were ovate and white, with two to four deep purple blotches on the centre, more or less united into one irregular piece. The lip was broad, suddenly narrowed to a point, and having three large purple blotches in front of the crest. As a variety it was certainly well marked, bold, and handsome, and had been sold by Messrs. Linden for £80. An Award of Merit was accorded it.

Lælio-Cattleya Marriottiana.

THIS strikingly distinct bigeneric hybrid has fusiform pseudo-bulbs reminding us of those of L. Anceps, only they are much larger and 6 in. to 8 in. long, and terminated by two oblong, channelled, and leathery leaves. The scape terminating the pseudobulb is 18 in. to 20 in. long, bearing a raceme of ten flowers. The sepals are lanceolate-oblong, and blush coloured, but when they first expand they are of a clear yellow. The petals are oblong-elliptic, about twice as broad as the sepals, and of the same colour both in the earlier and later stages, except that as they get old they are more decidedly reticulate with purple on the nerves. The lip is closely infolded at the base forming a very narrow tube over the column, while the lamina is narrow, strongly undulated along the sides, and pale sulphur with rosy edges, but both these colours are darker on the first expansion of the flower. Lælia flava was the seed parent, and the pollen was obtained from Cattleya Skinneri. It is certainly a new and distinct break amongst this class of plants, but it loses on account of the narrowness of all parts of the flower. An Award of Merit was accorded it when shown by Sir Wm. Marriott, Bart., The Down House, Blandford, at the Drill Hall, on the 12th inst.

Cypripedium Swinburnii.

THE upper sepal of this hybrid is ovate, greenish, with brownish-purple veins and a white edge. The petals are oblong-spathulate, purple, and heavily blotched with blackish-crimson spots on the lower half. The lip is green reticulated with an olive shade and suffused with brown near the mouth, reminding one of what occurs in C. venustum. The leaves are oblong, tessellated with deep green on a grey ground, and the one-flowered scape is about 16 in. high. An Award of Merit was accorded it when shown by Messrs. Heath & Son, Cheltenham.

Bulbophyllum (Sarcopodium) Sillemeanum.

THE pseudo-bulbs of this species are ovoid or sometimes bluntly triangular and terminated by a single, lanceolate, leathery leaf. The drooping one-flowered scape is about 3 in. long, and yellow. The upper sepal is short, oblong, and the lateral ones broadly oval, obtuse; while the petals are lanceolate, much smaller, and of a bright yellow, as are the sepals. The lip is seated on the end of the column, moveable, heart-shaped, strongly reflexed or revolute in the middle, blunt and purple with a yellow blotch round the sinus. The column is relatively broad, yellow, and finely dotted with purple. The whole flower is about half the size of the better known B. Dearei, but very distinct in colour. A Botanical Certificate was awarded it when shown by Sir Trevor Lawrence, Bart., M.P.

Masdevallia Wendlandii.

THE leaves of this pretty little Masdevallia are oblanceolate, or oblong, narrowed to the base, leathery, deep green, and about 1½ in. long. The flower scapes are only slightly longer than the leaves, and one-flowered, but very abundantly produced, which gives the plant a pretty and interesting

appearance. The perianth is shortly tubular, and white along the front both inside and outside. The segments are subulate, and white with yellow tips, all three about equal in size, and diverging in a triangular manner at regular distances apart. The small lip is purple and hidden in the tube formed by the united bases of the outer segments. A well-flowered plant was exhibited at the Drill Hall on the 12th inst., by Sir Trevor Lawrence, Bart , M.P., when a Botanical Certificate was accorded it.

WHAT TO DO IN THE GARDEN.

Cycads.—Cycas revoluta can be kept in good condition in a temperate house, but even that, like several other species, and Zamias make a much better growth if placed in a stove temperature just when they show that they are about to develop a new tier of leaves. After these are fully developed and getting firm, the plants may be gradually inured to the temperature of a cooler house, and by the time that growth has been completed the weather will be warmer. This is a much better plan than allowing the plants to make their new growth in a low temperature.

Fine-foliaged Begonias.—Plants of this class may now be repotted, dividing the plants where too large. This is best when done previous to fresh growth being made, or at least before it has made much advance. Strong crowns of course make the finest leaves.

Bouvardias.—Those who have not a sufficient stock of young plants of Bouvardias may yet root more cuttings, which will form a succession to those already struck and potted off. Young shoots may be taken off with a heel of the old wood, and firmly inserted round the sides of small pots in sandy soil and placed in the propagating frame. They root with much more certainty now that the days are longer and the light better. This may be done when the young shoots are two or three inches long.

Tuberous Begonias.—Young seedlings should be potted off before they become crowded in the seed pans or boxes into which they have been transplanted. Crowding has the effect of drawing up the plants in a leggy and weak condition, weakening the plants for the rest of the season. So long as plants are not subjected to full and direct sunshine, they cannot be too much exposed to light, in order that the stems may be dwarf, short jointed, and sturdy, for then they branch more freely and are more durable as well as more presentable when they come into bloom.

Solanums.—If the old plants intended for fruiting another year are not cut back they should be seen to at once so that they may come into bloom during fine weather and be able to set plenty of fruit. All the young shoots should be cut down within an eye or two of the old wood. Then keep them dry, and after a few days place them in heat so as to start them into vigorous growth. Pinch any shoots that are likely to take the lead to the disadvantage of others.

Vineries.—Where early grapes have reached that stage when they cease swelling for a time, a final examination may be given the bunches to cut out small and imperfectly fertilised berries, the removal of which will add much to the appearance of the bunches when they come to be cut for the table. Where the berries are inclined to lock by too much crowding, the removal of a berry or two in such places will give the desired relief. In later houses, filled with Muscats and Alicants, thinning may be advantageously delayed a little longer than in the case of the freer setting kinds, so that it may be seen which berries are going to take the lead. In giving the necessary thinning the weakly or badly fertilized ones may be cut away. Disbudding and tying down cannot be too closely followed up in late houses, so as to prevent overcrowding and avoid the cutting away of much wood after it has been formed.

Cucumbers.—Old plants that have been fruiting during the past winter will now be making a considerable amount of young wood, and where that is the case, attention will have to be given to thinning or disbudding. Should the cultivator desire to grow the plants on again, the old side shoots will have to be cut away from time to time, giving preference to young ones which will renovate the plants. Then remove some of the old soil from the surface of the beds, injuring the roots as little as possible. Replace this with a compost consisting of two parts of good fibrous loam and one part of well-decayed cow manure, into which the roots can grow and form a fresh system to feed the plants.

Peaches and Apricots.—If nothing has yet been done to protect the blossom, which is now so plentiful, it ought to be seen to at once. Where no wall protectors are in use, some two or three folds of herring netting will keep out a considerable amount of frost, and may be left on during the day. Spruce branches, or those of the Cherry Laurel, may be employed, by sticking them in all over trees upon walls. Where there are no branches strong enough to hold up those used for protection the latter may be tied on. When placed on the upper side of those it is desired to protect, it is astonishing what amount of loss of heat from the wall they will prevent. They need not be taken off till the state of growth of the trees necessitates it.

SOCIETIES.

Royal Horticultural, *April 19th.*—The miscellaneous exhibits brought up at the meeting on this occasion were not so numerous as last week, greater part of the staging being occupied with the exhibits of the National Auricula Society. A fair-sized group of Orchids was exhibited by Messrs. F. Sander & Co., St. Albans, for which a Silver Banksian Medal was awarded. It included several new forms of Odontoglossum and Oncidium Gravesianum. A small group of Oncidium luridum was exhibited by C. E. Smith, Esq. (gardener, Mr. J. Quarterman), Silvermere, Cobham. Cypripedium Exul was exhibited by R. J. Measures, Esq. (gardener, Mr. H. Simpkins), Cambridge Lodge, Camberwell. A collection of Daffodils and Anemones was exhibited by Messrs. Barr & Son, Covent Garden. A group of Guelder Rose and Robinia hispida, forced, was shown by C. E. Smith, Esq., for which a Bronze Banksian Medal was awarded. Some baskets of Roses were shown by Messrs. Wm. Paul & Son, Waltham Cross. A basket of the Victoria Violet, and two baskets of white Primroses were shown by J. T. Hopwood, Esq. (gardener, Mr. W. H. Divers), Ketton Hall, Stamford. Some spikes of Hyacinths grown from bulbils, in from three to five years, were brought up from the Royal Gardens, Kew. A basket of Rhododendron racemosum in bloom, and lifted from the open ground about ten days ago, as well as some Amaryllis, Astilbe Thunbergii, and Cattleya Philo was exhibited by Messrs. J. Veitch & Sons, Chelsea. Cattleya Alexandræ was brought up by Messrs. Linden, Parc Leopold, Brussels. Tropæolum Lobbii variegatum Spitfire was shown by M. J. Sillier, nurseryman, Paris. Some very fine seedlings of Amaryllis were shown by Viscountess Hambledon. Clivia Britannia was staged by Messrs. Boelens Bros., Ledeberg-lez-Gand. A silver Banksian Medal was awarded to Mr. W. Harper, Mill Mead Nursery, Guildford, for two large baskets of choice Alpine plants, including Saxifragas, Gentians, Primulas, and Anemones. Some prizes were offered for Daffodils grown in the open by amateurs, and the first prize for a collection was taken by C. W. Cowan, Esq., Valleyfield, Pennycuick, Midlothian, who had a large number of varieties set up on moss. The second prize was taken by H. J. Adams, Esq. (gardener, Mr. C. May), Roseneath, Enfield. The first prize for nine varieties was taken by W. H. Berkeley James, Esq. (gardener, Mr. J. Gibson), The Oaks, Carshalton ; the second prize in this case went to the Rev. E. Bourne, Dunstan Vicarage, Lincoln. W. H. Berkeley James, Esq., was again first for six varieties ; and J. W. Melles, Esq., Sewardstone Lodge, Chingford, was second. The first prize for a collection of Daffodils, Polyanthus excluded, was taken by the Rev. S. E. Bourne. H. J. Adams, Esq., was second in this case, and J. T. Hopwood, Esq., was third.

At a meeting of the Fruit Committee a Cultural Commendation was awarded to Mr. Gilbert, Burghley, for a basket of Strawberries La Grosse Sucree. Mr. G. Wythes, gardener to the Duke of Northumberland, Syon House, Brentford, again showed three punnets of Syon House Strawberry, a dwarf seedling from Keen's Seedling. A Cultural Commendation was awarded to Mr. F. Lees, The Vineyard, Connaught Road, Reading, for Strawberries ; and a similar award was made to Mr. Owen Thomas, The Royal Gardens, Frogmore, for excellent examples of Black Hamburgh and Foster's Seedling Grapes ripened in March.

QUESTIONS AND ANSWERS.

**** Correspondents are requested, in order to avoid delay, to address all communications to "THE EDITOR" or "THE PUBLISHER," and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa London."*

ASPIDISTRA LURIDA.—*F. G.*: In hothouses potting and division might have been effected some time ago, as growth commences earlier under those conditions. Your window plants may however be divided and repotted now, as growth will commence shortly with the accession of warm weather. Remove as much soil as is necessary to see how the roots may be separated without injuring them more than can be helped. Make the necessary cuts with a knife in preference to using a trowel or other blunt instrument. Preserve as many roots as possible to each crown of leaves, and pot quite firmly. Drain the pots well because it should stand for some years before repotting will again require to be done, as the plant grows very slowly as a rule. Use a compost of good fibrous loam, a little leaf soil and plenty of sand.

HOW TO PEG DOWN ROSES.—*A. Rintoul*: This had best be done in the autumn while the young shoots are still quite pliable and less liable to break in the operation. If there are plenty of straight young shoots which have been made during the previous summer, cut away all the old wood which has finished flowering, and peg down the young ones at 9 in. apart all over the bed, so as to completely cover it with foliage in the summer time. The flowering shoots will grow upright from every eye along the pegged-down shoots, and furnish a greater quantity of bloom than in the ordinary way of treating them. The fact of the shoots being pegged down will encourage strong young shoots from the base of the plant, or from the bent part of the prostrate ones. Should there not be sufficient young wood to peg down, the young shoots on the old ones should be cut back to two or three eyes.

LEAD-GLAZING.—*R. J. K.*: This is not a new plan, but has been practised for some time. Strips of lead are nailed on the top of sash bars, and bent so that a fold will lie under the panes or pieces of glass. The free end is then folded over the edge of the glass holding it down. One strip of lead is made so as to hold down two adjoining pieces of glass, so that when ready for use it resembles an inverted ⊥ with the lead of it double by the folding above mentioned. The lead is held down by means of two nails or screws, which are driven before the glass is laid on so that there is no danger of breaking the glass in the operation.

ESCALLONIA PUNCTATA.—*R. M.*: It frequently happens that the Escallonias get injured during the winter or early spring, but they generally break out again from the old wood, so that we advise you to leave the plants until the summer is sufficiently advanced to show whether there is still any life in them. The weaker branches may be cut away now if the wood appears dried up and dead, so as to reduce the size of the plant, and then wait for the results.

NEW HOLLAND PITCHER PLANT.—*H. Jamieson*: It does not require much heat provided always the frost is kept out ; but it should be covered with a bell-glass at least in the summer time while making its growth. The compost should consist of live sphagnum chopped up, and lumpy peat broken up by hand, with plenty of silver sand to keep the whole porous and open. Small pieces of white stone laid on the top of the compost will give the whole an air of neatness. Although less moisture is necessary in winter than in summer, yet the roots must not be allowed to get dry at any time, and the foliage should be in a moist atmosphere rather than otherwise, although it should not on any account be wetted.

BLACK FLY ON PEACH TREES.—*W. J. West*: You cannot too soon commence to destroy the aphides, because if taken in time while the colonies are still small and before the leaves are much expanded, they are more easily dealt with. Some growers use paraffin, rubbing it into the affected parts by means of a small brush, but although effective it is rather a dangerous expedient, and liable to damage the young leaves. Tobacco powder well dusted upon the aphides, making sure that those covered by the leaves are reached, will destroy the pest while the foliage of the Peaches will not be injured. If this is done while the foliage is wet in the morning the tobacco will stick better; or the trees may be syringed on purpose before commencing the operation. The trees may be gone over a second time a few days afterwards to see whether any of the insects have escaped notice.

BLOSSOM AND FROST.—*Omega*: Most likely no one has ever determined the exact figures which you require. That fruit blossom in the half expanded state and when quite dry will stand a greater amount of cold than when fully expanded and wet is quite certain ; but how many degrees of frost would kill in each case is a different matter. Supposing this were tested in a laboratory, what would be the value of it? We know that two trees will differ not only in the same garden, but on the same piece of ground, and

some blossoms on a tree will escape while all the others are killed. The amount of natural shelter varies so much that it is impossible to gauge the actual degree of frost that will kill. By means of a thin covering you can keep off 5° to 8° of frost, and sometimes more, especially if dry.

NAMES OF PLANTS.—*Omega*: The Broad-leaved Jasmine Box or Mock Privet (Phillyrea latifolia). *R. Benson*: 1, Corydalis cava; 2, Corydalis solida; 3, Primula denticulata cashmiriana; 4, Rubus spectabilis; 5, Prunus spinosa. *R. Andrews*: 1, Rubus australis; 2, Pimelea spectabilis; 3, Pimelea decussata. *T. B.*: 1, Selaginella apus; 2, Selaginella caulescens; 3, Pteris hastata; 4, Aspidium caryotideum; 5, Nephrodium patens; 6, Platyloma rotundifolia.

COVENT GARDEN MARKET.

April 20th.

FRUIT.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.		s. d.	s. d.
Apples... per ½-sieve	1 0	5 0	Strawberries per lb.	2 0	4 0
Canadian and Nova Scotian Apples per barrel	12 0	20 0	New Grapes, per lb.	4 0	5 0
Tasmanian Apple per case...	8 0	15 0	Grapes .....per lb.	2 0	4 0
			Pine apples. —St. Michael's, each	2 6	6 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Asparagus, Eng. bun.	10 0	13 0	Lettuces ...per dozen	1 6	2 0
Beans, French, per lb.	2 0	3 6	Mushrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	6 0	Small salading, punnet	0 4	
Celery.....per bundle	2 6		Seakale ...per basket	2 0	3 0
Cucumbers .....each	0 6	1 0	Spinach, per strike ...	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	1 6	2 6
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Acacia var., per doz.	12 0	18 0	Genista .....per doz.	8 0	10 0
Arum Lilies, per doz.	9 0	12 0	Hyacinths,...per doz.	6 0	9 0
Azalea .....per doz.	18 0	42 0	Lily of the Valley, doz. pots	12 0	18 0
—Mollis.....per doz.	24 0	36 0	Marguerites, per doz.	9 0	12 0
Cyperus .....per doz.	4 0	12 0	Mignonette, per doz.	6 0	12 0
Cineraria ...per doz.	4 0	8 0	Palms in variety, each	2 6	10 6
Deutzia.. per doz ...	6 0	9 0	Palms, Specimen ...	15 0	63 0
Dracæna term., doz.	24 0	36 0	Pelargoniums, per doz.	12 0	18 0
Dracæna viridis, doz.	9 0	18 0	Primula Sinensis per doz.	4 0	6 0
Erica Willmoriana per doz...	12 0	18 0	—scarlet .....per doz.	4 0	6 0
— various. per doz.	9 0	24 0	Spiræas.....per doz.	8 0	12 0
Evergreens, invar. doz	6 0	24 0	Tulips.....per doz.	6 0	9 0
Ferns, invar. per doz.	4 0	18 0			
Foliage Plants, doz.	12 0	60 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Acacia or Mimosa French per bunch	1 6	2 0	Mignonette... 12 bun.	1 6	3 0
Anemone various, French, doz. bun.	2 0	4 0	Narciss, var., Scilly, doz. bunches	2 0	4 0
Arum Lilies, 12 blms.	2 0	4 0	Pelargoniums, 12 sps.	0 9	1 0
Bouvardias, per bun.	0 6	1 0	— scarlet.....12 bchs.	4 0	6 0
Carnations, 12 blooms	2 0	3 0	Primroses, doz. bchs.	0 6	1 0
Daffodils, double, doz. bunches	2 0	4 0	Primula, double, bun.	0 9	1 0
—Single, doz. bchs.	2 6	6 0	Primula single, doz. sprays	0 4	0 6
Eucharis ...per doz.	3 0	6 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Freezia .....doz. bun.	2 0	4 0	Roses, yellow, dozen	2 0	6 0
Gardenias 12 blooms	2 0	6 0	— Red..... doz. blms.	2 6	4 0
Heliotropes, 12 sprays	0 6	1 0	— Saffrano...per doz.	2 0	3 0
Hyacinths, 12 sprays	3 0	4 0	— Tea ..... per dozen	1 0	3 0
Jonquils, doz. bnches	1 0	2 0	Spiræas...doz. bnchs	6 0	8 0
Lilac, French, per bunch	4 0	5 0	Tuberoses, per doz	1 0	2 0
Lilium Harrisii, doz. blooms	5 0	6 0	Violets, Parme, French per bunch	2 0	3 0
Liliums var., doz blms.	1 6	3 0	— Dark, French, doz. bunches	1 6	2 0
Lily of the Valley, doz. bunches	6 0	10 0	—English, doz. bchs.	1 0	1 6
Maidenhair Fern, 12 bs.	6 0	9 0	Wallflowers, doz. bunches	3 0	4 0
Marguerites, 12 bun.	2 0	4 0			

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The Gardening World.

ESTABLISHED 1884.

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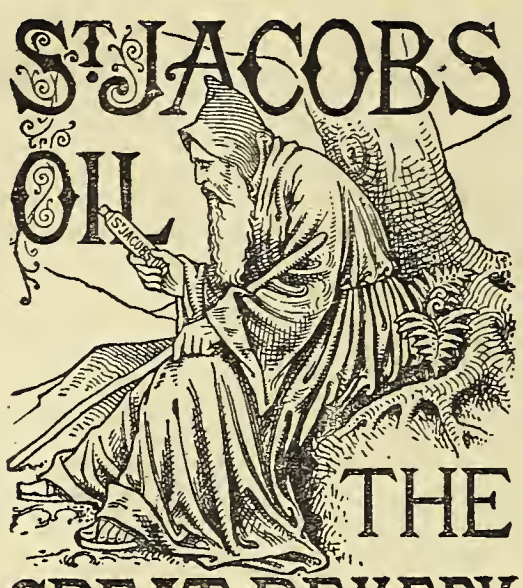

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12 ft.	8 ft.	8 ft.	5 ft. to eaves	6 0 0	8 0 0
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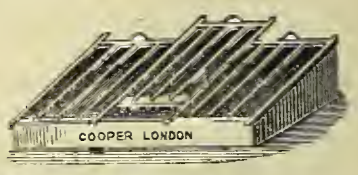

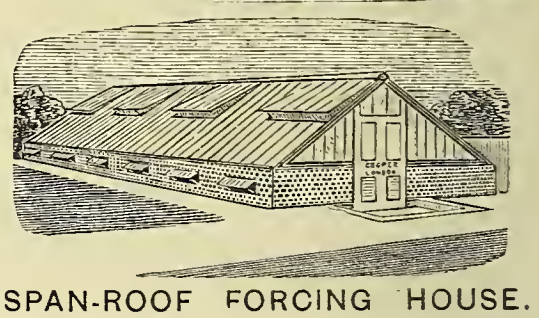

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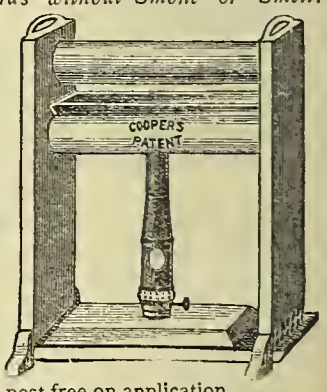

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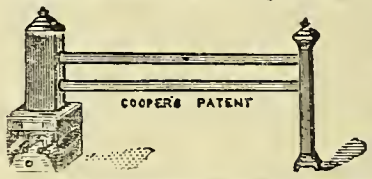

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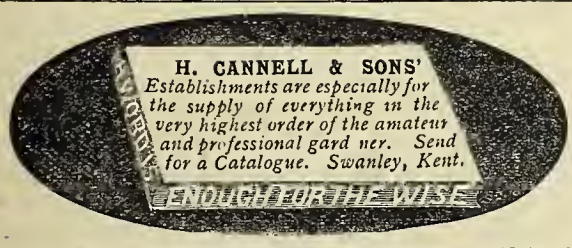

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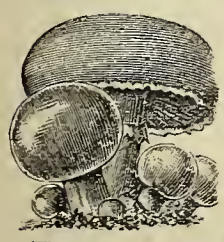

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For descriptions see ILLUSTRATED NEW PLANT CATALOGUE for 1892, Gratis and Post Free on application.

B. S. Williams & Son,
UPPER HOLLOWAY,
LONDON, N.

For Index to Contents see page 554.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, May 3.—Royal Horticultural Society: Meeting of Committees at 12 o'clock. Sale of private collection of Orchids at Protheroe & Morris' Rooms. Sale of Stand Hall collection of Orchids (4 days).

WEDNESDAY, May 4.—Sale of Greenhouse and Hardy Plants, Bulbs, &c., at Protheroe & Morris' Rooms.

FRIDAY, May 6.—Scottish Auricula Show at Dundee. Sale of imported and established Orchids, at Protheroe & Morris' Rooms.

SATURDAY, May 7.—Opening of the International Horticultural Exhibition at Earl's Court.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, APRIL 30th, 1892.

PERMANENT FLOWER SHOWS.—It is odd to note how in time suggestions which seem to be, when made, utterly impracticable become possible of execution. It was quite in the early days of THE GARDENING WORLD that we ventured to suggest the desirability of establishing in London by the horticultural trade a permanent horticultural exhibition, where not only could all the best things of a garden character be seen in season, but also where trade could be conducted. The suggestion did not then "take on," perhaps because too novel, perhaps from lack of enterprise on the part of the trade, or, who knows, perhaps because it was not official?

Now we shall see at the Earl's Court Horticultural Exhibition this idea of ours almost exactly realised though in a different way. We shall, however, not for a moment quarrel with details. It is enough to note that one of the great features of the exhibition will be its trade collections, or groups,

which will run through the whole of the season, being of course varied as different classes of plants, fruits, etc., come into bloom or to maturity. Practically this feature of the show will put horticulture into a kaleidoscopic form, the exhibition for a long season being permanent, the features ever changing. This element still further should prove of exceptional interest to the public because it is too much the case ordinarily that the objects presented at any of these shows in May remain the same until October. That cannot well be so in horticulture, hence the constant variation should prove to the public to be a special attraction, and of exceptional interest.

It is one of the weak features of ordinary annual exhibitions that they can never be much other than exact reproductions of those held at the same time in previous years; but the whole of the Earl's Court Shows, whether ordinary or special, will certainly have the merit of variation, and will for that reason afford all the greater gratification.

Nature's New Suit.—The season is just now evolving out of the chrysaloid stage of existence, the period of rest or stagnation is over, and the new and beautiful foliage and flower tints are decking her with all the liveliness of the gaudiest butterfly. Almost as fleeting too will be these charms as is the ephemeral colouring of the winged insects. We have nearly seven months of decadence or rest, then comes a month or so of new brightness and beauty, a month or so of density of coloration in leafage, another month or so for maturation; then comes another month for gradual decay, and we are at the end of our all too short season. All is over, the beauty and the charm are gone, and a long period of dull monotony must elapse ere nature again adorns herself in a fresh suit.

How needful therefore is it that we make the utmost of these all too evanescent periods of freshness, of beauty, of maturation, and of gradual decay. We are almost into May, and yet the masses of deciduous trees are but just dressing themselves in their coats of vivid green, and by the end of October most of the trees will be wearing the mourning of leaf coloration which is the precursor of death. Generally if the season be so short, it is a beautiful time, and we have no wish to exchange our changeable climate with its short seasons, yet occasionally beautiful variations, for any exotic clime where leafy greenness ever reigns. The immediate future of the season is, perhaps, the most lovely; it comes upon us when satiated with the barren aspect of Nature through a long trying winter, and it comes full of life, and sweetness, and colour.

We hardly know whether most to admire the varied and wondrous tints of green—Nature's ever-refreshing hue in foliage and verdure—or the much more wondrous coloration found in the flowers of trees, shrubs, and plants. How much we should revel in it. Yet does it somehow happen, such are our wayward follies, that just when the earth is the most beautiful and nature at her loveliest, we shut ourselves up in cities and towns, deep in concerns of business or politics, and let all this feast of beauty pass us by unnoticed. Then when we do take holiday Nature is putting on her garb of drab, soon to change it to that of decay and death.

The Frosts and the Fruit Bloom.—When we look out upon the luxuriant bloom seen on the Plums, Cherries, and earlier Pears it seems difficult to realise that only a few days have elapsed since this was under the vicious influence of exceedingly sharp frosts and cold, biting north-easterly winds. Did we but judge of our fruit prospects by reports of the harm done to the bloom, then we should feel that the season had already been robbed of one-half of its great promise. Happily matters are not nearly so bad as they looked at the first, for since the change to softer weather an immense quantity of bloom has expanded which certainly looks as if uninjured—Plums, Cherries, and Pears being indeed masses of snowy whiteness, so that it would seem as if some hard thinning of such wealth would be an advantage.

Without doubt there are low-lying districts where a good deal of harm has been done; but assuming that we are now, so far as really cold weather is concerned, really out of the wood, there is ample reason to hope that there will be heavy general fruit crops all the same, and that the ensuing season will be one of abundance. That is still our hope and our anticipation. Our continental friends seem to have suffered far greater misfortunes than we have if all the reports are true. That Vines have suffered severely it is easy to realise, as these break so much earlier in Southern Europe than here; and being so tender are terribly harmed by severe spring frosts.

It is also reported that in some districts the ordinary fruit bloom has been destroyed. Possibly it will be found later that alarmist reports of this kind have been considerably exaggerated, and that there will be very good ordinary fruit crops on the continent. All the same we are, however, naturally most concerned for our own products and hope to see heavy fruiting. Still we may well remember that a big crop this year again must result in a couple of lean years at least following.

Daffodils.—Why April should have been designated the "roaring moon of Daffodils" is explanatory only on the ground that poets (such poesy as there is in this case not being too evident) are allowed a wide range of illustration, which often proves as wild as it is fanciful. We have little of "roaring" about either Daffodils or the April moon, but whilst the latter usually sheds a placid and unobservant light upon the flowers, these have at least no lack of trumpets, and could each one fill the air with a blast the noise would be not so much a roar as a terrible bray. Happily no such discord follows upon the trumpeting of Daffodils. They "blow" only to beautify, and, whilst adorning the earth with colour, add something to the sweet perfume which spring flowers emit.

Our Narcissi growers have not been too happy in the present season, although to the uninitiated there would seem to have been no drawbacks. But the spring so far has only in part been a model one for the "Daffs." There was too much of dry heat a little while since, when the flower stems were unduly forced into growth, ere leafage had become fully developed. Then came a spell of sharp frosts and bitterly cold winds extending over several days, and all without the much needed rain, hence the blooms being premature have been smaller than usual, and some have come out of character. These are of course defects not very evident to the uninitiated, for generally there would seem to have been a splendid bloom, and in the markets and shops a wondrous wealth of flowers.

We have so thoroughly adopted and popularised our Narcissi now that the flowers seem to have become indispensable, not only for garden decoration but for many ordinary uses. Not only the trade but the market growers and dealers have found money in them. Their sale over what—thanks to the Scilly Isles and other warm regions—is now a long season gives employment to hundreds of poor women, and their culture has become quite an important industry. Probably many interested in our vocation would like to drop upon yet another flower so generally reliable as is the Daffodil.

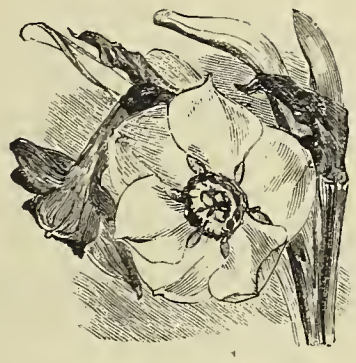
Veitch's Manual of Orchidaceous Plants.—We have received Part VIII. of this publication, which includes the genera Oncidium, Miltonia, Ada, Brassia, Gomega, Ionopsis, and Ornithocephalus.

The Orange Groves in Jaffa, owing to the peculiarity of the climate, are obliged to be watered during the dry season, when no rain falls, that is from May till October or November. The rainfall in the winter months, that is, from November to May, varies from 17 in. to 30 in. The phenomenon of the "air cushion" is seen in Jaffa, says Consul Gillman, to perfection. Before a rain sets in, it generally takes several days of preparation before the result appears. Great clouds roll up and cover the heavens with their dense masses, but they attempt in vain to discharge their contents, or, if they do succeed in dissolving, the thirsty atmosphere drinks up the moisture before it even reaches the earth. And this must continue till the intervening strata composing the "air cushion" are sufficiently saturate to permit the rain to fall through, which then occurs in a violent and often injurious downpour.

Sevenoaks Gardeners and Amateurs' Society.—A well attended meeting of this society was held on Tuesday, April 19th, at which Mr. E. Hughes, Edenhurst Gardens, showed a splendid specimen Azalea, for which a Certificate of Merit was awarded. Mr. J. Westcott received a similar award for two large Spiræas, and Mr. West for two Hyacinths. It was anticipated that there would have been a large contingent of members of the Tonbridge Society present; but a letter was, however, received, stating that owing to the short notice the committee regretted their inability to get together many members on that evening, but were making arrangements to pay the Sevenoaks Society a visit early in May or June. Mr. Cliffe, gardener to Sir Henry James, M.P., Shoreham Place, was elected a member. The initial business having been disposed of, Mr. E. Hughes read a continuation of a paper on Plums, the first part of which was read some time ago, and which dealt with the preparation of the ground, and planting. Mr. Hughes recommended the following varieties for planting in the Sevenoaks district, viz., Coe's Golden Drop, Black Kentish, Diamond, Rivers' Early Prolific, Jefferson, Green Gage, Orleans, Kirk's Magnum Bonum, and Victoria. A good discussion ensued, after which a vote of thanks to Mr. Hughes was passed.

Trentham and Hanford Horticultural Society.—What an immense amount of good can be done in any district by a local horticultural society, when managed with skill and ability, is well illustrated by the growth of the society which has the Duke of Sutherland, K.G., as patron, and the Marquis of Stafford as president, and which holds its annual exhibition in the famous gardens at Trentham. It is but some four or five years ago that the society was founded; it holds a one-day show only, yet we find in its schedule of prizes for the current year such rewards for skill and industry as ought to make the managers of even some Royal Societies we wot of die of envy. The competition classes for the next exhibition, which is to be held on Thursday, July 21st, numbers one hundred all told, and they are fairly divided between professionals, amateurs, and cottagers. For a group of plants not exceeding 100 ft. the society offers four prizes, viz., £25, £16, £12, and £9, a larger amount than is offered in any other schedule that we have seen this season. It offers also £6 and a special prize of £5 10s. for the best forty-eight Roses; £5 and the National Rose Society's Gold Medal for thirty-six Roses; £10 for the best collection of nine dishes of fruit; £5 for the best four bunches of Grapes, two varieties; and quite a formidable array of special prizes, including three guineas for the best exhibit of fruit, and two guineas for the best three bunches of Grapes in the show. With such encouragement no wonder exhibitors do their best to make the Trentham show famous for high quality.

American Florists' Directory.—The American Florist Company's Directory of Florists, Nurserymen, and Seedsmen of the United States and Canada for the present year is to hand, and appears to have been corrected up to date with as much completeness as can reasonably be expected in a work involving attention to such an immense mass of detail. The publishers (The American Florist Co., Chicago) have arranged the lists geographically and alphabetically, and have also added, for the first time, a list of the leading cemetery and public park superintendents, which will doubtless be found useful to the distributors of trade literature. The list of trade organisations is of the useful order too; and a special feature of the new edition will be found in the complete alphabetical lists of the Roses, Chrysanthemums, and Carnations grown in America, which differ very materially from what in each class finds most favour in this country. The list of



Narcissus Poeticus.

Chrysanthemums is exceedingly interesting and useful from the fact that it includes all the varieties introduced into commerce in America from whatever source, and the bulk of which may be said to consist of American seedlings. The directory is well printed and substantially bound, and has a good index, rendered all the more necessary from the provoking manner in which much of the subject matter is mixed up with advertisements.

Microbes and the Naturalisation of Plants.—As recorded by *L'Illustration Horticole*, M. Ch. Naudin, of the Institute, and who lives at the villa Thuret, near Antibes, communicates to the *Revue des Sciences naturelles* a notice in which he states that if one does not succeed in the culture of certain plants, made somewhere to prosper in a given climate, it is that there is wanting to those plants an indispensable element represented by fertilising ferments or microbes which

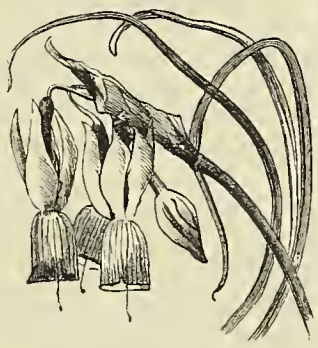
Narcissus Nelsoni.

they find in their native country. The hypothesis set down by M. Naudin is not altogether chimerical; he well cites facts concerning divers species which it is impossible to make live, whatever may be the composition of the soil that one gives. He mentions severel unsuccessful attempts of seed sowing at the villa Thuret, and he asks himself whether the influence of micro-organisms of the soil is not indispensable here. We already know that arable soil swarms with microbes of which the species are numerous. It is permitted to admit that certain species of plants are accompanied by a special hereditary microbe, and, as M. Naudin says, "transmitted from one generation to another, and which, hidden in the depths of the organism, work invisibly to fix the term of development in space and the duration of time."

The Ownership of Hedges.—A curious county court action was recently tried at Falmouth, the point in dispute being the ownership of a hedge. The plaintiff stated that he purchased his land in 1869. He then heightened the hedge in question 2 ft., and planted it; he had also always repaired it and trimmed it, and no one had ever disputed his title to it until the defendant, who is tenant of the adjoining field, did so in January, by cutting off all the bushes growing upon it. The bushes were a protection from the north and east winds, and plaintiff's crops had suffered in consequence. The defendant, who disputed plaintiff's ownership, relied upon an ancient custom recognized in the parish (St. Gluvias) that every tenement owned its western hedge, and that the hedge in question was his western hedge, and that he had several witnesses to prove the custom. The plaintiff's solicitor objected to the admission of any evidence as to the alleged custom upon the ground that such evidence was only admissible to prove public or general rights, and could not be accepted where private rights or title came into question; also that such a custom, if proved, would clearly be contrary to law, as a custom to be good in law must be binding or compulsory upon all persons affected by it, and if it were left to the option of any man to say whether or not he would be bound by the custom, the custom would be bad upon the face of it. His Honor Judge Granger ruled that the plaintiff had proved his title to the hedge, but as to the damages it did not appear that he had sustained any material pecuniary loss. The plaintiff said he liked to see the bushes on the hedge, and he was therefore entitled to some damages for their removal. His Honor accordingly awarded him £2 damages and costs.

DAFFODILS AT LONG DITTON.

The season has been a trying one for Daffodils as well as all other outdoor subjects. In the early part of April the weather was dry and warm, and later on it was cold and dry, so that relatively very little



Narcissus triandrus.

growth was made notwithstanding the advanced period of the year. The dwarfing effect upon the Daffodils was most marked until the occurrence of some heavy showers of rain, so that the leaves and flower stems have now attained something like their normal length. Unless very warm weather succeeds presently, we may however calculate upon having a long Daffodil season. The early ones came straggling on, while now we have quite a plethora of all kinds excepting the very latest, including those of the N. poeticus section.

The Daffodil fields of Messrs. Barr & Son, at Long Ditton, are now very attractive and interesting, and as one walks amongst them the agreeable odour of several, but particularly the white kinds, is very perceptible. Here and there one comes upon beds and patches of other spring flowering subjects, including numerous long beds of Anemone fulgens, also Tulips, Hyacinths, Aubrietias, Glory of the Snow (Chionodoxa), Hepaticas in various shades of colour, and Primulas of various kinds. All are planted in long beds about 4 ft. wide, and the different species and varieties are planted about in various parts of the ground so as to present a mixed appearance.

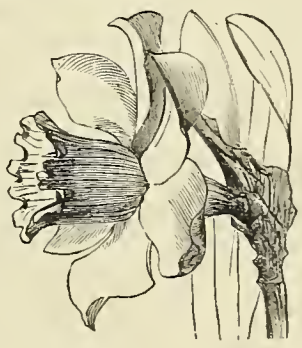
The newer and rarer kinds are planted by themselves in a cold frame, where a sash can be put over them so as to protect them from heavy dashing rains. Weardale is one of the finest, owing to the great size of the flowers, which have ovate, sulphur-yellow segments, and a huge funnel-shaped, golden-yellow corona, with a spreading mouth. Glory of Leyden has similarly large flowers, with oval segments of a sulphur-yellow overshaded with a darker hue, and having a peculiarly shaped trumpet gradually widening to the mouth, which is not revolute, as is ordinarily the case in this section of Daffodils. Madame de Graaff might well be contrasted with the last named, as the large trumpet is of a soft, pale, lemon-yellow, and remarkably rolled back at the mouth. The segments are oblong-oval, and creamy white. Another grand sort is Monarch, something in the way of Emperor, but larger and several shades darker in colour. Lulworth is quite of a different type, with a shorter crown of a bright orange on the upper half, and creamy-white segments.

In the open ground are long beds of Bicolor Horsefieldi, Empress, and Emperor, now well known standard kinds either for pot culture or for bedding out. Princeps is an early kind, the flowers of which were cut at Easter. The Irish form of it has deeply glaucous leaves, while the Dutch form is readily distinguishable, even to the line of division, by the greenness of the foliage. Another of the long trumpet Daffodils now very fine is N. maximus, the corona of which is deeply lobed (see illustration), and of a rich golden yellow. Few, if any, surpass the quiet

Narcissus Leedsii.

beauty of N. Johnstoni Queen of Spain, with its pretty lemon flowers and revolute segments. The beds of it in various parts of the grounds are numerous, and densely covered with a floriferous mass of dwarf plants. It is highly effective in beds and masses. Amongst the pigmy and interesting pets of this section are N. cyclamineus and N. nanus, still in full bloom, although they have been in that condition for some time past. Near by is the wild N. moschatus, chaste and pretty. The Swan's Neck, otherwise known as Wm. Goldring, is a great improvement as far as size is concerned, and the flower scapes are remarkably curved, as the first name implies.

The varieties of N. incomparabilis are still very numerous, and some of them are bold and very serviceable for bedding. Sir Watkin still remains the champion in this class for size and bold, handsome appearance. Ranking near this are Queen Sophia and Princess Mary, the large, spreading coronas of which are very attractive. The crown of the first



Narcissus Pseudo-Narcissus maximus.

named is orange, while that of the other is deep yellow and perfectly distinct. The orange and bell-shaped crown of C. J. Backhouse renders this variety an object of great attraction in a collection when the flowers are in perfect condition. The corona of Beauty is orange at the edge only, but is all the same very charming. A strong contrast to either is furnished by Mrs. Langtry, which has white segments and a pale yellow crown, ultimately pure white except at the edge. Catherine Spurrel has also white segments, and a pale yellow, bell-shaped crown, and is very pretty in the mass.

In the N. Barrii section, Conspicua still holds its own as one of the largest, most useful, and charmingly coloured. The pale yellow crown is furnished with an orange rim. Burbidgei Falstaff is a close imitation of the N. poeticus section, but has a longer crown of a bright orange-scarlet, and flowers rather earlier even than the early varieties of the last named. It is charming whether in beds or in the cut state. The

Leedsi (see figure) section is notable for the chaste tints of colour that pervade the different varieties, which are separable chiefly by the varying lengths of the crown, while the segments are white. A very choice one is M.M. de Graaff, the crown of which when it first expands is orange, but fades off almost white. Minnie Hume is another which is notable for its long white segments and large, pale yellow crown fading off almost white. N. Burbidgei Princess Louise has segments of the palest sulphur-yellow and a short spreading orange crown. Angels' Tears (N. triandrus) has been flowering for a long time past; N. Nelsoni is in perfection, and N. poeticus will soon be so. (See the accompanying figures.)

Most of the above succeed well when planted out on the grass, as they are then under more natural conditions than when grown on bare, loose soil in the better kept part of the garden. They are not then subjected to frequent disturbance, and they look charming when planted in large irregular masses either in sunny or in half shady situations. Those who would enjoy the beauty of Daffodils in the cut state should collect them just when opening, and take them indoors, where they will expand in all their freshness and beauty, lasting a long time in perfection. Those who live in the neighbourhood of large towns, where the atmosphere is always laden with smoke and dirt, would do well to take this precaution.

EUPHORBIA JACQUINIÆFLORA.

Although later botanical works describe this plant under the name of Euphorbia fulgens, I expect it will be many years before it is generally known by any other than the name heading these few notes. It belongs to a very large genus, comprising some six hundred species; these are of very wide geographical distribution, and are also of various sizes, some being mere weeds while others are lofty trees. It is of the variety already named that I intend treating, as this is one of the most showy and easily grown stove or warm greenhouse plants we have. It also possesses the great value of producing quantities of glowing scarlet blossoms during the winter and early spring months. Its flowers are particularly useful for placing in vases, etc., or for sprays for the hair; while well-grown plants are invaluable for giving life and colour to groups of plants during the winter.

Propagation is easily effected at the end of February and throughout March. Cuttings of the ripened wood, taken off as soon as the plants have finished flowering, and made up into two-and-a-half or three inch lengths in much the same manner as vines, will strike root very freely if placed in a compost of leaf-soil and sharp sand. As the wood of these contains a large amount of milky sap, it is much best to let the cuttings lie up to the air for a day or two, until the wound has dried somewhat; otherwise the sap exudes so freely as to greatly weaken the cutting and subsequent plant.

Place the cuttings into well-drained 5-in. pots and plunge into a brisk bottom heat of 70° to 75°, keeping the atmosphere moist and close. They will soon root, and when this is the case they may be potted off into 3-in. pots, and in the course of time shifted on into 5-in. or 6-in. sizes as they require it. The plants will flower well in these sizes, but if extra large specimens are desired they may have a further shift into 8-in. pots. Good drainage is essential, and they do much better in a rich loamy compost with a little peat and coarse sand.

Let the plants grow as they choose after the first stopping. It is very difficult to produce shapeable specimens, and as they are generally used for cut flowers or for intermixing in and enlivening a group, their straggly disposition is of no consequence.

Another method of propagation is to take slips of the young wood which shoots out from every eye upon the older growths of the previous year. The plants may be placed on one side for a time after flowering and kept dry at the roots. They must still remain in a warm temperature, however; in fact they should never be subject to cold treatment. After they have rested in this manner until the end of April, or early in May, they may be introduced to a warmer and moist heat, and frequently syringed overhead. Under these conditions they will soon throw out the side growths required for cuttings. Early in June these will be some 3 in. long, and are then ready for use. Remove them with a slight heel of the older wood, place three in a small pot and plunge in a warm propagating frame, keeping them close until they have rooted.

Plants resulting from the former mode of striking had better be headed once soon after starting, but those produced from the young side shoots later on do not require any heading, and should be grown on as rapidly as possible. Sudden changes in temperature must be avoided, and the plants require plenty of light. A little liquid manure during full growth will help them very much.

During the warmer summer months the plants may be placed in a frame or pit, and must receive an abundance of air during all fine days, syringing them liberally, and closing the frame at night. Partial shading during fierce sunshine is necessary, but otherwise they should have the full benefit of all sunny days. The flowers are small, and are produced upon the upper parts of the shoots, so that the proper ripening of these is important. Let the plants remain in the frame or pit until September, when they should be removed to the warm greenhouse or stove where they are to flower. This they will commence to do early in November, and if your plants were struck and grown in two batches, they will continue to flower until the end of February or early in March.

Let the plants become somewhat dry after their flowering is over, and stand them on one side for a few weeks. Now cut them down to within two or three inches of their base, and place in a temperature of 55°. Let them come on steadily until the young shoots are about an inch long, when they may be shaken out of their pots, their balls of soil reduced, and repotted into fresh compost. Plunge the pots into a brisk bottom heat, and grow them on in a moist temperature of 70° to 75°. Pot on into larger sizes when well established in the smaller pots, and grow on similar to the previous season.—*Experience.*

NEW & RARE PLANTS.

The subjects mentioned below were exhibited at the meeting of the Royal Horticultural Society on the 19th inst., and were awarded certificates according to merit. For Orchids certificated see under "Orchid Notes and Gleanings."

Astilbe Thunbergii.—In habit this plant very much resembles a Spiræa, intermediate between S. Aruncus and S. astilboides. The leaves are triternate, that is, three times ternately divided, with lanceolate, ovate or wedge-shaped leaflets, the terminal one of which is generally larger and sometimes three-lobed, while the larger ones are cordate at the base, and all are serrate. The flowers are small, creamy-white and densely arranged in branching panicles on stems about 2 ft. high. The species is a native of Japan, from whence it was introduced in 1878. It is employed to some extent on the Continent for forcing purposes, and might so be employed here in the same way as Spiræa astilboides.

Grevillea robusta elegantissima.—This name is applied to a variety with very graceful foliage, and which has turned up in a batch of seedlings. The leaves are longer than in the typical form, with more slender, drooping stalks, and the spaces between the different divisions are more elongated, so that on the whole they are much opener with a lighter appearance than in the better known form. The ultimate divisions or segments are also very narrow and lanceolate or subulate. A young specimen about 2 ft. to 2½ ft. high, with two or three times pinnatisect leaves, was shown.

Rhododendron racemosum.—A basket of small plants, ranging from 2 in. to 8 in. high and lifted from the open ground about ten days previous to their being brought before the public, would indicate that this pretty little Rhododendron might be grown as a hardy plant upon the rockery or used for forcing purposes. It was raised from seeds brought home from China. The leaves are leathery, evergreen, and small, in conformity with the size of the plant, and obovate-oblong, revolute at the margin, dark green above and silvery beneath, thickly dotted with small brown scales. The flowers are bell-shaped, five-lobed, of a pale pink and bright rose at the edges, reminding one of an edged flower like the Picotee. They are produced in corymbs or trusses terminating the short stems, and also in the axils of the leaves along the sides of the shoots. The stamens and styles are pink and the anthers rose. All of the above three plants were exhibited by Messrs. J. Veitch & Sons, Chelsea, and received First-class Certificates.

Amaryllis Sylvia.—This variety gives promise of a new strain of Amaryllis, not strikingly different from those already in cultivation, but of rather dwarfer habit, with large flowers, lively and pleasing colours, and beautifully crisped at the edges. The seed parent was Bernard, one of the old types having rich scarlet flowers, crossed with the pollen of the beautiful, old-fashioned Amaryllis reticulata often seen in gardens, where it seldom flowers, but is recognisable by the white stripe down the centre of the leaf. Both parents were shown alongside of the progeny, but only the seed bearer was in bloom. The flowers of Sylvia are funnel-shaped, and heavily suffused and lined with red on a white ground. The crisping of the edges adds much to the effect. The scape is about 18 in. high. An Award of Merit was accorded it when shown by Messrs. J. Veitch & Sons.

Amaryllis Charles Penny.—The flowers of this variety are obliquely funnel-shaped, and somewhat out of the usual form in that respect. All the segments are very broad and overlapping, but particularly the outer three, and all are revolute or recurved towards the apex. They are of a deep crimson-scarlet and somewhat darker in the throat, so that on the whole they have a bold and telling appearance. It was exhibited by Mr. Perkins, gardener to Viscountess Hambledon, Henley-on-Thames, and received an Award of Merit.

GAMBIR CULTIVATION IN THE STRAITS SETTLEMENTS.

Of all the vegetable products of the Malay Peninsula, Gambir takes the second place only in importance. In the tanning and silk trades it is well known to be indispensable, and it is also used to a small extent in medicine. The larger portion of the drug which finds its way into the market is exported from Singapore, and the average value of the annual export for the last five years is $4,682,333.

The import into the British Islands in 1889 was, roughly speaking, of the value of £460,000, and the United States took in the same year nearly £180,000 worth. Nevertheless hitherto this important cultivation has been in the hands of the Chinese and Malays only. Europeans as yet have hardly began to think seriously of undertaking it, and yet it is certain that a properly treated estate would bring a good profit. The reason of this neglect is, it seems, that the Malay Peninsula with the adjoining islands of Rhio, Lingga, Banka, and some others, where alone the plant seems to thrive, has not yet come under the hands of European planters to any large extent, and the few planters who have settled down in the Straits Settlements and Malay Peninsula have devoted themselves almost exclusively to coffee and tea cultivation.

There are signs, however, of an increasing interest in planting, and the attention of the planter is turning to other products than these, and, among them, to Gambir; and, indeed, there is no reason why this plant should not be grown on a large scale. In the Malay Peninsula there is plenty of suitable land, the cultivation is easy and not expensive, the plant is quick growing and will bring a return within a year and-a-half after sowing, and the demand for the product is steady and constant.

It is true that, on the whole, the price of Gambir has fallen in the last few years, but this is due entirely I believe, to deterioration of the quality. The native, working with rough apparatus and being very careless as to result, supplies the market with an inferior article unnecessarily loaded with water, often containing as much as from 30 to 50 per cent. In the hands of Europeans, with the aid of better methods of cultivation and of improved machinery, a much superior class of Gambir might easily be produced, while at the same time by doing away with the middleman, represented here by the Chinese *towkay*, the expenses of the product would be lessened.

Nor is the interest in the Gambir cultivation confined to the Straits planter. Requests for seed and young plants have been addressed to the Botanic Gardens at Singapore from all parts of the world. To Borneo, India, Australia, Africa, the West Indies and other tropical colonies of the empire, seed has been sent in quantity. In some of these countries it is probable that the Gambir will not thrive well enough to bring profit by its cultivation, owing to the difference in climate, but this is impossible to decide till the experiment has been tried.—*H. N. Ridley, in the Straits Times.*

ENEMIES OF THE PLUM.

THE insect enemies of the Plum are fairly numerous, but few of them are confined to it in their depredations. Some of them attack other fruit and forest trees, occasionally doing serious harm, while a few of them are injurious to plant life generally. Fortunately the worst class of them are not very widely distributed, and may be considered of local occurrence, though with the extension of fruit culture they may become more troublesome. The fruit grower has all the more reason therefore to be on his guard, and exert himself in the reduction of their numbers, even if he cannot exterminate them. Under judicious management and when the conditions as to soil are fairly favourable, the Plum does not suffer much from the attacks of fungi; and gumming can be avoided to some extent by a careful and proper use of the pruning knife.

Fruit Destroyers.

RED GRUB OF PLUM (*Carpocapsa funebrana, T.*).—The parent moth lays its eggs on the young fruit early in June, and during July the grubs are hatched, and commence immediately to gnaw their way into the interior, feeding upon the fleshy parts particularly around the stone. Here they feed securely, and as the small hole they make on entering soon heals over or gets closed up, their presence is difficult to detect unless the fruit is cut open. The grub is of a dirty pale red with a black head, a few brownish markings on the next segment, and some fine hairs all over the body. Stainton says that the perfect moth is scarce, but that the grubs are frequent in Plum pies! When full fed they leave the fruit either before or after the latter has fallen, and seek for a place of concealment in crevices of the bark, where they spin a cocoon and complete their transformation, appearing in the perfect state next spring. The moth measures about 6 or 7 lines across the fore wings, which are pale grey, shaded with darker scales and having an eye-like spot near the hinder edge enclosing four dark lines.

Remedies—Affected fruits ripen prematurely and drop. The trees, however, may be shaken to test the soundness of those that remain, and the whole of those that have dropped collected and burnt immediately, or deeply buried in the ground so as to effect the destruction of the grubs in them and prevent future attack. This should be done early and repeatedly during the month of August to ensure the destruction of as many grubs as possible. All loose bark should be removed and the crevices well scraped to destroy the cocoons if any, while the scrapings should be burnt.

PLUM SAWFLY (*Hoplocampa fulvicornis, Klug.*).—This has also been known for some time in this country under the name of Tenthredo morio, Fab. The perfect female fly commences her mischievous work by laying an egg in the calyx of an expanding flower bud, and the grub hatching out in seven to ten days, eats its way into the young fruit where it subsists upon the kernel until it has eaten all it cares for, after which if not yet full fed, it proceeds to attack another. It is white or reddish-yellow with a brown head, and like the sawfly (Nematus Ribesii) of the Gooseberry and Currant it has six legs and fourteen prolegs. It is full fed in the course of four to six weeks, and by this time the injured Plum falls, when the creature leaves its feeding ground and burrows into the soil, where it spins a cocoon and remains in the caterpillar state till spring, when it completes its transformation and comes forth to attack the opening buds again. The perfect insect has four transparent wings, a black body and dusky yellow legs.

Remedies.—The Plums attacked from having the kernel destroyed, do not attain full size, but drop prematurely with the contained grub or caterpillar. The trees may be shaken, and all the fruits that fall collected and burnt. As the affected ones may be detected by a wound on the top and that is either open or choked up with gummy material, or which has the remains of the flower still gummed to it, such fruits may be gathered and burnt with the rest. By perseverance in destroying the fruits containing grubs, the pest can be kept under and future depredations prevented.

COPPER-COLOURED WEEVIL (*Rhynchites cupreus, L.*).—The perfect weevil feeds upon the young shoots and buds of various kinds of fruit trees during the month of June and even later; but Plum trees and Cherries constitute its favourite food. The females pierce the young fruits and deposit an egg in each. They then cut partly or wholly through the fruit stalk, and the Plum sooner or latter falls with the contained egg or grub. The latter feeds upon the fruit till full grown, when it buries itself in the soil and passing into the pupa state remains there till the following June. The perfect weevil is 2 to 2½ lines long, and is of a dark bronzy or brassy hue above and brassy black beneath. The wing cases are striated and of a bronzy or brassy hue. The head is produced into a long decurved, slender snout, and the antennæ are clubbed but straight. The feet are black. This species is pretty widely distributed over England, but is only moderately common in some localities. It is, however, plentiful and very destructive upon the Continent.

Remedies.—While the perfect insects are busy upon the trees in June a cloth may be spread on the ground and the trees sharply shaken to make the weevils fall. In the case of wall trees a light birch broom may be lightly switched along the branches without injuring the foliage, and the weevils, if any are present, will drop, when they may be collected and destroyed. All fallen fruits should be promptly collected and destroyed from time to time, before the grubs have time to become full fed and escape. Where they prove troublesome they may be kept in check by the above methods where there are no hedges to harbour them.

Leaf Destroyers.

PLUM APHIS (*Aphis Pruni, Reaumur*).—The Plum is very liable to have its young unfolding leaves greatly injured by this Aphis during the months of May and June. The insect under favourable conditions multiplies with amazing rapidity, and owing to the irritation set up by so many beaks sucking the juices, the leaves become revolute at the sides, or wrinkled and blistered forming ample shelter for the Aphides. The leaves also assume a greenish-yellow or sometimes red hue, and the pores on their under surface get choked up by the sticky excrement and mealy exudations from the filthy pest. The wingless, young-producing females are pale or dark olive-green, with three darker stripes on the back, brown eyes, and antennæ. The winged, young-producing female is olive-green, with head, shoulders, and a large blotch on the abdomen black. The antennæ shanks and feet are also black. The large, pale wings have brown veins. If the Aphides are allowed to get thoroughly established on a tree, the young shoots as well as the leaves are irreparably injured and the tree crippled.

Remedies.—Various washes consisting of solutions of soft soap, tobacco water, sulphur, decoctions of quassia-chips, and ammoniacal liquor, either separately or in mixture, are used by different cultivators for destroying green-fly. It is well to use soft-soap as a basis, especially in this case where the Aphides are protected by a mealy covering, as the soap causes any poisons that may be applied to adhere to the insects, while it serves to cleanse the foliage. In the case of wall trees where the pest is noticed before the colonies get numerous, a dusting of tobacco powder while the foliage is wet, will often be sufficient to stay their ravages.

A solution of one pound of soft soap in eight gallons of water would be rendered much more efficient by boiling one pound of flour of sulphur in it. Another receipt would consist of five pounds of soft soap to twenty-five or thirty gallons of water to which is added the juice made from one ounce of strong shag tobacco. A decoction of quassia may be used by boiling a quarter pound of quassia-chips in a gallon of water, and adding a quarter pound of soft soap after the decoction is cold. The quassia-chips may be put in a bag while being boiled to save the trouble of having to strain the liquid. Gas-water or ammoniacal liquor may be used at the rate of one gallon to five or ten of water according to its strength, but as it varies greatly in this respect the trees should be washed with clean water two or three hours afterwards, especially where the foliage is young and tender. If the trees are tall, or when several of them are to be treated, a garden engine would be the best instrument to apply the insecticides as well as for washing the trees afterwards. Clean water applied with force would wash down many of the Aphides and be conducive to the health of the trees.

CLEAR-WING PLUM APHIS (*Hyalopteris Pruni, Fabr.*).—The trees are rendered even more filthy and disgusting by this Aphis than by that previously named, during June, July and August. The insects crowd under the leaves in myriads, completely covering the surface, and presenting a bluish white appearance owing to the mealy exudations with which they are invested. The leaves also become more or less curled and greatly injured. The wingless, young-producing female is narrowly oblong, pale glaucous green with a broad median deep green line, and hoary with mealy or powdery matter. The eyes are brownish-red, and the feet black, all the rest being pale green or colourless. The upcurved tail is dagger shaped. The winged form corresponding to the above is also pale green, with a deep green median interrupted line and some spots of the same hue near the sides. The head is circumscribed by a brown line, and there is another on the neck, while the shoulders and antennæ are deep brown or black. The wings are long and hyaline or almost colourless, a fact to which the generic name refers.

Remedies.—The washes mentioned above, and in which soft soap is the predominant ingredient, should be used against this filthy insect.

HOP APHIS (*Phorodon Humuli, Schrank, var. Malaheb Fonsc.*).—This variety of the Hop Aphis sometimes infests Plum trees during May and June. The wingless young-producing female is ellipsoid, much narrowed to the head, and bright green or yellowish green, with the base of the antennæ green and the rest as well as the feet deep brown or black. The variety differs from the type in being larger and in the tubercles on the front of the head being much shorter. The winged form corresponding to the above is of a brighter green than the type with the head, antennæ, shanks and feet black. The legs are short in both forms.

Remedy.—The second of the above recipes mentioned under Aphis Pruni would serve to destroy or keep the enemy in check.

THE WINTER MOTH (Cheimatobia brumata) and the Black Vine Weevil (Otiorhynchus tenebricosus) feed upon the young leaves and buds; the Wœberian Tortrix (Semasia Wœberiana), and the Plum Bark Weevil (Magdalinus Pruni) sometimes injure the bark and cambium layer by making galleries underneath them, but generally in old and already more or less unhealthy trees; and the larvæ or grubs of the May Bug or Cock Chafer (Melolontha vulgaris) occasionally eat the roots.—*J. F.*

DOUBLE CHINESE PRIMULAS.

WITH reference to the culture of the old double-white Chinese Primulas, referred to by "Visitor" at p. 433 of your issue for March 12th, I may say now that most of them are going out of bloom, no time should be lost in preparing the plants for propagation. I prefer keeping them indoors if possible, instead of adopting the usual practice of transferring them to a frame, as just now is the time that they want attention the neglect of which so often leads to disappointment. To obtain good strong plants you must have good cuttings, and by keeping them in a house, and looking after their wants, there will be no scarcity of them.

Double Primulas must either be propagated by cuttings or by division, and the latter method is the easiest. Remove the old leaf stalks at the base of the growths and earth up the stems as far as the lower leaf stalks with a mixture of leaf-soil and sharp sand, pressing it firmly about the stems. Never let the plants get dry, and they will soon throw out new roots. When well rooted they must be divided, each crown separately, and be potted off into good loam, leaf-soil, and sharp sand, and be kept close in a frame until well established, when more air must be given.

As soon as the roots reach the side of the pot, give them another shift into larger pots, using a compost of two parts of leaf-soil, and one each of turfy-loam and old cow-manure with a little sand, and the pots should be well drained. Many growers err on the side of over-potting, which is a great mistake, as if over potted the leaf-growth will too greatly preponderate over the production of flowers. Of course plants grown in comparatively small pots will want feeding, and liquid cow-manure with a little guano added will be found an excellent stimulant.—*H. Dyer, Messrs. Jefferies & Son's Nursery, Cirencester.*

FLORICULTURE.

The Pink.

I DO not think I am divulging any secret when I state that an exhibition of Pinks will take place this year at the end of June, and probably in the grounds of the International Horticultural Exhibition, at Earl's Court. The matter has been talked about by several growers and admirers of the Pink in conjunction with Mr. Ranger Johnson, the hon. sec. of the Pink Society, and that is the conclusion come to. Last year Pinks were very late, and as the show had to be held in connection with one of the series held at the Royal Aquarium, the date could not be altered. This year the date will not be definitely settled until Mr. Johnson has communicated with the leading growers, but it will be towards the end of June.

Growers should now give their plants every attention in view of the coming exhibition. They are making a good start, and it is necessary the growth be vigorous, clean, and of a nature to produce fine exhibition flowers. A good drenching of warm rain is now necessary, not so much that the soil is dry at the roots as that, owing to the prevalence of cold winds, it is very hard on the surface, and until it is softened by rain top dressing can scarcely be employed with advantage. When the beds have been invigorated by rain the surface, as soon as dry enough, should be stirred, and the top dressing employed. As soon as the month of May opens, a little weak manure water may be applied twice a week with great advantage. As the shoots are beginning to lengthen, they should be secured from breakage. If large flowers are required for exhibition some thinning will be required. In the case of large, full flowers, like Boiard, a fairly good number may be left to—as the Americans say—"watch out;" but when the variety is one thin of petals, hard thinning is necessary, reducing the buds to two or three as the case may be.

It is intended the exhibition shall be, as heretofore, all embracing—that is, all sections of Pinks will be represented. There are now so many pretty border varieties that it is well they be brought to the notice of the public, and there is no better method than by such an exhibition as that held by the Pink Society. The fact that flowers can be shown in public and brought to the notice of lovers of hardy flowers, is an inducement for florists to raise new varieties. We cannot all grow laced Pinks; many have not the proper convenience, nor have they leisure to shade and bring the flowers on appropriately laced and deep and bright in colour; but they can grow some of the border varieties, and so be enabled to take a part in the exhibition if disposed to do so. Therefore there is reason to rejoice the exhibition of the Pink Society is to be continued, and it is to be hoped the efforts of the promoters will be crowned with success.—*R. D.*

Auriculas.

Now that warm weather has set in green-fly accumulates rapidly, especially as the fact that the plants being in bloom fumigation cannot be done for fear of injury to the flowers. I always adopt the practice of giving my plants a good fumigation just as the buds are beginning to open, and that will carry the plants through the blooming season. Meanwhile if any fly accumulate let a camel's hair painter's brush be employed to dislodge them, and so, if they cannot be killed, they are kept moving on, as if under the supervision of a floricultural police. Plenty of water is now necessary while the sun shines out so warmly from an unclouded sky. Plenty of air must now be given, and it is an easy matter to exclude insects by stretching some tiffany or some such light material over the doorways and open windows. If the bees get among the flowers they quickly fade, and the time of delight, when the bloom can be enjoyed, is shortened in consequence.

Lovers of the Auricula will do well to inspect the collection at the Royal Nursery, Slough. A long span-roofed house, with a broad, table stage on either side, is full of them—show and Alpines divided into two sections, as if they represented the Government and the Opposition in the floricultural Parliament. Prominent among the show varieties are Green Edges—Colonel Taylor, to my mind, the most perfectly-edged Auricula we have in the green class, because of its rich emerald tint—if it was only as strong in the paste as it is on the edge. But who would not gladly have such a fine variety in their collection? The Rev. F. D. Horner is both numerous and fine—quite small plants of this, the most useful of our green edges, are throwing up enormous trusses. A plant of George Lightbody in a green form is perfect, and would be invaluable if it could be permanent. A few other old greens—General Neill, Oliver's Lovely Ann, and Talisman—are in good character. Of greys there are George Lightbody Alexander Meiklejohn, Charles E. Brown, old Conqueror of Europe, Dr. Horner, Lancashire Hero, Confidence, and Richard Headly—a very useful lot of flowers indeed, and most of them quite up to exhibition form. Of white edges, Acme; Beauty, a most useful variety; Conservative, of good quality; Dr. Kidd; Mrs. Dodwell, lovely, but so very dear at present; Silvia, and the old and delightful Smiling Beauty. The collection is strong in selfs. I give the names alphabetically rather than in any order of quality. There are Woodhead's Black Bess, Chas. J. Perry, Helen Lancaster, Heroine (Horner), Lord of Lorne, ever welcome as a bright red, though capable of being improved upon; Spalding's Metropolitan, an old bright purple self; Mr. Douglas; Mr. Smith; Mrs. Potts, a highly-finished blue self; Pizarro, and Sapphire—a very good lot indeed.

The Alpines are late this season, and many named last season have yet to open. There will be a grand display of them for two or three weeks, and they will repay inspection. They can be seen to the best advantage in the Auricula house. What the visitor notices with satisfaction is the number of new white-centred varieties, and it is curious to notice that generally the strongest in point of purity in the centre in the collection are found associated with marginal shadings of some hue of mauve, blue, and purple. If anyone would comprehend the remarkable advance made with the Alpine Auricula during the last few years, they should embrace an early opportunity of inspecting the Slough collection.—*R. D.*

PELARGONIUMS FOR WINTER FLOWERING.

THE cultivation of zonal Pelargoniums for winter flowering requires a good deal of attention to be successful with them. Few plants are more suitable where there is a demand for a varied supply of cut flowers, the doubles especially being highly prized on account of their lasting qualities when cut. Where a few hundreds are grown a very suitable plan for striking cuttings is to dibble them in a bed of sand in a propagating pit, where they will root with freedom, care being taken not to keep them too moist or they will soon show signs of damping off.

When once they are rooted, place them singly into 3-in. pots in holding loam, some decayed manure, and as much sand as will keep the whole porous. Bear in mind to pot firm, as by this practice a sturdy growth is fostered. When they have taken to the new compost, a very suitable place for their reception will be a cold frame, keeping the same close till they get a little hardened as they are very susceptible to chills at this stage. Gradually increase the supply of air as time goes on till the sashes can be dispensed with altogether. The final potting should then take place, and no more suitable pot can be wished for than a 6-in. I have faith in any size under that, but not above it, as they incline to make far too sappy growth, and the trusses are never produced in such quantity, and the extra space they occupy never repays the trouble.

The points of the shoots should be taken out some time before the final potting. This will induce them to break freely and form the future plant. The potting compost should be much the same as advised at first, with the addition of some bone meal, which is a very valuable adjunct at this potting. Their after culture consists simply of close attention to watering, stopping any shoots which are inclined to grow too fast, the removal of all flowers as fast as they appear, and the application of some chemical manure every week. Starvation is far too common a thing in plants. Some people think if a plant gets potted in a rich compost it is all it requires, but I have found out that where success is aimed at feeding is a most important item.

By the middle of September the plants should be put in their flowering quarters, as great injury is often caused by the heavy rains which fall about that time. Abundance of air at all times proves favourable to them, and with a night temperature of 50° great success will be achieved and will reward all trouble bestowed upon them.—*W. Angus, Cheswick, Northumberland.*

LA CLOCHE.

IT seems difficult to understand in the first place why we should as a nation be so dependent for ideas concerning many things pertaining to gardening upon France, and why, having regard to the immense demands now being made upon our home resources, we have not elevated gardening for market purposes into a much higher position than it at present holds. Perhaps this comparative dependence for ideas upon the neighbouring country is largely due to our methods of gardening, the which are so dissimilar to those found in France and in Belgium; indeed ours too closely resemble those of garden farming, being generally conducted on a wide scale. We owe the introduction of the Cloche, name and article, into this country to the French, and it would seem as if it is still needful to import these useful articles from that nation. Why cannot we manufacture our own? Why also can we not employ them far more largely than we do?

Even now their use is extremely limited, and the largest market gardener holds he has a good stock if he employs but five hundred, when it would seem that he should have so many thousands. How very useful these Cloches are. They serve admirably to protect autumn planted Cauliflowers during the winter; later they can be used to shelter Vegetable Marrow plants; still later they will help to protect and foster late Tomato plants. In the summer, whitened over, they will be found useful to raise all sorts of seeds under, because they would keep the soil moist, and exclude hot sunshine and insects. Where Cauliflowers for very early cutting are not required, the Cloches will protect and foster choice saladings, just as in summer, used as previously advised, they will rapidly bring up great quantities of Mustard and Cress. The French glass is a real Cloche or bell-shaped, the base broad, but narrowing to the centre, why not made quite cup-shaped is difficult to understand. When used in winter it is a capital plan to set them on a ring or base of coal ashes, as they are less likely to suffer from frost than when set direct into the soil.—*A. D.*

WOOD-ASHES AS A FERTILISER.

THESE are very valuable for cold and heavy soils on account of the large amount of potash they contain. Not only do they keep stiff soil more open, but they make the ground much easier to work all through the summer. In large gardens, and especially those in the country, there is not much difficulty in obtaining wood-ashes. Where, however, it is not easy to get a supply from the home burnt trimmings from the fruit trees, shrubberies, etc., they are well worth the usual price paid for them, viz., sixpence per bushel.

Many gardens that have been well attended to and heavily cropped year after year, eventually contain soil that has become so charged with organic manures that crops do not do so well as formerly, even with the most judicious changes. In such a case, if wood-ashes only were used for a season the beneficial results would be surprising. In these old gardens, and which are so often over-manured in the belief that the soil must be exhausted by the continual cropping, such crops as Onions and Carrots are very much affected with maggot and grub. A little wood-ashes placed in the drills when sowing the seed, is the cheapest and most easily applied remedy you can have, as well as being the most effectual. With a slight dressing of soot and ashes later on, one may often get a good crop of these roots even upon badly infested ground; certainly such roots will always come cleaner and of more value when treated to the beneficial effects of wood-ashes. These ashes also have a good effect upon all plants disposed to canker; such for instance as Melons, Cucumbers, etc.

Lawns upon heavy soils are often much troubled with moss that soon kills the grass. There is no better remedy for this than a good dressing of wood-ashes during the early spring months. Not only do they kill the moss, but they give the grass renewed life, causing it to become as soft and velvety as a carpet. The ashes will soon kill the moss, and you may then give a second and slighter dressing of ashes, soot, and bone-meal in equal proportions; this will cause a much finer growth than any farmyard manures, and will induce it to grow near to and under trees as well as any manure you can apply. It is washed in by the first rain, and in this respect

is also a great gain over other stimulants as far as appearances go.

Wood-ashes are also very beneficial upon all soils infested with wire worm, in short they should be more freely used upon all stiff soils. The rakings, sweeping, dead branches, and any similar materials from among trees and shrubs, should never be allowed to rot into a musty fungus breeding heap, as we too often see. Burn them, and so kill the numerous insects that are always contained in such decaying rubbish, and at the same time you will secure a few of the most valuable ashes one can possibly have.—*Experience.*

HARDY TREES & SHRUBS.

Crabs and Service Trees.

The ornamental species of Pyrus, including the Apple, Pear, Service Trees, Medlars, and Quinces, will soon be in bloom, and all of them are more or less ornamental, some of them highly so. Although we are accustomed to look upon the cultivated and highly improved forms of Apples and Pears from a utilitarian point of view, they are none the less ornamental whether in blossom or in fruit. To these may be added a number of small fruited Apples popularly known as Crabs, and which are esteemed for their ornamental character when in fruit. Independently of these, however, there are several species, and some of them having varieties, all of which are appropriate subjects for the shrubbery or pleasure grounds. They may be propagated by seeds or by budding and grafting, the two latter methods being veryfrequentlyresorted to, especially in the case of varieties.

Pyrus baccata.—The Siberian Crab has large, and pale or white flowers, which are highly conspicuous when produced in great abundance as they usually are; but the trees are even more effective when loaded with fruit in the autumn. The latter is about the size of a Cherry, and when ripe the resemblance is even more striking owing to the dropping of the calyx, which leaves the fruit quite smooth, and to the shining yellow skin more or less heavily shaded with bright red. When mature they hang on the trees for a long time brightening, the landscape during the autumn months. The species is a native of Siberia and Dahuria, attaining in this country a height of 15 ft. to 20 ft., ultimately forming a broad, spreading head. The fruit is agreeable to the taste and useful for preserving, so that it is valuable as food as well as ornamental.

P. fennica.—The Finnland Service Tree is also known as P. pinnatifida, as the leaves are deeply lobed or pinnatifid, and sometimes even pinnate at the base. In this respect it bears some resemblance to the Mountain Ash, and is known in some northern localities as Lord Fife's Ash. It is regarded by some as a hybrid between P. scandica and the Mountain Ash, and is a native of different parts of Europe, as well as in the Island of Arran, from which circumstance it is given in all books as a British tree. The flowers are sweet scented like those of the last named, and the deep red fruits are similar but larger. The tree grows to the height of 15 ft. to 25 ft., forming with age a broad spreading head of a very ornamental character.

P. Malus floribunda.—Many names are given to this Pyrus, including P. floribunda and Malus microcarpa floribunda; but whatever name may be given it there can be no disputing of the fact of its highly ornamental character during the month of May when nature everywhere is putting on her summer dress. Besides this use in the shrubbery or pleasure ground, it also submits readily to forcing, and appears as floriferous then as in the open ground, and the flowers are almost as highly coloured. It presents no difficulty in forcing to be in flower by the beginning of April, but the heat necessary to flower it earlier would probably cause the flowers to be short lived and poor in colour owing to the relative absence of light at that season. Being of dwarf stature, it may be considered a shrub rather than a tree, with a mass of slender, twiggy shoots, which gives it an imposing appearance when in bloom owing to the profusion of flower buds. It comes from Japan, from whence so many hardy flowering trees and shrubs have been obtained for the decoration of our gardens. The leaves are small, oblong-lanceolate, bluntly toothed, and thickly set in tufts on the numerous, short, spur-like branches. The flowers are relatively large when fully expanded, and heavily tinted with rosy-red upon the back, while they appear of an intense red or almost crimson while yet in the bud, so that they are very conspicuous from the time the buds swell up till the petals drop. The floriferous nature of this beautiful shrub may be gleaned by reference to our illustration of a spray prepared from a forced specimen.

Pyrus Malus floribunda.

P. arbutifolia.—The Choke-berry, as it is called, is a native of North America and forms a shrub varying from 2 ft. to 10 ft. in height, but is usually seen as a low spreading bush. The flowers are white or tinted with purple and are succeeded by small red or purple fruits. May and June are the months in which it blooms, so that it forms a succession to those which flower earlier. The leaves are oblong or obovate, finely serrated, and of a dark shining green colour resembling those of the Arbutus or Strawberry tree, and constituting an additional recommendation to the flowers and fruit. It may be grown in the shrubbery or as an isolated specimen upon the lawn.

P. spectabilis.—This Chinese Crab is one of the most conspicuous of all while in bloom owing to the flowers being semidouble, and produced in great profusion during April and May in average or ordinary seasons. The petals are of a brilliant red while in bud, becoming paler as they expand, and when fully opened are of a pale purple or pink. Tneir great size and the numbers produced give a tree a rich appearance. The tree varies from 20 ft. to 30 ft. in height, and as far through when under favourable conditions and allowed to attain those dimensions. In most places, however, it grows slowly and may be kept within reasonable bounds by judicious pruning, that is by the removal of the more rampant growing shoots. This, however, is seldom required. As an isolated specimen on the grass, it would be hard to beat for its beauty and handsome effect in spring.

P. Aucuparia. — The Mountain Ash has been a amiliar object in old fashioned gardens from a remote period, but at the present day is more neglected than it ought to be. Comparativelylittle attention is given to it when in bloom owing to the amount of competition from various other trees and shrubs in flower at that time. The blossom is creamy-white and freely produced in large corymbs or flat topped trusses, to be followed in autumn by similar bunches of dark red fruits. The beauty of a well furnished tree at that time cannot be overestimated; and,seeing that it flowers and fruits in quite a small state and even in smoky towns, the wonder is that so few cultivators and planters take it into their consideration. There is an old variety of it with yellow fruits, but it is probably all but lost to cultivation; and also a weeping variety with pendulous branches.

P. Aria. — The White Beam Tree, like theWhite Poplar, becomes a conspicuous object in the landscape when the foliage is ruffled bya breeze of wind, so that the snowy under-surface is brought into view. The whole tree, however, has a hoary appearance, more especially in spring and early summer, while some varieties are more conspicuous in this respect than others. The species is very variable both as to the shape, size and division of the leaves. The fruit in the more typical form is red, but in other cases it is orange or almost yellow. Some varieties are quite dwarf, forming bushes, but as a rule the White Beam Tree attains a height of 30 ft. to 40 ft. It should therefore be relegated to the pleasure grounds or parks, where it may be planted amongst others forming clumps, or singly. Trees here and there along the sides of avenues or drives, also serve to lighten up the landscape.

The Hull and East Riding Chrysanthemum Society's schedule of prizes has just been issued, and is on the usual liberal scale. The two leading classes, viz., for twenty-four blooms of incurved and Japanese respectively, have 1st prizes of £10 and a five guinea silver cup in each; and for a group not exceeding 100 square feet, a challenge cup value twenty guineas and £6 are offered. The exhibition will take place on November 16th and 17th.

THE HERBACEOUS BORDER.

Choice Plants in Flower.

TULIPA LEICHTLINII.—There are several of the smaller-flowered species of Tulip which are very interesting as well as beautiful, notwithstanding their relatively small size when compared with the florists' Tulip and other races of T. Gesneriana. They may be grown in sandy soil in the open border, or upon the rockery, where their peculiar beauty will be more appreciated than when grown alongside of the more gaudy forms of T. Gesneriana. That under notice presents a peculiar combination of colours, the segments being creamy-yellow becoming almost white, while the three outer segments are of a bright red with a white margin on the outer face. The stem bears one flower and two or three linear, channelled, glaucous leaves.

TULIPA BIFLORA.—The flowers of this species are below the middle size for a Tulip, and although two is the usual number on a stem, they vary from one to five, as may be seen in the nursery of Messrs. Barr & Son, Long Ditton, Surrey. The normal number of segments to the perianth is six, but curiously enough they vary here from eight to ten, which surely must represent exceptional vigour. The flowers are pale yellow with exception of the external face of the outer ones, which are green, more or less shaded with purple. The bulbs were recently introduced from Affghanistan by Capt. Nelson, of Godalming.

IRIS RETICULATA NELSONI.—The falls of this variety are spathulate, bright deep blue and marbled with blue, white and yellow along the centre and down the claw. The standards and stigmas are bright blue shaded with purple towards the base. The flowers are brighter even if somewhat smaller than those of the type.

CORYDALIS CAVA ALBIFLORA.—The size of the flowers and the abundance with which they are produced renders either this or the type very ornamental in spring. The inner petals of the white variety have a black block on the inner face at the apex, otherwise there is nothing to mar their purity, and although this shines through faintly it cannot be detected except on close examination. The ease and certainty with which this may be grown should also recommend it to those making a collection, because when once established it can take care of itself.

ANEMONE CORONARIA QUEEN OF THE SOUTH.—This is a wild form collected in the south of France, and is more easily grown than the numerous improved garden forms. A. c. syriaca from Palestine, and so named by the Dutch, is precisely identical with the above, and so is President Carnot, of Messrs. Damman & Co., of Italy. The flowers are of large size, and consist of six to seven broadly oblong, blunt, brilliant scarlet sepals, fading into rose at the base, and forming a ring round the black anthers.

ANEMONE NEMOROSA ROBINSONIANA.—The beautiful soft blue flowers of this variety are very charming, whether the plant is grown in patches by itself or in association with the type and its various forms. It delights in a little shade, more particularly if a little moisture can be secured in that way, but by the use of peat may be grown anywhere with full exposure to sunshine. The various forms of A. nemorosa associate well with Ferns in the hardy, outdoor fernery, where the conditions as to moisture are present; and as the leaves of the Anemone die down in summer the thick shade of the Ferns does not injure them.

TRILLIUM SESSILE CALIFORNICUM.—The flowers of T. sessile are stalkless, and seated close down upon the leaves. The three inner segments or petals are purple in the type, but in the variety under notice they are white. The three leaves are roundly elliptic, and variously blotched with dark olive green on a light green ground. It should be planted in peaty soil, or in that containing a considerable amount of decaying leaves or vegetable matter. The American Wood Lilies are all interesting in their way, owing to their neat habit, quaint flowers, and the leaves which in several species are blotched.

FRITILLARIA PALLIDIFLORA.—The flowers of this Fritillary are bell-shaped and of a pale yellow, as implied by the specific name, and finely spotted with black internally. The stems are generally from six to nine inches high, and clothed with short but broad oval or lanceolate, glaucous leaves, so that the plant on the whole is both pretty and interesting. The number of flowers on a stem varies according to the strength of the plant, and although they are not showy, yet there is something about them which collectors of hardy plants cannot fail to admire. The bulbs should be planted in sandy soil, and in the front row if grown on the herbaceous border. We noted all of the above in the nursery of Messrs. Barr & Son.

ANEMONE FULGENS.—The continuously cold weather of the past winter has prevented the early flowering of this fine species, making it contemporaneous with others which we are accustomed to see in April. When we have a mild autumn it comes into bloom in November and also gets very fine again in February provided the weather is mild. In any case we have few flowers in the early part of the year to compete with it in brilliancy. The fleshy, creeping rhizomes may be planted in any good garden soil, even out in the open, but a little shelter from the north and east would be beneficial rather than otherwise, and serve to protect the blossom when it makes its appearance early in the year. The cluster of black stamens in the centre contrasts well with the scarlet sepals.

SPRAYING WITH ARSENIC COMPOUNDS.

THE only insecticide sprays which are at all dangerous to use are the arsenic compounds, and even here the danger is greatly exaggerated by those not conversant with the facts. Paris green and London purple have for many years been extensively used in this country as insecticides, and a case of fatal poisoning from their use as such has never been substantiated. The only danger lies in having the poison about a farm or plantation in bulk. In the early days of the use of Paris green against the Colorado potato-beetle a great deal of opposition was developed on account of the supposed danger, and only recently the sale of American Apples in England has received a set-back owing to the supposed danger of arsenic poisoning from their consumption. The question as to whether arsenic may be absorbed by the growing plant in any degree was long ago settled in the negative by the best chemists in the country. Dr. William McMurtrie, formerly chemist of this department, in 1878 showed that even where Paris green was applied to the soil in such quantities as to cause the wilting or death of the plants, the most rigorous chemical analysis could detect no arsenic in the composition of the plants themselves. Other experiments in a similar direction by Prof. R. C. Kedzie, of the Michigan Agricultural College, confirmed these conclusions. It is safe, then, to assume that the only way in which fruit or vegetables can convey the poison to the consumer will be through the very minute quantity of arsenic left upon the edible part of the plant. Against the possibility of such an effect the following facts may be urged :—

(1) It would seem at first glance that the use of an arsenical poison upon a plant like the Cabbage would be very unsafe to recommend, yet Paris green and London purple are used upon this crop to kill the several species of leaf-eating worms which are so destructive to it, and an absolute absence of all danger where the application has been properly made has been recently shown by Prof. Gillette, of the Agricultural Experiment Station of Colorado, by the following *reductio ad absurdum* :

* * * Where the green is dusted from a bag in the proportion of 1 ounce of the poison to 100 ounces of flour and just enough applied to each head to make a slight show of dust on the leaves, say, for twenty-eight heads of Cabbage, 1 ounce of mixture, the worms will all be killed in the course of two or three days, while the average amount of poison on each head will be about one-seventh of a grain. Fully one-half of the powder will fall on the outside leaves and on the ground, and thus an individual will have to eat about twenty-eight heads of Cabbage in order to consume a poisonous dose of arsenic, even if the balance of the poison remained after cooking.

(2) In case of spraying Apple orchards for the codling-moth there is scarcely a possibility of injury to the consumer of the fruit. A mathematical computation will quickly show that where the poison is used in the proportion of 1 pound to 200 gallons of water (the customary proportion) the arsenic will be so distributed through the water that it will be impossible for a sufficient quantity to collect upon any given Apple to have the slightest injurious effect upon the consumer. In fact, such a computation will indicate beyond all peradventure that it will be necessary for an individual to consume several barrels of Apples at a single meal in order to absorb a fatal dose even should this enormous meal be eaten soon after the spraying and should the consumer eat the entire fruit.

(3) As a matter of fact careful microscopic examinations have been made of the fruit and foliage of sprayed trees at various intervals after spraying which indicate that after the water has evaporated the poison soon entirely disappears either through being blown off by the wind or washed off by rains, so that after fifteen days hardly the minutest trace can be discovered.

(4) In the line of actual experiment as indicating the very finely divided state of the poison and the extremely small quantity which is used to each tree, Prof. A. J. Cook, of the Michigan Agricultural College, has conducted some striking experiments. A thick paper was placed under an Apple tree which was thoroughly sprayed on a windy day so that the dripping was rather excessive. After the dripping had ceased, the paper (covering a space of 72 square feet) was analyzed and four-tenths of a grain of arsenic was found. Another tree was thoroughly sprayed, and subsequently the grass and clover beneath it was carefully cut and fed to a horse without the slightest sign of injury.

The whole matter was well summed up by Professor Riley in a recent lecture before the Lowell Institute, in Boston, in the following words :—

The latest sensational report of this kind was the rumour, emanating from London, within the last week, that American Apples were being rejected for fear their use was unsafe. If we consider for a moment how minute is the quantity of arsenic that can under the most favourable circumstances, remain in the calyx of an Apple, we shall see at once how absurd this fear is; for, even if the poison that originally killed the worm remained intact, one would have to eat many barrels of Apples at a meal to get a sufficient quantity to poison a human being Moreover, much of the poison is washed off by rain, and some of it is thrown off by natural growth of the Apple, so that there is, as a rule, nothing left of the poison in the garnered fruit. Add to this the further fact that few people eat Apples raw without casting away the calyx and stem ends, the only parts where any poison could, under the most favourable circumstances, remain, and that these parts are always cut away in cooking, and we see how utterly groundless are any fears of injury and how useless any prohibitive measures against American Apples on this score.— *Bulletin of the U.S. Department of Agriculture.*

THE GOOSEBERRY CATERPILLAR.

ONE of the most persistent enemies of the Gooseberry is undoubtedly the caterpillar. It is the progeny of the magpie moth (*Abraxas grossulariata*), which deposits its eggs upon the foliage, and from them is hatched in September a slightly hairy coloured caterpillar, spotted with black, and marked with orange along the sides, and which forms a loop in walking. It feeds upon the leaves during autumn and spring, devouring all but the petiole, and often entirely defoliating both Gooseberry and Currant bushes. It changes into a pupa in May or June, and in about three weeks afterwards the perfect insect makes its appearance. Handpicking the caterpillars at an early stage of their growth is one good method of stopping their ravages, and, still better perhaps, burning the leaves on which the eggs are laid, are the troublesome means by which this destructive pest may be got rid of. Old Donald Beaton once stated that pouring ammoniacal liquor diluted with water over the bushes, was the easiest mode of destroying the caterpillars, but, as he was careful to remark, the strength of the liquor varies greatly, and therefore it is advisable to ascertain by experiment the least amount of dilution which will not prove injurious in the sun to the leaves.

I notice that one of your gardening contemporaries calls attention to a Yorkshire practice of placing a bush of furze in the centre of each tree before the caterpillars were likely to attack the leaves. The writer states this has proved a good remedy, and he

attributes it to the perfume emitted by the flowers. I am disposed to think that if the furze be placed in the trees before the butterflies begin to lay their eggs, the insects, coming into contact with the prickles, do not like them, and turn away from the trees. I remember, when in Yorkshire some thirty years ago, going into a garden and seeing a plantation of Gooseberry trees, each with a bunch of furze in the middle. It was remarkable to note how little these trees were ravaged by the caterpillar, while in surrounding gardens they were almost bare of leaves. The gentleman in whose garden I saw this contrivance stated that he and his father had practised it for thirty years, and always with success. I know that the bare mention of the method is apt to excite ridicule, but, after all, there is something in these old customs, and until we can show they are useless to serve the purpose contemplated, ridicule is somewhat out of place.—*R. D.*

PROPAGATING CAMELLIAS.

When desirous to increase the finer double varieties of the Camellia, and having some plants of inferior kinds for stocks at hand, we have always found the operation of grafting to act more effectually from the present time up to the end of July than at any other period of the year. We invariably adopt one of the two methods most in favour with horticulturists, namely, tongue and saddle; and experience proves them to be, at least in this particular case, the best, most convenient, and most applicable under all circumstances and conditions. A comparatively long term of experience also teaches us that low grafting on old stocks is a thing not to be commended. Such we find will prove more satisfactory when grafted with a view to make them standards. They will then arrive in a shorter period at the flowering stage, and in less time form vigorous plants; and there is, we observe, little danger of the stock breaking out shoots after the graft or grafts have taken, and there can be equally as little objection for having plants on edium standards. If, however, a tall pyramidal tree is desired to be grafted, to give the most immediate effect, we cut it well back, and put as many grafts on as will feather it, so to speak, and in six weeks we have the plant almost as well furnished with foliage as it originally had been. Though not by any means a difficult thing, this operation to be successfully done requires a certain amount of nicety and precision in its performance, that perhaps practice alone will ensure satisfactory results. Scion and stock, to begin with, must be tolerably robust and healthy, or nothing but failure can be expected to ensue.

Our plan is, when the plants to be operated on are done flowering, we put them into heat, where they soon start into growth, and about the beginning of May, or sooner as the case may be, wood will be formed of sufficient length to make grafts. We cut these from 2 in. to 3 in. long and forked if possible, with a part of last year's wood attached, which part is prepared and inserted into the incision of the stock. Having fitted it nicely in its position, it is firmly bound with strips of Raffia, wetted previously to take out any contractions and as well as to make it more impervious to the penetration of air to the wound. Over this a layer of sphagnum or any moss is placed and moderately bound. This must be kept always moist. The plants are placed in heat, the stronger the better, and kept shaded from the direct rays of the sun, and in less than six weeks the union is complete. Now the whole covering should be carefully removed in case that the Raffia may be too tight. It, however, sometimes rots, but this is not to be trusted, for it may very considerably injure the free development of the healing process. A little moss lightly tied round the wound is all that should now be needed, which, of course, must be rigidly kept moist. This tends powerfully to accelerate the formation of callus, the concretion which is so materially indispensable in bringing about a union.

The young grafts will not make much growth the same year. They seem to be exerting their vitality, in co-operation with the stock, in the common work of building up the point of union. Nevertheless, they will often perfect their flower buds, and some, times will develop into fair blooms. This, however-should almost never be looked for, and disappointment will therefore be avoided. In the following year they will make splendid growths, and flowers should certainly be looked for in quantity proportionate to the strength of the stock. To increase the general stock of Camellias we raise stocks from seed. Most of the single kinds will readily form seed pods, and the beans as soon as ripe in autumn may be sown. In two years they are in fine condition for grafting.

It may be said against this practice that gardeners can buy young plants cheaper than the time and attention required for rearing them himself. That may be very true, but there is certainly one great evil incurred by the modern horticulturist in the system of, so to speak, giving out his work to others. This must indirectly in the long run, professionally and commercially, have a powerful tendency to horticultural paralysis. Are we not now beginning to feel, indeed, that such is the case?—*D. Chisholm.*

HISTORY OF THE PLUM.

The cultivated plum, Prunus domestica, was generally believed by our earliest authorities to have originated in Asia Minor, and from whence it appears to have found its way into Europe in very early times, since it was mentioned by Pliny as having been cultivated in his day in Greece and Italy. From south-east Europe it gradually spread into France and Germany, and ultimately travelled from thence into Britain, but at what period the latter event took place there is no authentic evidence forthcoming, although it is believed the Plum had reached this country early in the Christian Era, if not before it.

Be that as it may, the Plum has been cultivated amongst us since a very early period, and Prunus domestica has long been looked at as a thoroughly naturalised tree in Britain. The fruit has been freely used by us as an article of diet for many centuries, and as intelligence began to spread the gardeners and fruit growers of the day turned their attention to improving the size and quality of the Plum by raising new varieties.

The varieties enumerated by Rea, in the middle of the seventeenth century, amount to about thirty as being worthy of cultivation.

Parkinson, in the days of King Charles, describes sixty varieties, "all of which," he says, "are to be had of my very good friend, Master John Tradescante, who hath wonderfully laboured to obtain all the rarest fruits he can hear of in any place in Christendom."

Batty Langley, of Twickenham, in his "Pomona," published in 1729, says, "There are a very great variety of Plumbs, some of which are very good, and others very bad," and describes twenty-eight of which he terms "valuable" varieties. Towards the end of the last century, Martyn enumerated about sixty. In the fourth decade of the present century, Loudon mentioned that about 100 varieties were named in nurserymen's catalogues, and gave a description of thirty-two of the best selected by the famed pomologist, Mr. Robt. Thompson, of Chiswick, in his "Encyclopædia of Gardening."

In the third edition of the Royal Horticultural Society's Catalogue of Fruits, compiled by Mr. Robt. Thompson, 127 varieties of Plums were described as distinct.

From the middle of this century onwards, they found the varieties beginning to multiply rapidly—many Plums of the highest merit having appeared during the last forty years.

For this we have to thank the efforts of enterprising pomologists, prominent among whom, in raising superior varieties of Plums, must be mentioned Mr. Thomas Rivers, of Sawbridgeworth, and the late Mr. Webster, of Gordon Castle, whose collection of thirty-six varieties of Seedling Plums raised by himself, and exhibited at the Plum Congress held in the Waverly Market, Edinburgh, in September, 1889, was a feature unparalleled, so far as I know, in any previous exhibition in this country.

In the "Book of the Garden," 1855, Mr. McIntosh describes upwards of seventy varieties, and named twenty-seven as then growing in the gardens at Dalkeith, most of which are still in existence, and samples of their fruit were exhibited at the Edinburgh Congress. In the "Pomologists' Manual," published in 1866, by Peter Lawson & Son, 160 varieties were described, and in the second edition of the "Orchardist," published about twenty years ago by Mr. John Scott, of the Merriott Nurseries, Somerset, no fewer than 232 varieties were described as distinct, and all cultivated by him; while, in a supplemental list, the varieties were increased to a grand total of 440. I need scarcely say that many of the kinds mentioned in that long list are worthless for cultivation in Britain, although they might be of some value in the country of their origin.

Coming to the latest and best authority, we find that Dr. Hogg described about 190 varieties in the fifth edition of the "Fruit Manual," published in 1884, which no doubt comprised every good variety known and proved in this country at that date. However, the raisers of new varieties are as busy as ever, and the number of good kinds are yearly increasing. Some excellent Plums have been raised in Scotland, among the best of which might be named Lawson's Golden, raised in 1842 by Mr. Archibald Gorrie, at Annat Gardens in the Carse of Gowrie, Guthrie's Apricot, Aunt Ann, Late Green, Taybank and Topaz, all raised by Mr. Chas. Guthrie, of Taybank, Dundee; and last, but by no means the least meritorious, the numerous seedlings raised by Mr. John Webster, at Gordon Castle Gardens, on the shores of the Moray Firth, some of which, in due time, are likely to take rank among the leading varieties. The names of two other hardy and very useful Plums, the early history of which is lost in obscurity, smacked strongly of Scottish origin—Caledonian and Fotheringham, the first better known as Goliath. To English raisers we are indebted for many of the most valuable Plums. The most popular of all the varieties, Victoria, originated in Sussex; Diamond and Farleigh Prolific Damson in Kent; Kirke's Prince of Wales, Poupart's and Sandall's in Middlesex; Mitchelson's in Surrey; Pond's seedling in Wilts; Nonsuch in Devonshire, Pershore, Prune Damson, Ickworth and Downton Imperatrice and several other useful kinds in the Midlands; Coe's Golden Drop in Suffolk; Winesour and Wyedale in Yorkshire; while the Red and White Magnum Bonum and some other useful Plums had been so long in cultivation in England that all trace of their origin had been lost, although there was good reason to believe them to be natives. Hertfordshire, however, might be said to be the modern birthplace of the Plum in England, as it was from the nurseries of Messrs. Thomas Rivers & Son, at Sawbridgeworth, that most of the best and most profitable varieties have emanated in recent times.

Among the many fine Plums for which we are indebted to Messrs. Rivers, the following first-rate varieties might be mentioned:—Early Transparent, Late Transparent, Early Prolific, Late Prolific, Autumn Compôte, Archduke, Grand Duke, Czar, Sultan and Monarch,—ten most excellent Plums, to which probably some or all of the newest lot—Golden Transparent, Bittern, Curlew, Heron, Mallard and Stint—may have to be added after they have been fully proved. From France and Germany we have received some excellent varieties, chiefly of the Gage and Orleans types (including that old favourite Dessert Plum the Green Gage), and many others in less repute amongst us of the Damask and Mirabelle types, most of which have proved to be not worthy of cultivation in this country. Of all foreign countries, however, it is to America, particularly the United States, that we are most indebted for some of the best Plums, such as the general favourite Jefferson, a first-rate dessert Plum, and a sure bearer, Washington, Denniston's Superb, Cooper's Large Columbia, McLaughlin, Lawrence's Favourite, Prince's Imperial, Huling's Superb, and some others, which have all proved hardy and good bearers here, and really worth growing in our gardens and orchards.—*From a Paper read by Mr. Dunn, Dalkeith, at the Edinburgh Plum Conference.*

OLD GARDENS.

Gardens, says a writer in the *Liverpool Mercury*, are among the early institutions devised by man for his delight. It is recorded that Mahàbad, the first Persian king, had a garden, and Xenophon tells us that Cyrus took care that "the paradises should be filled with all that is beautiful and useful which the soil can produce." The favourite plants were Violets and Roses, odoriferous trees, such as the Cypress and Pine, and such shady ones as the Elm. The taste shown in this list, so far as it goes, could hardly be called in question. The Greeks clipped their Box trees into artificial forms, a custom which they borrowed from Asia Minor, and one which our ancestors in turn borrowed from them. Among plants of which they were especially fond were the

Narcissus, Violet, and Rose, as well as Ivy and sweet-smelling trees. When we come to the Romans we find that Lucullus had a colossal landscape garden in which he raised hills, dug out lakes, built towers, and grew countless choice exotics. The Rose was the favourite Roman flower, and for the decoration with it of one of her suppers Cleopatra is said to have paid an Egyptian talent—more than £200. The Roman gardeners forced the Roses by means of plates of talc warmed by hot water and placed over the trees. The gardeners' craft declined with the Roman empire, but was revived by Charlemagne.

Of early English gardens we have little information previous to Alexander Necham, Abbot of Cirencester, in the reigns of Henry II., Richard I., and John Speaking of the ideal garden he writes—"Here the garden should be adorned with Roses and Lilies, the Turnsole, Violets and Mandrake; there you should have Parsley, Cort, Fennel, Southernwood, Coriander, Sage, Savory, Hyssop, Mint Rue. Dittany, Smallage, Pellitory, Lettuces, Garden Cress, and Peonies." In early conveyances the Rose was frequently reserved as a quit-rent, its place being afterwards taken by the unpicturesque peppercorn, Coming to the 14th century we have a description by King James I. of Scotland, of the garden of Windsor Castle, where he was imprisoned, as a place full of trees, with hawthorn walks and arbours;

And myddis every herbore might be sene
The sharp, green, sweete jenepere.

Lawns with groups of trees and mounds having steps up them, seem to be among the characteristic features of the gardens of this date. The mound, indeed, appears to have been in favour a long time, as Leland, writing in 1540, describing a north country garden, says,

And yn the orchardes were mounts writhen
About with degrees, like the turnings in
Cokil shelles, to come to the top without payne.

Such a mound, crowned with a little summer house, I well remember seeing somewhere in the Midlands—I think at Boscobel, where the garden of the historic house is delightfully rigid, and as redolent of the antique world as the black oak beams of the building itself. In Elizabeth's time the craft of gardening had become scientific, and to some extent artificial, yet with a delightful artificiality which does not seem to outrage nature. The charm of our old world gardens Diderot expresses admirably by saying that they "seem to be the sanctuary of a sweet and placid pleasure," and compare most favourably with the elaborate gardens on the other side of the channel.

GARDENING MISCELLANY.

DAPHNE BLAGAYANA.

The flowers of hardy evergreen Daphnes are generally poor in colour, small in size, and much hidden by the foliage. D. Blagayana differs in all these respects, for the flowers are large, white, and produced in dense clusters from the apex of the previous year's shoots. The leaves are dark green and leathery, and are most closely arranged around or near the top of the shoots. It is a native of the mountains of Eastern Europe, is of very slow growth, and therefore adapted for planting on rockwork amongst stones, not dry rubble, but with sufficient depth of soil below, so that the roots will be well supplied with moisture during the summer months when making fresh growth.

SAXIFRAGA SCARELLICA.

In this we have another addition to the yellow-flowered section of Saxifragas. The flowers are borne in clusters or cymes, on stems 2 in. to 4 in. high, and are large, pale primrose-yellow, and resemble to some extent those of Saxifraga arctioides primulina, but the leaves are larger and more resemble those of S. Rocheliana coriophylla. They are linear-lanceolate, acute, and produced in small rosettes forming close tufts. The close and compact habit of the plant makes it suitable for pot work, so that when placed in a frame or hardy plant house it may be had in bloom some time previous to that planted out of doors

REMOVING FLOWERS FROM POTATOS.

Mr. W. B. Jeffries writes from Ipswich to the *Morning Post*:—"I read the extract in your paper from the *Journal du Jura* as to the effect of removing the flowers from Potato plants. Your readers may like to know of its beneficial results. My kitchen garden had not more than 6 in. of soil ere we were upon sand. When it came into my possession many years since my gardener was very down-hearted at the prospect of growing thereon good crops of vegetables, but he succeeded in getting a better depth of soil by degrees by breaking up the sub-soil a few inches deeper each year and mixing clay from a brick-yard, spread on the surface before winter and made friable by the frost in addition to the usual manurings, but even then Potatos were very small. He tried various experiments, and at last drew out all small sapling growths when 4 in. or 5 in. long, and cut off all flowers as they appeared. This answered so well that the practice has been continued for nearly forty years and well repaid the extra attention. Producing and ripening seed is a tax upon the energies of any plant, especially so upon the Potato, which provides for its reproduction by its underground tubers. But if allowed to produce seed, and it begins to ripen, the tubers stop growing and the plants die off. I trust the above remarks may induce others to adopt the plan, and thereby increase the yield of so useful a vegetable."

PRIMULA FORBESI.

A flowering specimen of this species of Primula might have been seen for some time past in the hardy plant house at Kew. It was obtained from M. Vilmorin, of Paris, in October last, and has thriven very satisfactorily. The leaves are oblong or roundish, and toothed, and in general aspect and texture resemble those of P. cortusoides, but are much smaller. The flower stems are remarkably slender for those of a Primula which grows about 12 in. to 16 in. high. The flowers are borne in whorls, tier above tier, in the same manner as those of P. japonica, but they are considerably smaller, pale rosy purple, with an orange eye, and obovate, toothed segments. The species is said to be only of annual duration, so that unless seeds are produced in quantity and germinate freely we cannot expect it to enjoy such a wide-spread popularity as P. obconica, P. japonica, or P. Sieboldi. It is, notwithstanding, very pretty and interesting on account of its distinctness from the rest of the section to which it belongs.

A MINIATURE EVENING PRIMROSE.

The habit of Morisia hypogæa is more like that of the common Primrose than that of the Evening Primrose, and it is even dwarfer with bright yellow flowers just peering above the foliage. The plant, however, belongs to the same natural order as the Evening Primrose (Œnothera) and the Fuchsia, and has erect flowers with four petals. Curiously enough the leaves resemble the Dandelion in the peculiar manner in which they are lobed, but they are altogether smaller, neater, and of a deep green, forming a compact little tuft, studded with golden yellow flowers. It may be seen upon the rockery at Kew, where it has been flowering for some time past under the shelter of a large evergreen Cistus, which doubtless has contributed largely to its safety during the winter months. Owing to the dwarf habit of the plant, the rockery is certainly the best place for it, as it would be altogether lost in the open border.

LILIUM ROSEUM.

This Himalayan species is perhaps more often known under the name of L. Thomsonianum, but whatever it may be called there can be no question of its being both pretty and interesting, because so different from other species in cultivation. The most of the linear grassy leaves are crowded together at the base of the stems, precisely in a similar manner to that of Paradisia Liliastrum. The flowers are also drooping, and produced in a raceme, as in the last named, and they are of a soft rose or lilac, with long narrow segments becoming revolute at the apex as they get fully expanded. The stems generally average about 18 in. in height, so that taken altogether the plant is very amenable to pot culture, and being scarcely hardy the best place for it is a cool greenhouse, or one specially built for growing and showing off hardy plants to the best advantage. It has been flowering for some time past in the nursery of Mr. T. S. Ware, Tottenham.

THE FIRE PINK.

Several of the Silenes are very popular amongst lovers of hardy plants, but although this was originally introduced in 1783, it cannot be said to have attained the popularity of the Old World kinds, including some of the British natives. Silene virginiana has probably been lost and re-introduced several times since its first appearance in this country, so that it is practically new to most growers. The leaves are linear, and of a rich green hue, while the flowers are of a rich crimson hue, as the popular name implies, and borne in a loose cyme at the top of the stems, which are 1 ft. to 2 ft. high. Small plants flower even when they are much dwarfer than that. It should be planted in a warm and sheltered position on the rockery, where the rich colour of its flowers will be appreciated. We noted some pieces of it in the nursery of Mr. T. S. Ware, at Tottenham, where they were pushing up for bloom some time ago.

ORCHID NOTES AND GLEANINGS.

Sobralia Macrantha.

This fine terrestrial Orchid is just now making a beautiful display in one of the plant stoves at "Beechy Lees," Otford, Sevenoaks, the charming residence of Barclay Field, Esq. The plant has numerous growths, twenty-five of which are putting forth their gorgeous blossoms. It produces about six blooms to each lead, only one of which is fully expanded at one time, and this lasts three days in perfection; thus it will be seen there will be a succession of bloom for at least three weeks. Mr. R. Edwards, the able gardener, when potting uses good fibrous peat, a little loam which is of the best, with some silver sand and bits of broken pots added. The plant is potted rather low down with good drainage, and during growth an abundance of water is afforded, with an occasional dose of liquid manure.—*S. C.*

Dendrobiums from Philiphaugh.

A box of blooms of Dendrobium nobile, picked from imported plants, has reached us from Mr. Thompson, gardener to Wm. Steel, Esq., of Philiphaugh, Selkirk, N.B. The flowers were for the most part pale in hue, but of great size and peculiar colour in the throat. The dark-coloured flowers were smaller, but of good substance, shining and waxy. They were of the true D. nobile type, though comparable to those of D. Freemani. Some of the largest flowers were very handsome on account of the large size of all the parts, but particularly that of the lip, the dark blotch in the throat of which was similar to that seen in D. Ainsworthii. One of them had the flattened lip of the latter of great size, and infolded at the sides near the base only. The edge of the blotch ran out into streaks, so that on the whole the resemblance was considerable. Some idea of its size may be gleaned from the fact that the lamina measured somewhat over 1½ in. across. Had the segments been of the same rich hue as those of D. nobile nobilius, the variety would have taken rank as one of the first water in the species.

Cypripedium exul.

This name has been given to a Cypripedium which appeared at the Drill Hall, on the 12th inst. under the name of C. insigne Imschootianum, and again on the 19th inst. as C. exul. It appears that Mr. Ridley, of Singapore, regards it as a variety of C. insigne, but other authorities regard it as a true species. The leaves are ligulate, channelled, of a bright green, and 6 in. to 12 in. long. The one-flowered scape is pubescent and about 12 in. long. The upper sepal is the prettiest and most conspicuous organ of the flower, being ovate, and green in the lower central part, copiously marked all over with black blotches and having a broad white edge. The lower sepal is very large, ovate and yellowish with green lines. The petals are spathulate, incurved, undulate, greenish-yellow, shaded with brown along the centre, with a few black spots at the base, where there is a patch of black hairs. The lip is short and yellowish shaded with pale brown. The flower as a whole is considerably smaller than that of an average specimen of C. insigne, and has somewhat the appearance of being intermediate between C. insigne and C. Druryi, although distinct from either. It was shown by R. J. Measures, Esq. (gardener, Mr. H. Simpkins), Cambridge Lodge, Camberwell, and received an Award of Merit, at the Drill Hall, on the 19th inst.

Cattleya Philo.

THE seed parent of this hybrid was Cattleya labiata crossed with C. iricolor. The pseudo-bulbs are fusiform and relatively small; and the leaves ligulate, channelled and keeled, and about 6 in. to 10 in. long. The sepals are oblong-spathulate and pale pink with darker veins. The petals are two or three times as broad, similar in hue, but a shade or two darker on the veins. The lip has a pale purplish tube, and a short deep purple lamina somewhat marbled as in C. I. Mossiæ, with a large orange blotch extending down into the throat, which is purple and striated with branching white veins. The column is small and white. An Award of Merit was accorded it when shown at the Drill Hall, on the 19th inst., by Messrs. J. Veitch & Sons, Chelsea.

Cattleya hybrida Burberryana.

THE pseudo-bulbs or stems of this hybrid are slender and tapered to a stalk-like base, resembling those of C. intricata, which we understand was the seed parent, while the pollen parent was C. superba. About two oval-oblong, leathery leaves, 2 in. to 4 in. long are borne on the top of each stem. The sepals are oblong and pink, the lateral ones being falcate. The petals are oblong-lanceolate, somewhat falcate or sickle shaped, and slightly broader than the sepals. The three lobed lip has the tube curved below the middle, pink, and white beneath; the lamina is orbicular, emarginate, reflexed at the sides, undulate of a deep rich purple and creamy-yellow in the throat. The flower as a whole is very large, and a First-class Certificate was awarded the hybrid when shown at the Drill Hall, on the 19th inst., by Messrs. F. Sander & Co., St. Albans.

Odontoglossum Wendlandianum.

THE pseudo-bulbs of this Odontoglot are ovoid, and bear linear lanceolate, channelled, and keeled, light green leaves. The plant is of moderate growth, as the plant shown by Messrs. F. Sander & Co., at the Drill Hall, on the 19th inst., bore about five flowers on a scape 12 in. long. The flowers are also of medium size, with lanceolate sepals, closely spotted with pale brown on a creamy-yellow ground, the larger and more prominent blotches being about the middle. The petals are lanceolate, much broader at the base, spotted with brown on the upper half and purple on the lower. The lip is ovate, with a convolute or rolled up tip, shallowly fringed on the margin, with a large crimson blotch in front of the crest and a few at the sides. The crest consists of four long and a few short teeth. The column is spotted with purple on the back. The plant comes from the United States of Colombia; and an Award of Merit was accorded it.

Oncidium Gravesianum.

THE pseudo-bulbs of this Oncid are oval, much compressed, ribbed longitudinally, slightly wrinkled, and of a deep brown colour. The scape is about 18 in. high with a deltoid, branched inflorescence, the branches being very long. The sepals are oblong, shortly clawed, deep brown and marked transversely with a few pale yellow bands, especially near the base. The petals are obovate, generally notched at the apex, undulated, rich brown, with a narrow yellow edge, and a few small transverse bands as in the case of the sepals. The lamina of the lip is large, triangular, obtuse, with a broad rich brown border around a central, yellow, triangular blotch. The column is chocolate brown at the base and yellow upwards, with rounded, entire yellow wings, spotted with brown, and a brown anther cap. It comes from Parahiba. An Award of Merit was accorded it when shown by Messrs. F. Sander & Co.

Odontoglossum crispum Ruckerianum.

WE have just received a box of Orchid blooms from Mr. Hinde, gardener to M. Wells, Esq., Sale, near Manchester, and amongst them was a fine raceme of Odontoglossum crispum Ruckerianum from a plant having four of such racemes, bearing in the aggregate fifty-four blooms. The sepals were suffused on the back with rose which shone through, while the inner face was beautifully spotted with brownish-red. The petals were broader and white, spotted with brownish-red, and the lip had a similar blotch on the middle with numerous small dots on the side lobes. Accompanying the above was a beautiful flower of O. Rossii Humeanum with primrose-yellow petals heavily blotched with chocolate-brown at the base, and a creamy-white lip. There was also a flower of the white-lipped Miltonia cuneata, two distinct varieties of Odontoglossum triumphans, and Dendrobium Wardianum.

The Orchid Growers' Calendar

IN my notes last week the word "dipping" should have read "fumigating," and for "syringing" the word "sponging" should be substituted. I do not suppose any Orchid growers would syringe his plants with soft-soapy water; but it is well that the correction should be made.—*C.*

WHAT TO DO IN THE GARDEN.

Anthuriums.—As those plants which were potted some time ago commence growing, they will require a more liberal supply of water. Fine foliaged species such as A. crystallinum, A. acaule, A. macrophyllum, and others, should have the spathes removed as soon as they make their appearance and can be removed without injury to the young leaves. This will encourage the plants to devote all their energy to the production of good foliage. Flowers and fruit are immaterial to the ornamental value of the plants in question, and are therefore of no value to the cultivator, but, on the contrary, retard the growth of the foliage.

Maidenhair Ferns.—As a rule plants of this class are subjected to more shading than is conducive to the best results. When properly exposed to light in a house with a moderately high temperature, the young fronds of A. Ghiesbreghtii (A. scutum), A. concinnum and its varieties, A. cuneatum, and others assume beautiful tints of pink and red which never appear when every ray of direct sunlight is excluded. As the summer advances, all of the above may be kept in a greenhouse temperature amongst subjects that require no shading.

Golden and Silver Ferns.—Do not be in too great a hurry to remove the old fronds from plants of this class. It should be done gradually as the young fronds get developed. The syringe should not be employed upon them, otherwise the farina or powdery material will get washed off and the appearance of the fronds spoiled for a season. When kept wet they are more liable to damping or to get brown, an occurrence to be avoided.

Show and Fancy Pelargoniums.—Weak liquid manure may frequently be given now that the pots are well filled with roots. Every shoot may be tied into its proper place so that there may be no crowding. All the light possible will now be required to prevent the wood from getting drawn. Fumigate on the first appearance of green-fly, and especially before the flower buds expand, as it cannot be done with safety after that time because it causes the blossom to drop.

Primulas.—A sowing may now be made of Chinese Primulas for next winter's flowering. Keep the soil equitably moist without getting it sodden until the seedlings are up, when they should be placed in a light position near the glass without exposing them to much sunshine.

Chrysanthemums.—The uncertain state of the weather has made it impossible to do justice to Chrysanthemums which have been huddled up together to their injury, as far as proper exposure to light is concerned. In the event of a continuance of cold weather a greater amount of space should be given the plants, and plenty of ventilation during the day to keep them dwarf and sturdy. Before being placed in the open air, fumigate to destroy aphides which usually secrete themselves amongst the young leaves.

Gladioli.—Even those intended for late flowering should be planted without further delay. The very small corms need not be thrown away, because if planted in fresh soil they will make young ones of good size, and many of them will flower before the season is over. The vigour of the flower stems will surprise many who have not hitherto tried planting in fresh soil of a moderately light character.

Melons.—As the fruits in the early house show signs of approaching maturity by a change of colour, reduce the amount of moisture in the atmosphere gradually, but keep the roots well supplied with tepid water until the fruits are fairly well netted, giving attention more particularly to those plants which are bearing a heavy crop and are moderately firm both in the leaves and stems. About 70° will be sufficiently high at night, with a rise of 5° to 10° during the day.

Strawberries in Pots.—Late varieties, such as James Veitch and Sir Charles Napier, may be pushed on more rapidly now under the influence of longer sunlight and increased natural warmth. Be careful, however, on cold nights not to use too much artificial heat to keep up the necessary warmth, otherwise red spider will increase at an annoying rate, particularly near the hot water pipes. To prevent this all parts of the house should be well damped down during the day, and when shutting up.

Figs.—Some skill must be exercised in the proper maturation of Figs ripened at this time of the year in order to insure the full compliment of flavour. Those started in November should now have arrived at the stage when plenty of fire heat should be given so that the ventilators may be kept sufficiently open on all favourable occasions to encourage the development of flavour. All laterals not require to fill space and fruit next year should be removed, to prevent crowding and admit light as much as possible to the fruit. The latter cannot be too fully exposed to light and air. The atmosphere should also be kept somewhat drier during the ripening stage of the fruit.

QUESTIONS AND ANSWERS.

**** Correspondents are requested, in order to avoid delay, to address all communications to "THE EDITOR" or "THE PUBLISHER," and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa London."*

NAMES OF PLANTS.—*W. E.*: 1, Eupatorium riparium; 2, Omphalodes verna; 3, Muscari botryoides; 4, Thuja orientalis aurea.

AZALEAS AFTER FLOWERING.—*Azalea*: After they have finished flowering, pick off all the seed vessels and place the plants in a warm pit, or vinery, or Peach house at work so as to start them into early and vigorous growth. Whatever house you put them into, make sure that the plants are well exposed to light Syringe them several times a day and close the house early, allowing the temperature to run up pretty high, at the same time syringing the plants and damping down the house generally. When growth has been completed, gradually accustom the plants to a lower temperature, after which they may be stood in the open air in a slightly shaded position, till time to house them in the autumn.

PLANTING OUT TOMATOS.—*H. Bond*: The exact time at which these may be planted in the open ground varies with the seasons. Generally speaking, the end of May or the beginning of June would be soon enough for planting in the open ground, unless you have some means of protecting the plants from late spring frosts. Should the weather be fine and appear settled, you may plant about the end of May, or even about the middle of it should you have the opportunity of planting them against a wall which would afford a considerable amount of protection. Have the plants thoroughly hardened off before planting them out, and the risk of injury will thereby be considerably lessened. If the plants were late in being sown, and have been grown on rapidly to get them of some size, the hardening off process must be particularly attended to, as the succulent stems will be unusually tender.

THE LOQUAT FOR FRUITING.—*M. D.*: The Loquat (Photinia japonica) is fairly hardy in the south of England if given the protection of a wall, but it very rarely fruits in this country, although it flowers now and again in warm and well-favoured localities. We should never advise you to plant it as a commercial speculation, as the fruit when produced is only of moderate quality. For ornamental purposes the large leaves are sufficient to recommend the plant to those who can give it a suitable situation.

EULALIA JAPONICA VARIEGATA.—*Wm. Joss*: As this is perfectly hardy you need not hesitate to plant it out at once if it has been kept for some time previously in a cool house; if not you should harden it off before puting it out, so as to avoid getting the young leaves spoiled by late frosts. Any good garden soil will suit it, and, in fact, the plant will grow more vigorously in the open ground than in pots. There is no necessity in your locality to lift it in the autumn, because, although the foliage will die down or get killed in autumn or winter, the rootstock will push away freely enough in the following spring. The stems will also flower freely when once the plant gets established in the open ground.

CATTLEYA CITRINA AND LÆLIAS.—*W. Davis*: A piece of cork would be too dry to give much satisfaction in the growing of Cattleya citrina. A better plan would be to use small pans, putting plenty of clean crocks in them and then the bulbs of the Cattleya, packing them with a little fibrous peat and sphagnum. Tie the whole into the pans by means of wire and then hang the pan upside down. It should be grown in a house with an intermediate temperature, say from 48° to 50° by night in winter, keeping it in the coolest part of the house, but in the warmest end from now onwards. When it commences to grow and flower, and until it has finished growth, the roots and contents of the pan should be kept thoroughly moist by dipping them into the tank When resting (say for about six months) very little

water is required at all. Lælia anceps should be kept in the same house as the Cattleyas, placing it in the warmest end. Suspend the baskets containing it in a light position near the glass, and allow rather a higher temperature while the plants are making fresh growth with plenty of moisture by dipping the baskets into the tank. If you are keeping your stove now at a temperature of 60° by night with a rise of 10° to 15° by day with sun heat that should suffice.

TURFING A LAWN.—*W. Murcher*: It is merely a question of frequent watering in order to secure success, when turfing is done at this late period of the year, as there is now no time for the grass to get established before the usual or probable dry weather sets in. Get the ground dug over and properly levelled, then rake the surface even so that when the turf is laid on it will beat down evenly all over. The great point is to so dig and break up the soil that when afterwards trodden it will sink equally all over. After the turf is laid, give it a thorough watering and leave it for a time until the superfluous water drains away, then beat it down firmly and evenly all over.

COMMUNICATIONS RECEIVED.—W. C.—J. W. P.—Mushroom (next week)—C. F.—H. E. M.—W. R. & Co.—C. O. R.—R. W.—A. W. B.—P. W.—W. M.—Constant Reader (we are obliged for the hint, and will look into the matter)—G. H.—T. M.

LONDON SEED TRADE.

April 26th, 1892.

Messrs. Hurst & Son, 152, Houndsditch, 39, Seed Market, Mark Lane, report a large demand for all varieties of agricultural seeds at prices current last week. Supplies of White and Alsike are short and firmly held.

COVENT GARDEN MARKET.

April 27th.

FRUIT.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.		s. d.	s. d.
Apples... per ½-sieve	1 0	5 0	Strawberries per lb.	2 0	4 0
Canadian and Nova Scotian Apples per barrel	12 0	20 0	New, Grapes per lb.	4 0	5 0
Tasmanian Apple per case...	8 0	15 0	Pine apples. —St. Michael's, each	2 6	6 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Asparagus, Eng. bun.	8 0		Lettuces ...per dozen	1 6	2 0
Beans, French, per lb.	2 0	3 6	Mushrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	6 0	Small salading, punnet	0 4	
Celery.....per bundle	2 6		Seakale ...per basket	1 6	2 0
Cucumbers .....each	0 6	1 0	Spinach, per strike ...	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	1 6	2 6
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Acacia var., per doz.	12 0	18 0	Foliage Plants, doz.	12 0	60 0
Arum Lilies, per doz.	6 0	9 0	Genista .....per doz.	6 0	10 0
Azalea .....per doz.	18 0	42 0	Hyacinths,...per doz.	6 0	9 0
—Mollis.....per doz.	24 0	36 0	Lily of the Valley, doz. pots	12 0	18 0
Cyperus .....per doz.	4 0	12 0	Marguerites, per doz.	6 0	12 0
Cineraria ...per doz.	4 0	8 0	Mignonette, per doz.	6 0	12 0
Deutzia.. per doz ...	6 0	9 0	Palms in variety, each	2 6	10 6
Dracæna term., doz.	24 0	36 0	Palms, Specimen ...	15 0	63 0
Dracæna viridis, doz.	9 0	18 0	Pelargoniums, per doz.	12 0	18 0
Erica Willmoriana per doz...	12 0	18 0	Primula Sinensis per doz.	4 0	6 0
— various. per doz.	9 0	24 0	—scarlet .....per doz.	4 0	6 0
Evergreens, invar. doz	6 0	24 0	Spiræas.....per doz.	8 0	12 0
Ferns, invar., per doz.	4 0	18 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Acacia or Mimosa French per bunch	1 6	2 0	Marguerites, 12 bun.	2 0	4 0
Anemone various, French, doz. bun.	2 0	4 0	Mignonette... 12 bun.	3 0	6 0
Arum Lilies, 12 blms.	2 0	4 0	Narciss. var., Scilly, doz. bunches	2 0	4 0
Bouvardias, per bun.	0 6	1 0	Pelargoniums, 12 sps.	0 9	1 0
Carnations, 12 blooms	1 0	3 0	—scarlet.....12 bchs.	4 0	6 0
Daffodils, double, doz. bunches	2 0	4 0	Primroses, doz. bchs.	0 6	1 0
—Single, doz. bchs.	2 6	6 0	Primula, double, bun.	0 9	1 0
Eucharis ...per doz.	3 0	6 0	Primula single, doz. sprays	0 4	0 6
Freezia .....doz. bun.	2 0	4 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Gardenias 12 blooms	2 0	4 0	Roses, yellow, dozen	2 0	6 0
Heliotropes, 12 sprays	0 6	1 0	— Red..... doz. blms.	2 6	4 0
Hyacinths, 12 sprays	3 0	4 0	— Saffrano...per doz.	2 0	3 0
Jonquils, doz. bnches	1 0	2 0	— Tea ..... per dozen	1 0	3 0
Lilac, French, per bunch	4 0	5 0	Spiræas...doz. bnchs	6 0	8 0
Lilium Harrisii, doz. blooms	3 0	6 0	Tuberoses, per doz	1 0	2 0
Liliums var., doz blms.	1 6	3 0	Violets Dark, French, doz. bunches	1 6	2 0
Lily of the Valley, doz. bunches	6 0	10 0	—English, doz. bchs.	1 0	1 6
Maidenhair Fern, 12 os.	6 0	9 0	Wallflowers, doz. bunches	3 0	4 0

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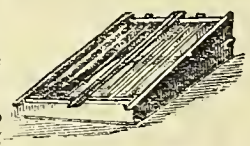

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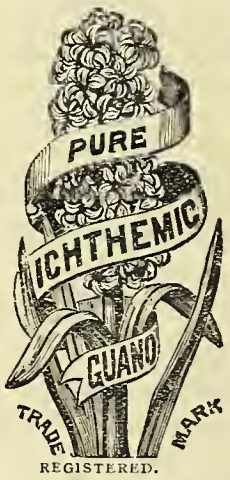

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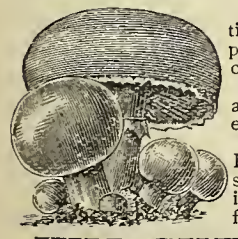

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Guarantees to supply Begonias, First Class Quality, at one third the usual price, as follows:—

12 good single mixed, 3s.; 12 extra good to colour, 6s.
12 very finest, equal to named varieties at 5s. each, 12s.
12 mixed double, 6s.; 12 very fine to colour, 12s.
12 extra fine double, 18s.

I could give a large number of Testimonials, but the following I think will be sufficient to prove the excellence of my Begonias.

HOGG HOUSE, BUXTED, UCKFIELD.
DEAR SIR, *August 26th*, 1891.

You will be glad to learn that the Begonias I had from you in the summer have turned out remarkably well. The pinks and terra-cotta are specially fine, some of the blooms measuring near 6 inches across. The flowers are of fine form, and good substance in the petals, plants dwarf in habit, and free flowering, foliage robust. I shall have much pleasure in recommending them to my friends.

Yours truly, H. C. PRINSEP,
Gardener to Viscountess Portman.

To Mr. H. J. JONES,
Ryecroft Nursery, Hither Green, S.E.

PETUNIAS, Choice double, 8 good plants, 1s. 4d.; Isolepis, 6 good plants, 1s. 4d.; 12 Giant Harrison's Musk, 1s. 3d.; 12 choice Mimulas, 1s. 3d.—GARDENER, Park Gorey, Ireland.

READERS of THE GARDENING WORLD will greatly oblige the Publisher by mentioning this Paper when writing to Advertisers.

SLUGICIDE (Registered), certain Death to Slugs, fertilises the soil, perfectly harmless to plants and domestic animals. The greates boon to Gardeners ever invented. 1s. 6d. per box, of all seedsmen.—Trade terms, "THE SLUGICIDE" Co., 6, Maryleport Street, Bristol.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, May 10.—Sale of Imported Orchids, at Protheroe & Morris' Rooms.

WEDNESDAY, May 11.—Sale of Greenhouse and Herbaceous Plants at Protheroe & Morris' Rooms.

FRIDAY, May 13.—Sale of Imported Orchids at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, MAY 7th, 1892.

GARDENER'S "ENCUMBRANCES." — There are many reasons doubtless why gardeners find a family to be a somewhat heavy burthen. Thousands of excellent men have found having a few children an insuperable bar to their getting situations, whilst the heartless requirements of many employers have not only embittered many a good gardener's existence but have almost put a premium on infanticide. That is, however, but one aspect of the question. How many gardeners are there whose places are so isolated from ordinary life, that they find it to be a matter of the greatest difficulty to furnish their children with even the ordinary elements of education?

It is indeed saddening to any man who has himself some education and fully realises its value to his children to have to keep them at home almost uncultured until they have become wayward dunces, for the simple reason that schools are too remote and his poor wage will not allow him to send them away from home. We heard but the other day of a case where a gardener had to pay some twelve shillings per week for the keep of his child as a weekly boarder, besides school fees, and yet

the lad was not receiving any better education than millions of children are at the present moment obtaining in our elementary schools free of all cost.

Gardener's lives are often of a dull, quiet kind because so many are located in gardens remote from society. No wonder in such case they find the company of their children to be blessed, whilst those not so favoured find the deadly dulness not only intolerable but provocative of moroseness and wretchedness. It is perhaps the case that the antagonism which so many employers of gardeners formerly exhibited towards children is not so great now as it used to be. Still we meet with far too many evidences of it even now. Employers want married steady men, and it is cruel to check surrounding them with the ordinary attributes and enjoyments of domestic life. Childless persons may sometimes be prosperous but they are not always the happiest.

The Future of the Tomato.—A note of alarm has been sounded with respect to the culture of these fruits for sale, to the effect that the market will soon be overdone, and growers will find their returns to be practically nil. We are not sufficiently pessimistic to be disposed to hold so gloomy a view. Tomatos, unlike so many other products which have somewhat suddenly sprung into popularity, have the merit of being something to eat, and that is a strong recommendation to popular favour. Then they are favourites also with the cooks, and that is very important. Any edible product which fails to find favour in the kitchen has a poor prospect of prosperity.

But we have our hopes for the yet much wider popularity of the Tomato upon the belief that it will yet become a common article of consumption as food in an uncooked state. It is true that in this direction it has found a vast number of admirers, and we think it will yet find myriads more in a few years. Then there must always be some limit to the home production of Tomatos, because the bulk we have for consumption are grown under glass, and it is only when the summer is exceptionally warm that there is any appreciable produce out of doors; of course we have an immense quantity of fruit sent us from warmer climates, but those are in no case equal in beauty, quality and flavour to those we produce under glass at home, and which for eating uncooked can certainly never be beaten by imported produce.

Already preparations for the production of big crops are everywhere being made. Everybody who has a little glass tries to grow Tomatos, and a good number of people who would once have Cucumbers have taken to Tomatos in preference with excellent results both horticulturally and physically. It may be that the Tomato has been credited with medicinal virtues which it does not so fully possess; still it is better to ascribe virtues than to be called bad names, and those who have learned to like Tomatos because presumably healthful, will now learn to appreciate them because delicious fruits.

Potato Stocks.—It is a long time since we got up our main crop Potatos. It is now the first week in May, and the stocks of tubers now being consumed were probably lifted six and a-half months ago. Then we have already got over our spring plantings, so that very much has been done towards the securing of a crop for the present year. In spite of these facts we know that, so far as the general bulk of consumers are concerned, there will be no new tubers for them to eat for fully two months longer, if not even longer still, so that we see the abundant evidence there is for the need of special care being taken in the preservation of tubers so that they shall retain all their vitality and flavour to the last—a matter of considerable importance when it is realised that for the Potato we have no substitute, and that further it is in daily demand.

We have never yet fully realised what it is to have a Potato famine. It is true that in some previous years it was found hard work to eke out the stocks with the aid of foreign importations, but those days of deprivation are we hope gone for ever. So far as our markets are concerned we have now no need, even at the latest period of the season, to import tubers, for there are plenty at home. Even now indeed we hear of stocks on hand so plentiful that sales can hardly be effected. The consumers do not derive the full benefit of this abundance, but still prices rule low. It is a happy condition of things that we ordinarily work off our more southernly grown stocks early in the winter, and then have the produce of the later lifted and cooler kept and stored stocks of the north—the chief potato-growing district of the kingdom—for our sustenance. Hence with good seasons we have good Potatos until new tubers come in, and these the southern districts give us from June onwards.

Of course only a portion of the community can enjoy these new tubers for a time, and the general body of consumers have to be content with the old ones until the new roots become cheaper, and doubtless it is all the better for them, for Potatos which are young and immature are poor diet. Altogether we have room for congratulation that, despite alarms and faddists, we have an abundance of Potatos and to spare.

Plum Prospects.—Under no conditions of weather does it seem possible for us to avoid that invariably disastrously cold period commonly known as Blackthorn winter. We have had two or three tastes of that cold cheerless time this spring, and if the intensity of its coldness is to be in accord with the Blackthorn bloom then is it no matter for surprise that this taste of winter flung into our springtime has been particularly severe, because the bloom of the Blackthorn has been particularly abundant. But as the Blackthorn is in our hedgerows and woods, so invariably are the Plum trees in our gardens, and these have been laden with bloom in most cases, and we have seen some notably in market orchards about London, where the bloom has been almost beyond precedent in its density and abundance.

Plum bloom gives us little of colour. It is chiefly marked by its snowy whiteness, especially on some varieties, such as the Goliath. Plum bloom is also fairly hardy, and well it is that it should be so, as it usually has to pass through much trial and tribulation. It would be a sad misfortune for Plum growers, especially for those who grow largely for sale, were the recent weather found to have seriously injured it. We can but hope that it may not prove to be so, especially that because of the immense bulk of bloom two-thirds of it could well be spared, and it seems almost certain that if some has been destroyed equally much has been left unharmed. We hope it may be so.

Plums are very accommodating fruits. We may begin with Early Prolific in July and end in September with Prince Englebert on open trees, and on walls have a range of fully three months, as Coe's Golden Drop will retain its best qualities on a north wall up to the end of October. Plums too give us nice variations in colour, form, and flavour. They are very wholesome fruits, admirably suited for the dessert, for cooking and preserving. Some of the culinary forms, the Dove Bank especially, make delicious preserve in a green state. Plums will also can or tin remarkably well, so that there are so many uses to which they may be put, that after all the fruit, even when there is a heavy crop, is largely in demand. We hope yet to be able to record a good Plum crop for the season.

The International Horticultural Exhibition.—For the information of those of our readers who intend to be present at Earl's Court, on Saturday, we may state that the Inaugural ceremony will take place at 12 o'clock.

The Ashridge Beeches.—We have heard with great regret that one of the famous Beech trees at Ashridge Park, Herts, was blown down during one of the gales experienced a few weeks ago. It was "The King" of the notable pair shown with pride to all visitors as The King and Queen, and when laid low was found to be perfectly sound. Its bole measured 103 ft. 6 in. to the first branch, and was literally as straight as a gun barrel. There are many grand Beeches at Ashridge, still the loss of "The King" must have been keenly felt by its noble owner Lord Brownlow.

Mr. Frederick Mau, who from 1880 to 1884 was collecting Orchids in South America for Mr. Sander and subsequently set up in business as an Orchid importer in New York, died at Orange, New Jersey, on April 11th, aged 48 years. He is believed to have been the first collector to ship Orchids direct to New York, and was also the discoverer of Cattleya Sanderiana, C. Schroderæ, and others.

Plants Certificated in Holland.—The floral committee of the Dutch Horticultural and Botanical Society, at a meeting held on the 13th ult., awarded First-class Certificates to Messrs. De Graaff Brothers, of Leyden, for Narcissus tridymus E. H. Krelage, the result of a cross between N. Polyanthus and N. Ajax minor. To Messrs. E. H. Krelage & Son, Haarlem, for Frittillaria Sewerzowii var. bicolor and F. latifolia Koning van Zweden. To Mr. G. Van Tubergen, Junr., Haarlem, for Frittillaria Sewerzowii var. bicolor, Erythronium Hartwegii, Lachenalia Ruby, (tricolor frot Superba), and Marica hybrid nova (gracilis frot Northiana); and to Messrs. Ant. Roozen & Son. Overveen, for Clivia miniata var. H. Tort.

Gardeners' Orphan Fund.—At the usual monthly meeting of the Executive Committee, held on the 29th ult., the honorary secretary announced the receipt during the month of the following contributions:—Mr. J. B. Stevenson, Bournemouth, produce of a dramatic entertainment £10; Young men, Broomhall Gardens, Holmwood, £1 15s.; Mr. Kipling, Knebworth, collected from skaters, £1 10s.; Alderman B. Watson, Wakefield, birthday gift, £10; and Mr. A. Dean, produce of a concert given at Kingston-on-Thames, £11. Votes of thanks were given to all the contributors; and Mr. Dean was unanimously elected local secretary for the Kingston district. Progress was reported with regard to the arrangements for the annual dinner to take place at the Hotel Metropole on the 17th inst., under the presidency of Sir James Whitehead, Bart., the invitations to which are now being sent out. A very successful festival is anticipated.

The Royal Botanic Society of Manchester held its second spring show in the Town Hall last week, in conjunction with the annual exhibition of the northern section of the National Auricula Society, and the combined forces made a very pretty and interesting display, the special feature of which, next to the Auriculas, was a magnificent group of Orchids from the very valuable collection of Mr. George Hardy, of Timperley. The following were the awards:—Gold Medal to Mr. George Hardy; Special Certificate of Merit for hand cut flowers to Mr. J. Broome, Llandudno; First-class Commendation to Messrs. Barr & Son, Covent Garden, for collection of plants; to Messrs. Dicksons, Limited, Chester, for show of Narcissus; to Messrs. Dickson, Brown & Tait, and Messrs. Dickson & Robinson, Manchester, for mis-

cellaneous collection of cut flowers; to Mr. S. Barlow, Castleton, and Miss Hopkins, for display of Polyanthuses; to Messrs. Dicksons, Limited, Chester, for a new Maidenhair Fern, Adiantum capillus-veneris imbricatum; and to Messrs. Barr & Son, for Narcissus Dorothy Wemyss.

Mastic Cornois.—This is the name of a preparation used in Paris for the grafting and healing of trees, shrubs, vines, and greenhouse ornamental plants. It is made with material essentially vegetable, containing all the principal constituents of the bark of trees, of which it is stated to rapidly cure the wounds and open sores. It is not affected by heat or cold; neither does it get hard nor run, but keeps a firm hold on whatever it has been placed upon, without getting divided during the transformations which take place in proportion to the amount of growth. Furthermore it compresses the pith and protects the graft without strangling it. In these respects it differs from other mastics and styptics which have been used hitherto, and which on getting hard split open, allowing the air and water to get in as a consequence of growth. It may be preserved for an indefinite length of time quite exposed without alteration. The simplicity of it and the little quantity required in its employment, gives it an incontestable superiority and economy over similar products. Many leading awards have been given it when exhibited. It is prepared and sold by M. L. Bellefontaine, 94, Boulevard Sebastopol, Paris.

The India-Rubber Plant has, says *The Gentlewoman*, died out for a window plant. Ferns and palms are much prettier, and it is only in the oldest neighbourhoods, among the most antique-minded folk, that ever you come across it. Oh, how ugly it is! Yet, for all that, there is a droll look of middle-class respectability about it. Do we really (ask the same journal) care more for flowers than our grandmothers did, or does the lavish adornment of our houses with them merely indicate a transient frolic of fashion rather than an increased appreciation of the most beautiful thing in Nature? Certain it is that a few years ago no gentlewoman would have considered a profusion of plants and palms an essential item in the furnishing of her salon. In the early Victorian pictures we find plenty of besilked and bejewelled dames disporting themselves in leafy glades and trimmed garden paths, oblivious of the as yet undreamed-of-i ufluenza; but never a flower do we behold in pictures of interiors, unless it be a monstrosity in wax under a glass shade. To-day the most simply furnished room can be redesmed from the commonplace by the introduction of a few plants, and the most govgeously appointed apartment may look bareand uninviting without them.

CHARMING SPRING FLOWERING PLANTS.

Of the many pretty hardy flowers that are just now in bloom, let me put in a word for the Creeping Forget Me Not, Omphalodes verna. I grow it under some difficulty, because my small garden is too hot and dry to do it justice, but planted under a west wall within the shade of a Pear tree close by, it throws up its pretty turquoise-blue blossoms at this time of the year, and delightful they are. Its best position is a sunny bank, under the shade of trees, and there, as on the sunny slopes of Belvoir Castle, it flourishes and blossoms with a profusion and beauty almost indescribable. It wants covering and moisture, and a soil in which its creeping roots can spread freely underground. It is a lovely spring-flowering plant of great beauty, and it can be increased by division of the roots.

Another plant far too much neglected is the double form of our common meadow Saxifrage, S. granuata. I remember when quite a lad, an old garden in which there was a bed of this charming plant, which grew to the height of from 9 in. to 12 in. and flowered most abundantly. The roots are in the form of little granules, and it is a hardy perennial plant that propagates itself rapidly. It is not particularly fastidious as to soil, but the better it is the finer are the flowers. I grow it in pots, plunging them in cocoa fibre all the winter until the plants begin to get into flower. It is most profuse of bloom.

Then there is Anemone Appenina, as hardy and as easily managed as it is beautiful. When planted out it should have a cool and moist position, and then its roots spread in the soil until a large patch is formed. I grow a few clumps in pots, treating them exactly as I do the Saxifrages. The flowers are of a beautiful hue of silvery blue, but as they burn a little in the sun some shade is desirable. It is dwarf in growth, does well in pots, and can be readily increased by division of the roots.

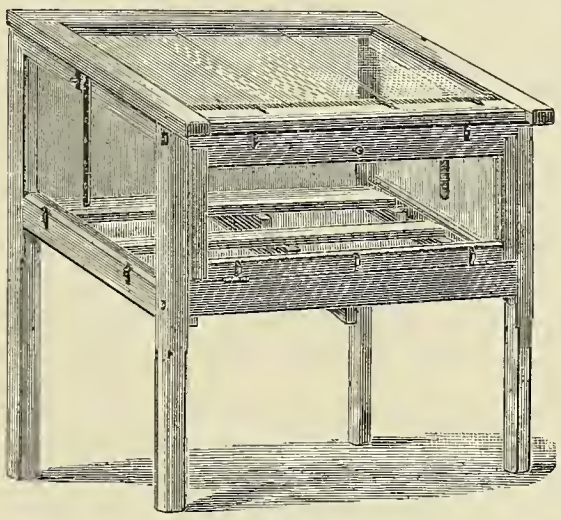
The old double dark and double yellow Wallflowers are so handsome and so beautifully fragrant that they well deserve a place in the garden. I plant them out in summer and in autumn lift them, put them in pots, and flower them in a cold house. When the spikes of bloom are over the plants are cut back, and then planted out for the summer. They then put forth side growths out of which excellent cuttings can be made.—*R. D.*

FLORICULTURE.

Auriculas and an Auricula Frame.

Having read the very interesting notes on the Auriculas at Slough by "R. D." in your issue of last week, I should feel exceedingly obliged if he would say through your columns what kind of frames are used at Slough, and whether they are ventilated back and front by means of hinged boards; or what is the best sort of frame to use. If possible a few hints on Auricula culture would also be acceptable.—*J. Baker, Lorne Road, Brixton.*

In reply to your correspondent I have to state that the house in which the Auriculas are flowering at Slough, is an ordinary span-roofed greenhouse, some twenty-five feet or so in length with a walk down the middle, and a level three feet stage on either side.



Horley's Auricula Frame.

As it is heated with hot water it is therefore an ordinary warm greenhouse, but well adapted for Auriculas during the winter and spring months. But ordinary cold frames are also employed for the young stock; the foundation of the beds on which the plants stand is filled up with six or eight inches of brick rubbish or such like, and on this is laid a bed of fine cinder ashes made solid and level, and upon this the plants are stood, bringing them pretty near the glass. Such frames are unheated, and any protection of the plants from frost must be furnished by covering up the frame with garden mats or some such material.

One of the best amateurs' Auricula frames I have seen is that in the garden of Mr. Thomas Fife, Southern Hill, Reading. It is an ordinary two-light box frame, resting upon a structure of wood, so that by means of wooden shutters back and front, air can pass freely underneath the plants. Air can be given at the top by either raising the lights back or front, or by pushing the light down a little way. Some prefer instead of moving the lights to have little wooden shutters towards the foundation of the frame, which can be opened or closed at will. If Mr. Fife will be good enough to give the readers of The Gardening World some particulars as to the construction, the dimensions, and the cost of his frame, he will not only be doing our correspondent a service but also impart a desirable impetus to the interest now being taken in the Auricula. In the meantime I may also refer your correspondent to the details of a frame illustrated in your number for June 5, 1886, which you may consider advisable to reproduce.

As a matter of course a small house constructed like that in use for Auriculas at Slough, even if unheated—and it is not necessary to the growth and flowering of the Auricula means of artificial heating should be employed—has decided advantages over a frame. At any time during the winter the grower can go into it and examine his plants, which he cannot do in the case of a frame in the winter, especially during snow and rain. Heat applied by means of an ordinary flue or hot-water pipes is only sparingly employed to assist the plants in getting flower and to prevent them from frost, which will sometimes paralyse the half-expanded pips. It is almost necessary heat be employed to have the flowers in exhibition character by the third week in April, when the Auricula show is generally held in London.

Culture of the Auricula.

In reference to the culture of the Auricula, it is in the month of May that the plants which have been well managed may be said to mature their ample spread of foliage and pass out of bloom. The soil must be kept pretty moist, but not in a soddened condition, and if the plants occupy a position open to the sun they should be shaded during the middle portion of the day. The plants require plenty of air circulating among them, and green-fly should be kept under by means of fumigation with tobacco smoke.

During the summer months the plants do best on a north aspect, where sunshine can fall upon them only in the early and later parts of the day, but not where drip from the branches of trees or from the roofs of buildings can fall upon them.

The Auricula needs an annual repotting, and the best time to perform this operation is soon after the plants have done flowering. One of our greatest authorities on the culture of the Auricula, the Rev. F. D. Horner, states: "The time preferred for repotting is not the same with all growers; some repot early and some late." Early potting means giving the plants entirely fresh soil. Some growers object to early potting, and think it encourages the production of autumn trusses of bloom. But I have known plants not repotted until August to throw up abundance of autumn trusses; and at no time does the Auricula appear more grateful for the stimulus of fresh, sweet soil, as immediately after it is done blooming. The roots become active, the plants put on a fine, vigorous growth, and they become well established in the soil before winter sets in.

At the time of repotting the plants should have the whole of the soil shaken from the roots, and a good portion of the under-ground stem removed, leaving the youngest part, which is that nearest the leaves, to the length of from one to two inches, which will be found to have put forth the youngest and freshest root fibres. These at once penetrate the fresh soil, and the plant takes on a fresh and vigorous lease of life.

Some growers at the time of repotting carefully wash the roots of their Auriculas in case the larvæ of any insect likely to be injurious to them has gathered upon the roots. Some do this in a solution of soft soap and water, others use firtree oil carefully diluted; and as soon as the plants are washed they are at once repotted.

The compost into which the plants are repotted is one of great importance. Growers use different composts, but one that will answer well is made up of equal parts of a sweet, silken, fibry yellow loam, and well decomposed stable or cow manure that can be rubbed to pieces in the hand. It is not necessary to pass the loam through a sieve; it is enough to break it up small with the hands, pulling the fibre to pieces at the same time, but on no account getting rid of it. Add to this a fourth part of old mortar rubbish if it can be obtained, and a little coarse sand and charcoal broken up somewhat finely. These ingredients, mixed well together, make an excellent compost for the Auricula. As the cow manure sometimes contains the larvæ of insects injurious to the Auricula, some adopt the practice of baking it in an oven previous to using it; others will place their loam in a cask or tub, place the cowdung on it, and then pour boiling water over it, and allow it to stand a few days before using.

Clean pots are indispensable, and they must be well drained, a large piece of broken pot being placed over the hole at the bottom of the pot, smaller pieces are added, the finest at the top, until an inch of drainage is provided. Over this place a little of the fibre, and then pot, allowing the soil to come up to the leaves of the plant, and pressing the soil firmly about the roots. Then the plants can go into a frame, be shaded for a few days,

and then they will bear exposure to the light. The soil should be used fairly moist, but not to the degree of soiling the potter's fingers, and no water should be given until the plants ask for it, which they do by the flagging of their leaves. So much for the present, I will return to the subject in a week or two.—*R. D.*

National Auricula Society.

NORTHERN SECTION.

This annual exhibition was held in the Town Hall, Manchester, on the 26th ult., but owing to the cold and unfavourable weather experienced this spring, the display of blooms was not at all equal to the exhibits of previous years, nor were the specimens so numerous as would otherwise have been the case. Still, on the whole, the stands were fairly well filled, and the show may be regarded as satisfactory. The Rev. F. D. Horner had some grand seedlings on view, and Mrs. Kyrke Penson included in her collection a very fine green-edged, which she has named "Dinham," after her place of residence. Another special flower was a seedling, John Bright, shown by Mr. S. Barlow, of Stakehill, Castleton, who had also six species of Primulas, a lovely collection. Mr. B. Simonite's collection contained some fine green-edged seedlings, which excited general interest. The prize for the best Auricula in the show was awarded to the Rev. F. D. Horner, for Ossian (Simonite), green-edged, a very beautiful specimen. The awards were as follows :—

Class A.—Six dissimilar: 1, Rev. F. D. Horner, Kirkby Lonsdale; 2, Mrs. K. Penson, Ludlow; 3, Mr. G. Middleton, Prestwich; 4, Miss Woodhead, Halifax; 5, Mr. Irving Hind, Halifax; 6, Mr. G. Clements, Birmingham.

Class B.—Four dissimilar: 1, Rev. F. D. Horner; 2, Miss Woodhead; 3, Mr. H. Wilson, Halifax; 4, Mrs. K. Penson; 5, Mr. Irving Hind; 6, Mr. J. Wood, Stalybridge; 7, Mr. J. Clements, Birmingham.

Class C.—One pair: 1, Mr. B. Simonite, Sheffield; 2, Mr. W. H. Midgley, Halifax; 3, Mr. T. Buckley, Stalybridge; 4, Mr. E. Shaw, Moston; 5, Mr. J. Stelfox, Stalybridge; 6, Mr. S. Barlow, Stakehill, Castleton; 7, Mr. J. Beswick, Middleton.

Class D.—One pair, maiden growers only: 1, Mr. W. H. Midgley, Halifax; 2, Mr. G. Stokes, Birmingham; 3, Mr. T. Barrow, Rock Ferry.

Class E.—Four Alpine, shaded, dissimilar: 1, Mr. J. Beswick, Middleton; 2, Mr. J. Clements, Birmingham; 3, Mr. G. Stokes, Birmingham.

Class F.—Single plant, green edges: 1, 2 and 3, Rev. F. D. Horner; 4, Mrs. K. Penson; 5 and 6, Rev. F. D. Horner; 7, Mr. John Taylor, Hoole Hill, Chester; 8, Miss Woodhead.

Class G.—Grey-edges, single: 1 and 2, Mrs. K. Penson; 3 and 4, Rev. F. D. Horner; 5, Miss Woodhead; 6, Rev. F. D. Horner; 7, Mrs. K. Penson; 8, Miss Woodhead.

Class H.—White-edges, single: 1, Rev. F. D. Horner; 2, Miss Woodhead; 3, Rev. F. D. Horner; 4, Miss Woodhead; 5 and 6, Rev. F. D. Horner; 7, Mr. John Taylor; 8, Miss Woodhead.

Class I.—Single, selfs: 1 and 2, Rev. F. D. Horner; 3 and 4, Miss Woodhead; 5 and 6, Rev. F. D. Horner; 7, Mrs. K. Penson; 8, Mr. B. Simonite.

Class K.—Alpines, shaded singles, yellow centres: 1, 2, 3, 4 and 5, Mr. J. Beswick, Middleton.

Class L.—Alpines, shaded, white centres, singles: 1 and 2, Mr. J. Beswick; 3, Mr. G. Stokes; 4 and 5, Mr. J. Clements.

Class M.—Polyanthuses, black grounds, three dissimilar: 1, Mr. J. Beswick; 2, Mr. T. Barrow; 3, Mr. G. Thornley; 4, Mr. G. Middleton, Prestwich; 5, Mr. S. Barlow.

Class N.—Three dissimilar, red grounds: 1, Mr. J. Beswick; 2, Mr. G. Thornley; 3, Mr. S. Barlow; 4, Mr. G. Middleton; 5, Mr. T. Barrow.

Class O.—Single plants, red grounds: 1, Mr. J. Beswick, Middleton; 2, G. Thornley, Middleton; 3, Mr. S. Barlow; 4, Mr. J. Beswick; 5, Mr. S. Barlow; 6, Mr. G. Thornley; 7, Mr. S. Barlow.

Class P.—Single plants, black grounds: 1, Mr. J. Beswick; 2, Mr. T. Barrow; 3, Mr. G. Thornley; 4, Mr. J. Beswick; 5, Mr. J. Beswick; 6, Mr. S. Barlow; 7, Mrs. Kyrke Penson.

New Books Received.—*The Horticultural Exhibitors Handbook* by William Williamson, revised by Malcolm Dunn, Dalkeith (William Blackwood & Sons).—*Practical Fruit Culture*, by J. Cheal, F.R.H.S. George (Bell & Sons.)

THE CHICAGO EXHIBITION.

HORTICULTURAL DEPARTMENT.

THE glazing and lathing of the horticultural building is practically finished, as also the ironwork and rough carpentry, and the floors are being laid. The roofing is nearly completed, the greenhouse and nursery annex will be ready in a few weeks. A leading feature of the department will be the broad terraces, medusaline walks, and miles of flowers and shrubbery which are to rise on both sides of the canals in Jackson Park, which run from one end to the other. A six feet retaining wall will rise from the water's edge; at its summit will be the first terrace, sixty feet wide. Flowering plants and shrubs will occupy a space in the centre twenty feet wide, and on either side of this will run the walks, each twenty feet wide, and made of the newly invented material, medusaline, which is harder than stone, can be molded into any shape, and can be highly polished.

A second wall will rise to the same height, and from its top, extending outward, will be another sixty feet wide arrangement, same as above. An ornamental balustrade will extend the whole length of the terrace, on the inner edge. Medusaline stairways will lead from the water to the second terrace, varying from twenty-four to sixty feet wide. There will be numerous boat slips, and the whole will be lighted by electricity.

Pennsylvania has been making a strenuous effort through Governor Pattison to secure a suitable floral display from the state, being somewhat handicapped by reason of their appropriation for the purpose being only seven thousand dollars. However, many owners of fine collections in Philadelphia (including Geo. W. Childs) have promised to send some of their rarest plants. Their outdoor plants will arrive probably next month, so that the lawn round the state building may be put in order at once. Had the appropriation been augmented, the idea was to purchase sufficient to make a fine exhibit. Roses still pour in on Chief Thorpe. Messrs. Dickson & Son, Belfast, have sent 1,500, and MM. Kilter Freres, Luxembourg, a shipment of 800. Plants from all countries are constantly being received; 27,00 flowering plants of various kinds already are to hand.

The general department of awards will be divided into twelve sections. The committee on awards consists of twelve. The idea is to place the distribution of awards in each class in the hands of a committee of three, the chairman to be in sole command and to be solely responsible, unless he should prove incompetent. Jurors will be required to remain here during June and July, and the pay will be 1,000 dollars for foreign, and 600 dollars for home jurors. The American system of giving a medal for the *best* article, with an accompanying diploma stating the excelling points, has been adopted, instead of first, second, third, and fourth class diplomas, and it is expected that this arrangement will give more general satisfaction.

Of interest to lady exhibitors or assistants is the proposed women's hotel, to be built within a short distance of the north entrance to Jackson Park, on a site lent free by Geo. M. Pullman. It will be wooden, and the materials of the democratic wigwam, which will only be in use for a short time, will be acquired for the purpose, possibly free, and at all events advantageously. The ground is 450 by 150 feet. An interior Spanish open court is contemplated, 100 by 40 feet, containing a fountain, lawn, flowers, and shrubberies. It is intended that the building shall accommodate 5,000 women daily, and only women will be employed about the hotel. Stock will be issued in 5-dollar shares (20/10), good for their face value in lodging, and also for a share in the profits if any. 30 cents (1/3) a day will be the charge for room, light, &c.

Four fine drawing-rooms, fitted up with libraries, pianos, writing materials, and papers of the leading European cities, will add to the attractiveness of the whole, while from the windows splendid views will be had of Lake Michigan, and of the regattas and water pageants in connection with the Exposition. The music will be pleasantly audible. Shareholders, or those to whom they may allot their shares, will have the preference, and those shares are only intended for working women. Should there be any vacancies, outside workers will be admitted at the same rates. There will be no kitchen, partly on account of the heat and odours, and partly because naturally visitors will take most of their meals inside the Exposition, but arrangements will be made for light repasts at cost. This is a great opportunity on account of the exorbitant rates certain to be universal next year. The whole will be under the control of the Board of Lady Managers.—*C. Macquarie, Chicago.*

PINE-APPLES IN FLORIDA.

OWING to the rapid growth of Pine-apple cultivation in the south these fruits are no longer considered luxuries, Northerners using them (says a writer in an American paper) in the summer as they would their native products. The Pine-apple season begins in February, when the first foreign shipments are made, and from that time until the last of August nearly 5,000,000 "Pines" are disposed of in the United States. On the Island of Cuba the fruits ripen earlier than elsewhere, and growers there control the market until the first week in May, when the Florida and Bahama Pine-apples begin to arrive. Later smaller shipments are made from Central America, but these never reach very high figures. All of the fruit is shipped direct to New York, and half-a-dozen large dealers in that city practically control the trade. On the arrival of the fruit it is bought up by them in bulk, and the prices are fixed according to the condition of the market. Pine-apples are generally sorted over at first and divided into three lots, "extras," No. 1, and No. 2.

The spring of the year is the time to inspect the Pine-apple fields where the fruits are just reaching maturity, for at such times one may expect to find interesting sights if ever. When the "Pines" begin to mature in Florida, the Oranges and Grape-fruit have long since been gathered, and blossoms are on the trees for next season's crop. The Bananas have also been picked, and the stalks have been cut down, or "pruned" as the work would be called in the North. Along the Indian River and Key West Pine-apple culture has become a leading industry, and thousands of the fruits are annually gathered for the home markets. The climate near Key West, and in the southern tier of counties, is about the same as in the Bahamas, and the sandy soil is thoroughly adapted to the cultivation of the "Pines." The fruits are planted, and they take care of themselves with but little outside attention. The plants are largely air plants, and they greatly resemble in appearance the "Air Pines" which grow so thickly upon the tall Cypress trees of the Florida hummocks.

Pine-apples are grown as far north as St. Augustine, but they do not thrive very well there unless well protected in winter. On the lower part of the Indian River one meets with the first Pine-apple groves of any importance, and at Eden, near the twenty-seventh parallel, which is considered "below the frost line," the settlers make a speciality of growing Pine-apples. The pioneer at this place is Thomas E. Richards, and he has the largest plantation within many miles. His first Pines were planted as far back as 1879, when Pine-apple culture in Florida was one of experiment. He has now more than forty acres devoted to the cultivation of the fruit, and nearly every year the plantation is increased in size. The result of this new industry on the River front has been to increase the value of land from $5 and $10 an acre to $100 or more.

PROPAGATION AND CULTIVATION.

Pine-apples are propagated in three ways—from the "crowns," "suckers," or "slips." They are planted as thickly as Cabbages, and at a little distance resemble them. From a five-acre plantation another plantation several times larger can be planted in one season. This rapid method of propagating the plants makes the industry comparatively easy of extension. Nearly all the planters put out new fields every year, provided they have the land at hand, From 10,000 to 15,000 Pine-apples can be planted to the acre, and in from eighteen months to two years after planting the slips the plants produce fruit. The plants need little cultivation after the suckers have once set, but the top soil requires a little stirring in order to prevent too rapid evaporation of the moisture. Every sucker, slip, or crown, if properly matured, will produce one fine Pine-apple, and each

grower expects to realize five cents apiece for the fruit after transportation rates, cost of package, and commissions have been deducted. This means $500 per acre, but some of the choicest varieties sell for much higher prices, so that from $700 to $1,000 is realised.

In 1881, 30,000 dozens of Pine-apples were shipped from Key Largo, and six years later over 300,000 dozens sent North. The present season will probably exceed that of any other, and the Pine-apple shipments will almost equal those of the Oranges. The Largo Pines have already established a name in the markets for superior merit, and they frequently bring higher prices than the Cuban or Bahaman pines.

There are different grades of soil in Florida, and some of the expensive lands will not produce a paying crop of Pines The high hummock lands of the State are generally considered the richest. The best varieties that are planted are Egyptian Queen, Ceylon, Rea Spanish, and Puerto Rico. But all of these established varieties are being improved by crosses with new ones imported from different parts of the world.

The suckers are planted in rows three feet apart either way during the rainy season in August, and during June and July the crops are harvested. The Pine-apples are cut off close to the main stalk with a sharp knife, and the thick, pointed leaves are trimmed so that the fruits can be packed easily. They are generally packed in barrels, from twenty-five to thirty "extras" in a barrel, or forty to sixty small ones. Almost any kind of barrel will answer the purpose, but the large sugar-barrels are the best, as they do not cost any more for transportation. After the Pines begin to come into the market the supply is steady, although some dealers attempt to hold back their fruit until the bulk is disposed of. Florida cannot compete in the early market, for the Cuban Pines are always ahead of it, but it is gradually monopolizing the trade in June and July. With the rapid increase in the cultivation of the fruit Florida will in time supply all of the home trade, driving out the imported fruits.

THE CULTURE OF CYCLAMENS.

When is the best time to sow Cyclamen seed? I find even our able market growers differ on this matter, as some select June, others August or September. Still it does happen that somehow notwithstanding this divergence it is found that equally good results follow, so that it may be taken for granted that no rule of thumb can be laid down as to the best time for seed sowing, but that every one sows just as experience shows to be for his purpose the best.

Just now plants are everywhere developing seed pods. If we look over the reserved seed stock of any considerable growers we shall see scores of plants the which have the stems of the seed vessels tied with diverse coloured wool, each colour indicating some distinct cross, which has been made in the hope of producing some desired results. The Cyclamen is a fairly facile flower in the hands of the fertiliser, and it is because of that we now have such fine strains, and such variety of colours, including the purest of whites and the most intense of crimsons.

Very soon will the seed be ripe, and then when gathered very likely the plant which produced it will be thrown away. It is not the rule for large growers to encumber themselves with old corms, for when twenty thousand are raised from seed, there comes such a wealth of quality that old plants are barely worth taking trouble over. We cannot get the Cyclamen to bloom the following spring from summer sown seed. It will have a longer season, ordinarily some 14 to 15 months, from sowing to blooming, hence it is needful to have one crop of plants coming on whilst the old crop is dying off, or in other words it is essential that two distinct crops be always in hand, as when the previous year's plants are about to bloom, those to flower the following year should be stout seedlings fit to dibble out into other pans or pots.

A special desideratum of the summer culture of Cyclamen is that the plants be kept fairly moist in soil and in atmosphere. A good vaporous saturation of the leafage is most valuable as tending to check the advances of aphis, whilst frequent fumigations also are essential when insects are in evidence. Cyclamens are such very useful as well as beautiful winter blooming plants that too much of care cannot be bestowed on their cultivation.—*A. D.*

THE VEGETABLE GARDEN.

Broccoli.

Notwithstanding all care, the breadths of Broccoli nearly every winter get sadly thinned out. Those who have light, gravelly, and sandy, or even chalky, soil, are placed under more favourable circumstances in the cultivation of crops which have to stand the winter in the open ground, than are those whose garden ground is of a heavy, compact or clayey nature. The crops may be heavier in soil of the latter class, but they are more liable to be destroyed in stormy or severe winters, so that there is some compensation, looking at it either way.

Several varieties of Broccoli are grown in the rich brick earth soils at Dibdin House, Ealing, the residence of F. G. Tautz, Esq., and now that the winter is fairly over, a comparison can be made as to the relative hardiness of the several varieties grown there. The hardiness of the Late Purple Sprouting is well known to most cultivators, and it is satisfactory to note that it is still fit for use and plentiful. This is a true Broccoli because a sprouting one. The origin of the race is still obscure, and likely to remain so, but there can be little doubt of the source from whence we originally obtained it, since the name comes from the Italian *broccolo*, a sprout. The race of close-headed and white Broccoli now so high in popular esteem more resemble Cauliflowers than the original Broccoli, and differs from Cauliflower chiefly in hardiness and the length of time it requires to become fit for use. Sutton's Safeguard belongs to the latter type, but suffers considerably from frost and wet, even when heeled over in heavy, rich soils. Veitch's Model Late White has stood much better, and some fine heads will be obtained from it in the course of the present month.

Sutton's Late Queen has also stood well, in fact rather better than the last, but no variety has done better than Veitch's Main Crop, which may be considered as giving a fairly remunerative return for the year's labour and ground devoted to it. The rich soil will ensure good heads in all cases to the plants now left standing. There can be no question that a proper system of drainage where the nature of the ground requires it, and deep culture in the case of all winter crops, are matters of the greatest importance. Surface water then readily drains away so that the ground speedily acquires its accustomed warmth; and in spring more especially, the soil sooner gets warmed up by the heat of the sun, because the rain water in passing through the soil is closely followed by warm air, made such through the effects of the reflected rays of the sun on the surface. Vegetation accordingly makes an earlier start on soils well drained and deeply tilled.

Two useful early Cabbages.

In every garden, large or small, the stock of vegetables, other than roots, to be used in a fresh state has been greatly reduced by the alternation of frost and thaw, so that the first crops of anything from the open ground will be eagerly looked forward to. Large breadths of autumn sown Cabbages are now proceeding apace notwithstanding the frequently recurring frosty nights. A short time ago autumn sown Cabbages in the open ground appeared getting visibly smaller than otherwise; but the recent rain and bright sunshine during the day are bringing the crops forward apace. We noted a breadth of London Market and Enfield Market about a week ago at Dibdin House, Ealing, many of the plants of which were quite firm, of a suitable size for table use and fit to cut. Being dwarf and stocky, they testified that they had been properly treated by Mr. Cowley while yet in the seed bed, and planted out before getting crowded and drawn.

The seeds were sown in August, and planted out about the end of September or the beginning of October in a fresh piece of kitchen garden ground that had recently been a field lying in pasture. The soil is still full of fibre and well adapted for growing vegetables. It is a rich reddish loam, inclined to clay, and evidently old alluvium, which readily crumbles when roughly dug or ridged so as to expose it to frost. The Cabbages in question are selected stocks of the old Early Battersea know under a host of names which are little or no better than synonyms. The original stock can be traced back to 1776, or more than a hundred years ago. It is notable for its dwarf compact habit, and rounded outline with the lower leaves forming a rosette upon the ground. The heart is conical, relatively short compared with such as Winningstadt, very compact, and not liable to split like Early York and others of that kind. The ribs boil soft and tender, while the quality is good. There is very little waste of outer leaves, and when cut, three or four sprouts are produced by the old stem, and which in due course form useful little Cabbages for table purposes.—*F.*

Autumn-sown Peas.

I have proved over again that little is gained by sowing Peas during the autumn even though they stand well (and that is only in favoured localities and not where the ground is low and damp). Even with those raised in boxes or pots and thoroughly hardened off before they are transplanted, the gain is more nominal than real. Seed sown during the early part of February, on a warm border, and covered with dry soil give a supply of pods larger and finer and only a few days later than the earlier sowings or those transplanted. This has been one of the most difficult seasons I have experienced to raise seeds in, April having been one of the coldest months I have ever known. Though we cannot record such severe frost as is reported from some southern parts of England and Yorkshire we could match most of the southern counties for cold easterly winds. We have not had so much snow either as in the south, but more than usual.—*Stirling.*

Gleanings from the World of Science.

A microbe of farmyard manure.—A paper on this subject has been contributed to the current number of *Annales Agronomiques* by M. Breal, who has given some attention to this subject. He states that a microbe or ferment exists on straw or other dead vegetable matter, and which decomposes nitric acid, causing the formation of organic nitrogen, but also at the same time liberating a considerable quantity of free nitrogen, which escapes into the atmosphere and is thereby lost as far as living vegetation is concerned. This explains one of the means of loss to farmyard manure when exposed to the atmosphere, but particularly in damp, low-lying situations, where the loss is always greater than when on dry soil. Manure that is fermenting violently and is in too dry a state loses nitrogen in the form of carbonite of ammonia, which is very volatile and escapes into the air. This of course is brought back to the earth by rain and is still in a combined state, while the loss caused by the above mentioned microbe is more absolute. To obviate this loss, farmyard manure should not be placed or spread upon the land until it is about to be ploughed in, so as to obviate as much as possible any loss from it. The microbe, however, according to M. Breal, does not exist or is inoperative on dry land, as it requires the medium of moist meadow or forest land for its development. It has been known for some time that there is always a scarcity of nitric acid in bog or marsh land as well as that which is temporarily submerged by the flooding of land from heavy rain, the overflowing of rivers, and other causes. Altogether it is a point worthy of serious consideration on the part of all those who are interested in the culture of farm and garden crops.

Club-root fungus.—This is variously known in this country as anbury, ambury, fingers-and-toes, and is known to be particularly destructive to Cabbages, Cauliflowers, Brussel Sprouts, Turnips, and others of the Brassica tribe. It has, however, been detected on the Radish, and in Russia upon the roots of Stocks and Candytuft. In all cases it confines its attacks to the roots; but the supplies of food and moisture being thus cut off from the aërial part of the plant, the leaves soon indicate the presence of the malady by flagging and losing their wonted dark green-colour. The disease was first detected in Scotland as long ago as 1780, but since then has made its appearance in England, Ireland, various continental countries, and in America, where it is now spreading widely over that great tract of country. A description of the fungus (Plasmodiophora Brassicæ) and some figures have been given by A. C. Eycleshymer in the *Journal of Mycology* of the U.S. Department of Agriculture.

THE FROST AND THE FRUIT BLOOM.

I SEE it stated in your issue for April 23rd that you have heard of no serious results of the late severe weather as regards the fruit bloom. I am sorry to say that the sharp frosts were very destructive here. Though our Apricot trees were covered with a double thickness of fish netting, the fruits, which were about the size of Hazel nuts, were frosted and are now falling off. The Cherry tree blossoms were also much cut up.—*G. Fulford, The Gardens, Trafalgar Park, Salisbury, April 17th.*

Eridge Castle, Kent.

BEING situated 400 ft. above sea level, we are rather favourably situated as regards immunity from frost, and our lowest night temperature during April was 21°, or 11° of frost on the morning of the 16th, and 14 in. of snow fell in seven hours,—a very unseasonable visitation, but for all that I do not despair of a fruit crop. Apple blossoms are not open yet, and consequently are safe. Cherries are still a fair prospect. My favourite early Strawberry—The Captain—is just opening its first blooms, so that I have good hopes as regards the Strawberry crop. Pears are still uncertain, and Gooseberries are shedding half their crop, but where they have been but slightly pruned, I believe there will be enough left. Plums and Damsons I think will be a crop.—*J. Rust, Eridge Castle Gardens, Tunbridge Wells, April 29th.*

Burghley Park, Stamford.

I HOPE and trust we have at last got to the end of a bitter winter—I think the longest I ever remember. We are now, however, beginning to look bright, cheery, and promising. The April frosts were not very severe with us, only 5° to 8°, and the season being so very late and vegetation consequently backward, we have not an Apple blossom expanded, so that up to now they are safe. Pears, with the exception of a few early varieties, are only just opening their flowers on standards, but those on walls are in full bloom, and being well protected have suffered little. Plums are literally sheets of bloom, but I fear are much cut. I have fires made all round our fruit orchard, and the smoke defies all frosts. The Cherry blossoms are not yet open, but there is a good show of buds. Peaches are well set and, being well protected with old fishing nets, they are quite safe. I notice that young wood is wonderfully clean and healthy, and the foliage of the darkest green in colour. Gooseberries were not so much damaged as was expected, and a good crop may be anticipated, as also of Black and Red Currants. Strawberries look magnificent, but only a few blooms are open. Scarlet Queen is the first in bloom, but the flowers are quite blackened. Our earliest border of Peas (sown November 9th) and the variety Early William, are 10 in. to 14 in. high, having again stood the winter well.—*R. Gilbert, High Park Gardens, Stamford, April 30th.*

Welford Park, Berks.

THE cold nights and hot days we have had, again make it too evident that the fruit crops will this year be very light. In January the thermometer fell below 32° on twenty nights, the lowest being 17° on the 12th and 16th, and on only two nights was it above 40°. In February there were nine frosty nights; lowest, 16° on the 17th; five nights above 40°. In March twenty-six frosts, lowest 15° on the 9th, only one night above 40° in April, seventeen frosty nights lowest 15° to 12°. This morning we had 7° and yesterday 6°. On walls with east aspect the Pears, Plums, etc., are quite finished; on west walls, where the bloom does not get the morning sun, things look rather better, as a good many of the blooms are not yet open. The Gooseberries are mostly done for, but fortunately the Apple bloom is very late this year, and may be safe if the four frosts we are to have in May are not too severe, for there is a saying in this part of the country that for every fog in March there will be a frost in May, and this I have found, after over thirty years' experience, to be generally true.—*Charles Ross, Welford Park Gardens, Newbury, May 2.*

Thornton Heath, Surrey.

ON Saturday morning last my thermometer, standing 2 ft. above the grass, registered 9° of frost, and all my neighbours are complaining of the damage done to plants. The Cherry and Plum trees were in full bloom, and I fear are hard hit. My friend the gardener at Bethlehem Hospital in St. George's Road, S.E., registered 7° of frost on the same morning.—*G. S. Addison, Parchmore Road, Thornton Heath, Surrey, May 2nd.*

Madresfield Court.

IT is said that the English fruit growers' life is made up of disappointments and blighted hopes, and if so, the truth has never been more fully realised than it has this season, for the continued frosty nights and north-easterly winds have proved most disastrous to the early fruit blossom. Apricots, which were a splendid set and the size of Horse Beans, are all blackened and destroyed with scarcely a fruit remaining sound, although the trees were protected with several thicknesses of tanned netting. On the 16th of April there was a heavy snowstorm, followed by 15° of frost. This was not a ground frost, but the snow was hard frozen on the tops of evergreen trees, upwards of 40 ft. high; even brooks were frozen over, as the temperature was below freezing point for upwards of fourteen hours in succession. This was more than any of our so-called hardy fruits could stand, and the blooms then opened suffered correspondingly. This sort of weather was repeated on the night of the 19th, in fact nearly every night throughout March and April indicated frost more or less by a Negretti & Zambra's standard thermometer placed on the ground. Plum and Pear bloom much damaged, Gooseberries and Currants shrivelled up and falling off, Cherries severely injured, Peaches and Nectarines badly cut up, but fortunately there are some unexpanded blooms, and it is premature to state whether these are destroyed also. All the old foliage of Strawberries has been destroyed, and the plants look wretched in the extreme. Caterpillars of the winter moth tribe have had a rough time also, and the only bit of consolation visible is that many of the early hatched ones are *hors de combat*, but I am not so positive about the worst enemy, the Apple blossom weevils. Apple trees are much more backward, and I am hoping they are all safe at present, and there are prospects of a grand bloom.—*W. Crump, Madresfield Court, April 30th.*

Penshurst Place, Kent.

THIS morning, April 30th, we have 11° of frost, and Pears, Plums, and Cherries are all hanging their heads, but I cannot tell yet what harm has been done. Apple blossoms are just showing colour, and I am afraid it has done great damage. Of Gooseberries and Currants there will be a great loss. Strawberries that are in bloom are all blackened. Peach trees on open walls have set a few fruit, but this sharp frost will cause them to drop. The winter frosts have also killed some of the young fruiting wood. I have here a good show for bloom on all my fruit trees, and, weather permitting, we should have a fair crop of fruit all round.—*Fred. Bridger, The Gardens, Penshurst Place, Kent.*

Arundel, Sussex.

ALL kinds of fruit trees in this district have produced an abundance of blossom, the opening of which in the case of Apricots and Peaches was somewhat earlier than usual, due no doubt to the extra amount of sun experienced this spring, and, notwithstanding the frequent frosts of 6° and 7° no harm was done, the atmosphere being dry: there was an almost entire absence of rain until the 11th and 12th of April, when slight showers occurred. The temperature fell rapidly, and on the morning of the 15th the thermometer in the garden here at 4 ft. from the ground registered 10° of frost. This had the effect of entirely destroying (where unprotected) the Apricots, and seriously damaging the Peaches and Plums. Gooseberries escaped pretty well, there being at the time a good covering of foliage on the bushes.—*W. S. Dale, The Gardens, Walberton House, Arundel, Sussex, April 30th.*

Stirlingshire.

I FEAR that Apricots and Peaches have suffered severely in Scotland on open walls. Plums generally were not forward enough here in Stirlingshire, certainly not on standard and bush trees in the open, to suffer materially. Some Cherries on walls are destroyed through the severe April frosts, but most of them are safe. I never saw Morrellos so heavily laden with blossoms. Trees on the back of glasshouse walls, so planted to economise space, and which were severely root-pruned last season to keep them dwarf, are overloaded with fruit buds and must be thinned to save the crop. These were closely cut in at the roots in August as soon as the fruit was gathered. They soon made fresh roots in the new soil, which was rammed firmly round them. Apples generally are full of bloom buds, but Pears are only of moderate promise. Small fruits, especially Currants, are full of opening flowers. Strawberries, which at one time seemed to suffer, are now throwing up their centres nicely. There are no deaths among them.—*M. T.*

Wycombe Abbey, Bucks.

At the present time in this neighbourhood the first crops do not appear to have sustained much damage by frost, certainly not enough to affect the prospect of our having a good crop of fruit. With the exception of Pear trees, all other kinds have an abundance of blossom, which appear to be setting fairly well and to afford us much encouragement and hope for the future; but the doubt that exists in my mind is whether, owing to the sunless character of last season, the growths could possibly be well perfected, and therefore likely to produce the beneficial effect on the trees we might naturally expect to get under other and more favourable conditions. I therefore fear lest it may be found that, notwithstanding having a good set, we may in the end be disappointed in the final result. Prevailing conditions are anything but favourable to the setting and swelling of the fruit, but the Apple blossom is somewhat later than usual with us, which will be an advantage this year.—*Geo. Thos. Miles, The Garden, Wycombe Abbey, Bucks, May 3rd.*

Chelmsford, Essex.

In this district there is a very little Pear blossom either on walls, Pyramids or Standard, except on Cattilac and Easter Beurré on walls. The flowers are very little injured apparently, but the tips of the young leaves were somewhat blackened by the N.W. gale of 28th April. A large tree of Easter Beurré on a west wall much exposed appears safe, as also on the east side, Plums such as Rivers' Early, Washington, Jefferson's, Greengages, &c. are safe, but Coe's Golden Drop is much injured. Plums in the open look all right; all sorts thinly flowered. Currants of sorts are laden and uninjured. Gooseberries were caught very much on the tops of the bushes, but there is a good crop lower down, especially on drooping varieties, such as Warrington. Peaches, Apricots, and other wall fruit (protected) are very thin crops, having had scarcely any flowers; Cherries appear safe at present. Apples, Raspberries, and Strawberries are very late and safe.—*S. Pragnell, West Cottage, Broomfield Lodge, Chelmsford.*

TRITELEIA PORRIFOLIA.

THE general appearance of this species is considerably different from that of the well-known T. uniflora, which is the general favourite, and most frequently grown by hardy plant lovers. The subject of this note may be grown in pots as readily as T. uniflora, than which the leaves are longer and the plant altogether of greater vegetative vigour. The flowers are funnel-shaped and white, with a green mid-rib, broadest on the outer face, and somewhat shaded with purple. In these respects they resemble those of Puschkinia scilloides, but they are borne in umbels of three to five, whereas those of the last named are in racemes. The leaves are slightly grooved above and of a deep green. The bulbs are somewhat larger than those of T. uniflora. The species was introduced from Chili in 1868, some thousands of miles distant from the home of the last named. We noted it in the nursery of Mr. T. S. Ware, Hale Farm, Tottenham.

THE LATIN NAME OF TRILLIUM, referring to the structure of the flower and plant, fits the family well, for it has only three leaves, sepals and petals. The ovary is three-celled, and the number of stamens is twice three. But "Benjamin's" specific name of erectum is not so well applied, for instead of standing erect the peduncle is usually nodding, giving to "Benjamin" a thoughtful attitude. T. sessile and T. recurvatum, the other two best-known forms of purple Trilliums, are smaller in flower than T. erectum, and of a darker colour. They are also sessile upon the leaf-stem, while T. erectum has a peduncle 1 in. to 3 in. long. In cold, damp woods and bogs of New England, and southward among the higher Alleghanies, is found the pretty painted Trillium T. erythrocarpum.

FLORAL ECCENTRICITIES.

Probably no wider field for observation in this respect could be found than in the United States. Here grief and fancy run riot, and occasionally the result is—well, astounding. The "broken wheels," "ditto pillars," "fallen trees," "gates ajar," pillows, doves, engines, sheaves, desks, inkstands, books, and easels are so ordinary as to attract no particular attention. Occasionally, however, a daring innovation arrests the gaze.

Recently, on the death of a theatrical official, the rather ludicrous tribute of a floral ticket "*Admit one*," was displayed. Gracefully presented to St. Peter, it must have had all the charm of novelty about it. Nowadays, the addition of "no flowers" to funeral notices among the more refined classes is as common as it seems to be in the "old country." Probably this re-action is due to the preposterous floral displays so frequently made, occasionally too when they can ill be afforded.

These montrosities are generally composed chiefly of Immortelles, and are of simple construction, although I have seen some fancies very beautifully worked out, entirely in natural flowers. Prices are much about the same as at home. Coloured flowers are much more used at funerals here than in Britain. I fancy to the overworked florist this would be a great relief were the fashion more generally introduced there. It is often with great trouble that all white flowers are produced in sufficient quantities, at certain seasons, as I can vouch for, from many nightmare reminiscences.

Why should not the flower appropriate to each month be used exclusively at funerals? What more charming than a mass of Snowdrops, Daffodils, Violets, Roses, or Chrysanthemums, associated with feathery green by a skilful hand? Again, nothing could be more effective than tall spikes of Liliums, or Callas, in conjunction with their own foliage. The ideas which could be carried out in such an innovation are endless, and would have the merit of simplicity, as well as that of bringing a floral offering within the reach of a slender purse. A handful of Primroses need then fear no invidious comparison with rare exotics. Indeed, the latter would suffer by comparison with Nature's woodland children *en masse*. There is no doubt the wreath and cross business has been overdone, and such a departure would bring a fresh influx of trade in quarters where it is more required, as white flowers are always in sufficient demand, whereas others are not always so. To market growers especially a large access of trade for easily grown subjects would follow. And surely the disuse of wire and frames would be a great boon; certainly they seem out of place in such sad and tender associations. Funeral reform will surely and steadily advance, and in its wake may come such changes as the above. In simply strewing flowers on a bier we stray back to Nature, and whatever conduces to that end must always be most natural and lovely.—*C. Macquarie, Chicago.*

ALPINIA MALACCENSIS.

Upwards of 40 species of Alpinia are known to science, and are natives of the warmer parts of Asia, the Pacific Islands, and Australia. That under notice comes from the Straits of Malacca, and gives promise of being a useful subject for window culture. The stems are about 12 in. to 18 in. long and are well furnished with elliptic-lanceolate, long-pointed leaves of a deep green. In general appearance they resemble those of a small Hedychium, and are most agreeably scented, especially when rubbed. The odour is aromatic, resembling that of the Cardamon (Amomum Cardamomum). Its dwarf habit is a recommendation for window culture. Some of the species attain a height of 4 ft. and A. nutans varies from 6 ft. to 13 ft. when grown in the stoves of this country, and therefore requires a great amount of space for its accommodation. A. malaccensis can hardly be expected to flower when grown in a window, but the foliage alone is sufficiently ornamental to raise it in the estimation of those who like fine-foliage plants. A suitable compost would consist of loam, leaf soil, and peat in equal proportions, with plenty of clean sharp sand to keep the whole porous and open. The drainage must also be good, as a considerable amount of water is required during the summer time when growth is being made. Nor must the soil be allowed to get dry even in the winter, as the plant is evergreen and still in leaf. Our illustration was taken from a plant grown in the nursery of Messrs. B. S. Williams & Son, Upper Holloway, who have a nice stock of it.

Alpinia malaccensis.

DALKEITH PALACE GARDENS.

The gardens of Dalkeith Palace, Midlothian, have always held a high reputation in the horticultural world. They have a standing that perhaps no other centre of gardening in the world has, and, without disparagement to any other such institution in or out of the United Kingdom, we unhesitatingly aver that its fame is nothing more than it is entitled to merit. We have just recently been making a visit to this place, and like all former occasions, when so engaged, we were more than amply furnished with profitable reparation for any little difficulties which stood in our path in accomplishing our long anticipated visit.

In a place such as this, where early forcing of flowers and fruits are so extensively carried on, one would have thought that the unprecedented character of our spring weather would, in a marked degree, affect the progress and development of indoor vegetation to an extent greater than it has. On the contrary it would appear that this powerful influence hindered but little the floral and vegetative development of all classes of plants, and place them at once on an equal footing with those of more favourable past seasons. At all events we should conclude from the fine display of flowers which graced the greenhouses and conservatories and the advanced and incipient fruits of various kinds, that this was the case, a fact which goes to prove the wonderful mastery art has achieved over nature. Notwithstanding the period of our visit being Easter week—a time when much of the available material for decorative purposes is called into requisition—an uncommonly rare wealth of floral display prevailed throughout the entire plant structures.

It is not often that the Cineraria, with its resplendent and diversified colours, is to be seen at its best. Here we had the pleasure of seeing a magnificent array of superb and well-grown plants of this very fine decorative plant. This plant when properly treated is one of the first-class of winter and spring plants, and though not of much value for cut flowers it is eminently useful as a lustre-giving quality to the otherwise sombre character of the greenhouse and conservatory in the dull months of winter. The strain was an exceedingly good one, and we believe it to be that of Messrs. Veitch, London. Interspered with much art and taste, along the front stages were some fine plants of Cyclamen giganteum, which very effectively harmonized with the dazzling gaiety of the Cinerarias.

The forcing department, despite the outward and extremely trying winter and spring, is far advanced. We consider this achievement an indubitable testimony of the excellent management under which everything is here conducted. Strawberries were exceedingly well fruited, well coloured, and abundant. Vines, Peaches, Nectarines, Figs, all bore testimony to the unremitting care and attention bestowed upon them. Perhaps it will not be presumptuous on our part to say that one of the greatest features of this place is the Pine Stove. The luxuriant growth and splendid fruits at once denote that no longer, when grown under the skilful management of Mr. Dunn, can this class of plants be ranked among the unprofitable luxuries of horticulture. Mr. Dunn has, we understand, practised for some years a method of culture, which is an entire departure from the ordinary conventional and orthodox system. To this is due the fine quality of fruit and vigour of plants one may here observe, and withal its superiority over the old system is so immensely gratifying and satisfactory, that it entirely removes from Pine culture one of the greatest barriers which hitherto inevitably confined it to the domains of the very wealthy.

The beautiful batch of the Queen of Adiantums (Adiantum Farleyense) to be seen at Dalkeith, is one of the most admirable we ever saw. Throughout Mr. Dunn has been eminently successful in maintaining this beautiful Fern in that original vigour and vitality which at one time characterized it, and made it the general favourite of the gardener. Few can boast of having done this, and, as is well known in most places where it was once grown, it no longer finds a place, and simply because it *won't* grow. We have known gardeners who nursed and coddled the last consumptive and untractable morsel for years, and at last with sworn disgust flung it to the rubbish heap as a thing not worthy of the attention it required. This perhaps is more universal than most are aware of, and on that account greater must be the credit of Dalkeith for its magnificent lot of Farleyense—which is worthy of a visit of itself.

It may be worthy of remark that here also is perhaps one of the most floriferous plants of Stephanotis in the country. Two years ago a fruit was successfully ripened on it, and with one exception all the seeds germinated. None of the seedlings as yet, though one of them is of considerable size, has shown a disposition to the floral qualities of the parent. This year no doubt will determine whether or not they shall partake in any degree those qualities. We also saw a few nice seedling plants of Dionea muscipula two years old and doing well.

Mr. Palmer, the foreman, has a keen and intelligent interest in this profitable and highly commendable walk of advanced horticulture. Mr. Dunn in his wonted genial and courteous manner spared no pains to make our visit one of the most interestingly intellectual and pleasant we have enjoyed for many a day.—*N.W.*

A PROFITABLE CHERRY HOUSE.

Cherries, like several other stone fruits, are relatively short-lived, particularly in some soils, so that when trees are grown as standards of large size, they very often require a long time to come into full bearing, and then perhaps when only about fifteen years old they suddenly die off when in full vigour and bearing, apparently without any cause. Standards moreover are very difficult to protect from birds in much wooded districts and where only a few trees are grown. Under g'ass, however, there is no difficulty in protecting them from such enemies, while the blossom is equally free from being destroyed by frost, no matter what is the nature of the spring. The trees, furthermore, can be restricted in size, and confined to a few rods or cordons, say from one to five. The more vigorous kinds, such as Bigarreau Napoleon and Black Tartarian, may be trained to five cordons, which means allowing them to attain something of their natural vigour. If confined to a single rod of moderate length the restriction would cause a production of gross wood which would be prejudicial to their fruitfulness.

At Gunnersbury Park, under the skilful care of Mr. Reynolds, a low half-span-roofed house is solely devoted to Cherries which never seem to fail in producing a good supply of fruit every year. Should any particular tree give indication of failing vigour, its place is supplied by another tree in full bearing from the open, so that the house is always kept well stocked. The fruits are now advancing rapidly, the more forward of them being about the size of large peas, while the Late Duke is scarcely out of flower. In virture of the number of kinds, a succession can be kept up by the use of those kinds which flower aad ripen at different periods. Whether for indoor or outdoor culture, Bigarreau Napoleon is one of the best and most profitable of the Bigarreau type. The pale yellow skin is heavily suffused with deep red on the sunny side. Another Cherry of great esteem amongst cultivators is Black Tartarian, of which there are three or more trees in the house, each trained to five rods and now heavily laden with fruit about the size of large peas. The skin is of a shining black when mature, the flesh purplish, juicy, and richly flavoured. Another tree of five rods and in profuse bearing is Frogmore Early, a Bigarreau ripening as early as May Duke.

The trees of Early Rivers are trained with three to five rods, and do well under glass. They bear abundantly, and the fruits when ripe are of a deep shining black. The variety is a seedling from the Early Purple Gean. The latter is also grown here, and bears a heavy crop. The fruit ripens about fourteen days before that of the May Duke, and is snperior to it in flavour. The Early Jaboulay, also known as Bigarreau Jaboulay and various other names, is grown here as a single cordon. It is a Gean and not a Bigarreau, notwithstanding the name being often applied to it. The skin is amber, dotted or blotched with red, and the flesh is very pale, juicy, and richly flavoured. The Bigarreau Noir de Schmidt has a large and shining black fruit with a firm dark red flesh of good quality. It is grown as a single cordon, as is Mammoth which bears a clear yellow fruit, marbled with red and measuring more than an inch in diameter.

A tree of Tradescant's Heart, known here as St. Margaret's, was lifted from the open ground in the autumn and brought in to supply the place of another; but, notwithstanding this, it is now carrying a heavy set of fruit. The latter is dark red at first, but gradually changes to a blackish-purple with a flesh of the same hue, and of a sweet but slightly acid flavour. The tree is trained to five rods. The Florence Cherry is a tree of moderate growth, and is grown here as a single cordon which is well set with fruit. The skin is pale yellow, mottled with red, but more particularly on the exposed side. The moderately firm flesh bears some resemblance to that of a Bigarreau, but is more tender and juicy. It bears abundantly even in the open air after having got established. The variety was originally introduced from Florence about the end of last century. Emperor Francis is also grown as a single rod, and is now bearing a good crop of fruit.

BRITISH FRUIT GROWERS' ASSOCIATION.

The two conferences held last week at Newcastle-on-Tyne, under the auspices of this Association and in connection with Newcastle Spring Flower Show, were not so well attended as could have been wished. As the Chairman remarked, the interest in some matters is too often in inverse proportion to their importance. In a paper on "Apples for Market," Mr. A. H. Pearson, of Chilwell, recommended the thinning of fruit trees, because, though there was less fruit to gather, there was better money for it, and the trees instead of being exhausted, were ready to carry an equally good crop in the ensuing season. The trees, he said, should be planted in pyramid form, and worked on a Paradise stock. He considered that the cultivation of fruit in allotments, instead of interfering with the market grower, would make the business better. In the discussion which followed the reading of this paper one grower said that though Apples to compare for size and colour with those of the South could not be grown in the North of England yet good serviceable fruit could be cultivated. Another thought that in the valley of Aln was some of the best land in England for fruit growing, while Durham on account of its cold clayey soil was a poor country.

In his paper on "Culture of Bush Fruit," Mr. Wm. Goaring, lecturer to the Hants County Council, advised cultivators to unite in planting the same kinds in quantities in order to gain a good reputation for the neighbourhood. Bushes should be kept thin and fruit should be plucked in the green state for the first two or three years. A grower advised, as the result of experience in theNorth of England, the cultivation of Raspberries and Strawberries instead of Red and Black Currants.

Mr. George Gordon, read a paper on "Fruit Culture on Small Holdings." He declared that fruit culture intelligently carried out would yield a good return for the capital and labour invested; that in districts favourable to hardy fruits the returns would be in excess of those obtainable from the ordinary farm crops, and that this culture would be especially suitable for small holdings. He added that mixed planting of small and large fruits would prove the most profitable, and the most suitable fruits for the Newcastle district were Apples, Plums, Currants, Raspberries, and Gooseberries.

An interesting statement was made by a grower to the effect that sparrows when living on the ground and feeding on green stuff all the year round did not spoil fruit; they would not touch it except in severe weather, but he admitted it was different with town sparrows. The hedge sparrow was given a better certificate of character than his town cousin received. —*North Eastern Gazette.*

NEW & RARE PLANTS.

The subjects here enumerated were exhibited at the second spring exhibition of the Royal Botanic Society, Regent's Park, on the 27th ult., and received certificates as indicated below.

Aglaonema costatum.—The leaves of this Aroid are ovate-cordate or strictly heart-shaped, with short stalks and are of a rich dark green with a broad silvery midrib and numerous blotches all over of a similar hue. It is a native of the Malayan Archipelago, and is apparently quite dwarf compared with any already in cultivation, or may be kept so by occasionally taking cuttings and rooting them afresh. The foliage is highly ornamental, and the plant would be suitable for small stoves.

Tillandsia Moensii.—The habit of this plant is precisely that of T. tessellata, and the chequered variegation also reminds one of it. The curious changes that take place in the leaves at different stages would however in themselves constitute a marked distinction. The youngest in the centre of the crown of foliage are greenish-yellow with closely arranged deep green veins arranged in longitudinal stripes; older ones have transverse, irregular and wavy, deep olive green bands in addition to the others; finally these transverse bands become so widened as almost to cover the upper surface of the outer and older leaves.

Tillandsia Massangeana superba.—This plant may likewise be compared to T. zebrina on the lower surface, and to T. hieroglyphica on the upper surface. The leaves are ligulate, cuspidate, and of a light greenish yellow, heavily banded beneath with dark brownish purple, and on the upper surface with a somewhat lighter hue. The bands on the upper surface are exceedingly variable both in the distribution and direction of the bands and lines.

Grevillea robusta elegantissima.—For description of this plant see p. 546. All of the above four were awarded Botanical Certificates.

Streptocarpus Sidonie.—The leaves of this as well as the four undermentioned varieties are narrowly oblong or strap-shaped, somewh t undulated and crenate. The flowers are generally borne in pairs upon the scape, and are of a light blue with seven intensely purple lines in the throat.

Streptocarpus Nestor.—In this case the scapes bear from two to six flowers each, and the latter are of a deep purple on the inner face, with a large, blackish-crimson blotch in the throat; the tube is of a paler purple externally.

Streptocarpus Linda.—The flowers of this beautiful variety are pure white with three intense blackish purple bands running from the base of the segments down into the throat. Two, four or six of these are borne on a peduncle.

Streptocarpus Gaiety.—Here again we have a similar number of blooms on a peduncle as in the last named, and they are white with seven violet lines on the base of the three lower segments, and running down into the throat.

Amaryllis Crimson King.—For description of this fine variety see p. 546. All of the five above named received Floricultural Certificates; and the whole of the nine subjects were exhibited by Messrs. J. Veitch & Sons, Chelsea.

Begonia Princess May.—This as well as the four succeeding are varieties of tuberous Begonias. The flowers in this case are large, fully double and pure white. The sepals are broad and arranged round one principal centre. The leaves are of moderate breadth, half cordate, deep olive green, and slightly lobed. The variety is certainly a gem amongst the white kinds.

Begonia Mrs. Coomber.—The leave of this variety are large, half cordate, and lobed. The flowers are double, and creamy in the centre when just opening with a rosy edge, but when fully expanded all the outer sepals at least change to a delicate flesh colour, still retaining the rosy margin which gives the variety a Picotee-edged appearance. This is most conspicuous on the outer and true sepals, which have a broad red margin.

Begonia Mrs. Regnart.—The leaves are broad, obliquely heart-shaped, toothed, and of a deep green hue. The flowers are large, double, and bright yellow, with broad, wavy sepals arranged round one principal centre. The plant is dwarf, being about 15 in. high.

Begonia Baroness Burdett Coutts.—The leaves of this are somewhat similar to those of the last, being large and of a rich dark green. The large double flowers are of a beautiful salmon-rose, and resemble those of a double Hollyhock owing to the much undulated or wavy character of the sepals. The plant is also of dwarf habit.

Begonia Princess Christian.—The foliage again is ample and of the same type as the last. The large, fully double and creamy-white flowers are faintly edged with blush. The broad, rounded sepals are arranged round one centre and are wavy, although not so decidedly so as in the case of Baroness Burdett Coutts.

Clivia Lady Wolverton.—The flowers of this fine variety are relatively short, and widely funnel-shaped or almost campanulate with revolute segments. The latter are very broad, overlapping, of great substance and of a deep orange except at the very base of the throat, which is pale yellow and white.

Streptocarpus The Pearl.—The flowers of this variety are white with a pale violet line extending from the base of the middle segment of the lower lip, down into the throat, with three short ones of the same hue on each side of it. Each scape bears from two to four flowers. The above five Begonias, the Clivia and the Streptocarpus were awarded Floricultural Certificates.

ANTHURIUM ATROSANGUINEUM.—The leaves of this garden hybrid are cordate, and of a deep shining green with somewhat paler veins. The spathe is also heart-shaped and of a dark, shining crimson-red. The stout, slightly curved spadix is pale yellow. A Botanical Certificate was awarded in this instance. All of the above eight were exhibited by Messrs. J. Laing & Sons, Forest Hill.

NARCISSUS JOHNSTONI QUEEN OF SPAIN.—The dwarf habit and the floriferous character of this pretty and graceful Daffodil should recommend it to all lovers of this class of plants. The obconical tube is of a bright yellow with oblong, reflexed segments, and the cylindrical trumpets are lemon-yellow.

NARCISSUS LEEDSII CATHERINE SPURRELL.—The segments of this variety are broad, oval and white. The cup-shaped crown is plaited and pale yellow, becoming paler with age.

N. MR. M. J. BERKELEY.—This is one of the trumpet or Ajax section with broadly oblong pale yellow segments. The trumpet is short, very wide, deeply lobed, plicate, widely spreading at the mouth and of a bright golden-yellow. On the whole it seems to be intermediate between N. maximus and N. obvallaris, having the size of the former and the short, stiff trumpet of the latter.

N. INCOMPARABILIS KING OF THE NETHERLANDS.—The segments of this variety are broadly ovate and pale sulphur yellow, the inner three being much smaller than the outer ones. In these respects it reminds us of some of the N. bicolor section. The widely campanulate, deep yellow corona with a golden rim brings us back to N. incomparabilis.

N. INCOMPARABILIS GLORIA MUNDI.—The segments of this fine sort are broadly oval, imbricate, and clear sulphur-yellow. The crown is very large, gradually widened from the base upward, yellow, and of a bright orange on the upper half.

N. BURBIDGEI ELLEN BARR.—In this we have one of the N. poeticus type, with broad, obovate, imbricate, pure white segments. The short cup is yellow with an orange rim. The half-dozen Daffodils here described were shown by Messrs. Barr & Son, Covent Garden, and received Floricultural Certificates.

MUSCARI PARADOXUM.—The leaves of this species are relatively very broad, grooved and green. The flowers are produced in an oblong-conical, spike-like raceme, and so densely crowded are they, especially before expansion, that they are angled or ridged, and furrowed by mutual compressure. They are of a dull, dark blue, more or less overlaid by a glaucous bloom.

ERYTHRONIUM SMITHII.—Each scape bears from two to four nodding flowers of large size, the segments of which are white, tinted with pale pink on the lower half, with a yellow blotch at the base of each, and tinted with green at the base externally. The leaves are very large, ovate, and blotched with bronzy-purple on the upper surface. Both of these hardy herbaceous plants were shown by Mr. T. S. Ware, and received Floricultural Certificates.

ROSE MARGARET DICKSON.—The leaves and leaflets of this hybrid perpetual are broad and of a rich dark green. The flowers are white, tinted with blush in the centre when expanding; and the broad, rounded petals are revolute at the edges.

ROSE GUSTAVE PIGNEAU.—The foliage is also good in this case. The flowers are large and of a bright red, fading to rose, but when fully expanded they are rather open in the centre. The broad petals are revolute at the edges. The variety is a hybrid perpetual. Both were shown by Messrs. Paul & Son, Cheshunt, and received Floricultural Certificates.

AURICULA PHYLLIS.—The leaves of this Alpine variety are obovate, entire and without meal. The flowers are large with a creamy-white eye forming a broad well-defined zone. The body colour is crimson-purple with a violet-purple edge.

AURICULA COUNTESS.—This also belongs to the Alpine section, and has large obovate leaves, indicating vigorous growth, and crenate at the margin. The eye is broad, lemon-yellow, and well defined. The body colour is crimson, narrow and surrounded by a rosy-purple edge. Both were shown by Mr. C. Turner, Slough, and received Floricultural Certificates.

AURICULA FANNY GLASS.—The leaves of this are obovate and crenate, but not mealy although belonging to the Show section. It is a self with a yellow eye, a white paste and a blackish-maroon body colour.

GARDENING MISCELLANY.

POLYPODIUM SUBAURICULATUM.

To those who are accustomed to see this fern with fronds about 2 ft. or 3 ft. in length, it is hardly creditable that they may be grown to 6 ft. or 8 ft.; yet such is the case at Sanderstead Court, Croydon, where there is a specimen grown under the name of Goniophlebium subauriculatum. It is an old established plant in a basket, with fronds about 8 ft. in length, and so numerous as to occupy a space of 6 ft. in diameter. Mr. Clinging is proud of his specimen, as well he might be, for seldom is it seen in such good condition and of such huge proportions. Some might complain of its dimensions, but ferns, like everything else, are most imposing when allowed to attain the size and vigour of which they are capable of attaining under favourable conditions.

ACORUS GRAMINEUS VARIEGATUS.

ALTHOUGH we have seen quantities of this grown under glass and broad patches of it out of doors, yet we do not remember having seen it in bloom. The British species (A. Calamus) only flowers occasionally when growing vigorously on the edges of ponds, lakes, or rivers. In the case of A. gramineus the flower stem is about the same height as the leaves and terminates in a slender, cylindrical, but tapering spadix nearly 2 in. in length, and buff yellow, studded over with the white stigmas. The spathe is linear, green, about 1½ in. long, and assumes a spreading direction, whereas in the case of A. Calamus it is erect, and, together with the flattened stem, simulates a leaf. From a horticultural point of view the rarity of flowering is no obvious loss, but the appearance of the spadix and spathe is a curiosity.

EUPHORBIA JAQUINIÆFLORA.

I NOTE the remarks of your correspondent—"Experience"—on this beautiful winter-flowering plant. I have a few planted out in a bed of soil, among Gardenias and trained up the rafters. They flowered beautifully last winter and were cut in very severely for the flowers, which we sent all to a distance. A second growth started and another crop of flowers has been cut. The spikes of this second supply were not so long as the first, but they have been exceedingly useful for variety among large consignments of cut flowers sent away bi-weekly.—*Stirling.*

GOOSEBERRY BUSHES AND THE SPARROWS

THE experiment of running cotton thread from tip to tip of the branches of Gooseberry bushes in order to protect the buds from the ravages of sparrows, as described in your issue for May 3rd, 1890, has been tried again this spring, and as before proved infallible, not a bud having been touched, although sparrows are about the garden in scores.—*W. Richardson & Co., North of England Horticultural Works, Darlington.*

SOLANUM JASMINOIDES.

THIS might well be described as S. semperflorens, for under suitable conditions it flowers all the year round. So nearly hardy is it that it may be grown on an open wall in the more favourable parts of the country. The leaves, of course, get destroyed in all but the mildest winters when so treated, but vigorous growth is made during summer, and after the flowers commence to open they keep on till frost destroys them in the autumn. The protection of a greenhouse, however, enables the plant to go on growing all through the winter, and when such is the case flowers are also produced, sparingly it is true, in the depth of winter; but as the light and heat increases in spring there is a profusion of bloom as may be seen in the long corridor at Falkland Park, South Norwood Hill. The pure white flowers are produced in large panicles that are very effective when distributed over the dark green foliage. The plant is easily increased from cuttings, and with such facilities for its increase, one should expect to see it pretty extensively employed, but such is not the case. Some plants may be grown upon walls in the open air, for their loss in a severe winter would be a matter of little importance compared with their floriferous character in summer. The leaves are small, and ovate, or frequently lobed.

GREENHOUSE RHODODENDRONS.

THERE is sometimes a difficulty in getting some of this fine class of Rhododendron to flower, but we have been always fairly successful by growing them along with Camellias, which are forced during the growing season and form their flower buds early. The Rhododendrons, even after being cut back severely, break out and make fair wood growth, and on most of the shoots a good bloom bud is formed. One certain cause of failure is encouraging gross unripened growth by potting into too large pots, and if they are done loosely the soil is aggravated. We sometimes get the plants to form their growth and flower buds in a pot-bound state, and then give a small shift afterwards, potting the plants firmly into peat, loam, and some sharp sand. We often treat early-flowering Azaleas and some other plants in this way with very satisfactory results.—*Stirling.*

ECCREMOCARPUS SCABER.

IN dry situations much might be made of this plant by growing it as a covering for arbours and trellis work, which it covers with its elegantly divided foliage during the summer, and later on becomes adorned with showey orange-scarlet, tubular flowers tipped with yellow. The leaves and stems die down annually in the open air leaving nothing but the tuberous rootstock in the ground. When grown in a cool well-lighted place, it keeps on growing and flowering all the year round, as it has done in the long corridor connecting the houses together at Falkland Park, South Norwood Hill. Here it is trained to wires along the back wall and gets no further artificial heat than that furnished by the hot-water pipes running under the slate paving, in which there are no openings for the escape of the heat.

ORCHID NOTES AND GLEANINGS.

The Orchid Growers Calendar.

WATERING ORCHIDS.—This is one of the most important items in the successful culture of these most popular plants. So much depends however on the condition of the plants, and the kind of structure they are grown in, as to when each individual plant should be watered, that no hard and fast lines can be laid down for the guidance of cultivators. Some Orchids require watering almost every day during summer, so moisture loving are they, especially Cypripediums and Odontoglossums, whilst with others, such as Cattleyas and Lælias, a thorough watering once a week would be sufficient.

We ourselves are generally guided more by the look or feel of the plant than by the appearance of the compost it is growing in, as, unless the plants are potted annually, the surface might appear dust dry, whilst a careful examination an inch below would reveal a different state of affairs. When watering we make sure to thoroughly wet the whole of the compost—to give Orchids water in driblets is one of the greatest mistakes that can possibly be made. The surface looks and is wet, but the roots that have gone down the inside of the pot and amongst the crocks are starved.

This perhaps is the reason why plants do so much better when grown in baskets, as to water these they have to be dipped in a tank or pail, consequently the roots that are amongst the crocks and clinging to the basket get the full benefit. We make it a practice with plants in pots that are not too large to plunge them in a pail up to the rim, say once a month, as they seem to require it. If one ounce of guano is dissolved in the water before dipping it will help the plants to perfect their leaves and bulbs.

CATTLEYA MENDELII is just beginning to make a good show and should be placed so as to show off its handsome flowers to advantage. Keep the atmosphere about them on the dry side, or the flowers will become spotted, at the same time they must not be allowed to get dry at the roots. Miltonia Vexillaria growing in the same house will just now be a blaze of bloom. This is a splendid Orchid of easy culture when once the right spot for it is found, and soon grows into specimens; they do not however do well for long when too large and should be broken up into smaller plants as soon as there are any signs of its going back and grown on

again. They are much benefited by manure water, the flowers coming of greater substance and richer in colour than when clear water alone is used.

GIVE PLENTY OF AIR on all favourable occasions, but through the bottom ventilators, as it would be unwise to open the top ventilators unless the weather is much warmer than at the time of writing. Syringe the walls, stages, and between the pots morning and afternoon, and should the houses dry up quickly water should be sprinkled over the paths when going round the last thing at night to counterbalance the harsh heat thrown off by the hot-water pipes, which will be kept in use in all the houses should these sharp frosts last.

TEMPERATURES.—East India house, 70° at night, with a rise of 10° with sun heat; Cattleya house, 65° at night, with a rise of 10° or 15° by sun heat; Cool house, 50° at night to 60° by day.—*C.*

The Military Habenaria.

THERE is a beautiful figure of Habenaria militaris in Lindenia, Pl. 318. The species was originally described by Reichenbach in 1878, under the name of H. pusilla; but as the description was made from a dried specimen, he was hardly in a position to do it justice until a living plant in bloom was sent him in 1886. This was collected in Cochin China, by M. Regnier, who is believed to have found it in the mountain regions of Tay-Ninh. The leaves are light green marbled with dark green markings. About half-a-dozen of these are of large size, covering the lower half of the stem, above which they are reduced to bracts. The top of the stem is surmounted by a close raceme of highly attractive flowers. The sepals and petals are green and certainly neither conspicuous nor attractive, but the lip is of a bright scarlet-red, deeply three-lobed, and the middle lobe again bifid. The spur is long as in our native species, particularly H. chlorantha, but curved forward underneath the flower, than which it is longer, and greenish-yellow. Reichenbach considered the original name hardly appropriate for such a fine thing and changed it to H. militaris. It requires a rather high temperature and moist atmosphere when making its growth.

Cattleya labiata.

THE recent importations of this have found their way into almost every collection of Orchids, and since they have been potted up the vigorous young buds that have been produced give evidence of a strong and healthy constitution. Unseasonable flowers have appeared in various establishments, but when once the plants have made growth in this country, they will flower at their accustomed time in autumn. Of two in flower at Falkland Park, South Norwood Hill, the residence of J. McMeekin, Esq., one of them is a really fine flower and richly coloured. The sepals are of a warm purple, while the broad, flat, elliptic, obtuse, spreading petals are some shades darker. The lip has an intensely purple and richly coloured lamina with a paler or lilac margin; the yellow blotch in the throat is not very pronounced, while the tube internally is purple, lined with yellow, branching veins. The pseudo-bulbs are remarkably short and stout, indeed so pronounced are they in this respect that one would hardly suspect the plant being a Cattleya at all until it comes into bloom. It may be stated that most if not all of the leaves are conspicuous by their absence; but evidence is not wanting that a vigorous growth will be developed presently.

Ornithocephalus grandiflorus.

THE sepals and petals of this gem amongst Orchids are white with a bright green spot at the base, while the lip is also white with a bright green crest. The structure of the flower is very peculiar, especially the rostellum and pedicel of the pollinia, which are long and recurved. The inflorescence consists of an arching raceme arising from amongst a tuft of oblong, obtuse, bright green leaves; and the latter are not unlike those of a species of Phalænopsis when the plant is not in bloom. The plant comes from the Organ Mountains in Southern Brazil, where it was originally discovered by Gardner and described by Lindley from dried specimens. It requires an intermediate temperature somewhat similar to that given to Sophronites grandiflorus, with plenty of water in the growing season, and to be suspended from the roof, as it is treated by Mr. C. J. Cowley, gardener to F. G. Tautz, Esq., Dibdin House, Ealing. Its usual flowering period is May and June in this country.

SOCIETIES.

Royal Botanic, *April 27th.*—The second spring exhibition of this society was held, as usual, in the corridor near the entrance and in the conservatory adjoining. The exhibits were chiefly those of a seasonable character, including Cinerarias, Primulas, Daffodils, hardy herbaceous plants generally, and various greenhouse subjects. The first prize for Azaleas was taken by Mr. H. Eason, gardener to B. Noakes, Esq., Hope Cottage, Highgate, with broadly conical and well flowered plants; Mr. R. Scott, gardener to Miss Foster, The Holme, Regent's Park, was second with specimens of various shapes. The first prize in an open class for Tuberous Begonias was taken by Messrs. J. Laing & Sons, Forest Hill, who had some fine samples, and were the only exhibitors of this class of plants. Messrs. J. James & Son, Woodside, Farnham Royal, took the first prize with their fine strain of Cinerarias; Mr. Douglas, gardener to Mrs. Whitbourn, Great Gearies, Ilford, was second. Messrs. Paul & Son, Cheshunt, had the finest Roses in pots and the best Amaryllis. The first award for twelve forced Dielytras was made to Mr. Scott, who also had the best lot of Spiræa japonica. The best Mignonette came from Mr. W. Morle, 283, Regent Street. The first prizes for a collection of hardy herbaceous plants and a collection of Alpines, were awarded to Messrs. Paul & Son; while Mr. Douglas had a similar award for Primula Sieboldi. In the open class for Auriculas, Mr. A. J. Sanders, gardener to Viscountess Chewton, Bookham Lodge, Cobham, took the first place; while Mr. C. Turner, the Royal Nurseries, Slough, was second, as he was likewise for Alpine Auriculas. Mr. Douglas had the best Alpine Auriculas.

In the miscellaneous class, Messrs. Barr & Son, Covent Garden, had a large and showy collection of Daffodils, including little groups of the finer sorts, such as Bicolor Horsefieldi, Queen of Spain, Sir Watkin, and King of the Netherlands. Messrs. J. Veitch & Sons, Chelsea, had a miscellaneous group of fine foliaged and flowering plants, receiving numerous certificates. A showy group of Cinerarias in many different colours was staged by Messrs. J. James & Son; while Messrs. J. Carter & Co., High Holborn, had a larger group of somewhat taller plants as well as a collection of Cacti; Mr. C. Turner showed a collection of Azaleas in 32-size pots; Messrs. Paul & Son had a group of Roses; Messrs. Laing & Sons showed a group of stove and greenhouse plants, including Palms and Caladiums, lightened up with Azaleas, Heaths, and other subjects. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, had an interesting collection of herbaceous plants, including Daffodils and hardy Primulas. Four boxes of Roses, including Marshal Niel and Niphetos, were shown by Mr. J Walker, Thame, Oxon.

Royal Horticultural, *May 3rd.*—The leading features of the meeting on Tuesday last were Primulas of various kinds, Daffodils, Ferns, and Roses, with a few Orchids. Amongst the latter was a small group of Dendrobium Phalænopsis Schroderiana amabilis and a fine piece of Cattleya Mendelii Quorndon House var., shown by W. E. B. Farnham, Esq. (gardener, Mr. G. Cook), Quorndon House, Loughborough. A small group was also shown by Messrs. F. Sander & Co., St. Albans, including Cattleya Victoria-regina, Cynorchis flexuosa, and Phaius Sanderiana. Lælia Latona and Cattleya Philo, both new hybrids, were shown by Messrs. J. Veitch & Sons, Chelsea. A fine panicle of a Cyrtopodium was exhibited by Mr. H. Denison, Orchid grower to T. A. Gledstanes, Esq., Manor House, Gunnersbury. Some cut blooms of Vanda teres and Lælia purpurata were exhibited by the Rev. E. Handley, 19, Royal Crescent, Bath. A flowering plant of Lælia Boothiana was exhibited by W. C. Walker, Esq. (gardener, Mr. G. Cragg), Percy Lodge, Winchmore Hill. Some Dendrobiums, including D. Phalænopsis Schroderiana, were exhibited by E. G. Wrigley, Esq. (gardener, Mr. C. Harris), Victoria House, Dunkinfield, Cheshire. Lælia grandis tenebrosa was shown by Messrs. Charlesworth, Shuttleworth & Co., Heaton, Bradford and Clapham, as well as a fine piece of Stanhopia insignis and Eriopsis biloba. A large collection of Daffodils was exhibited by Messrs. Barr & Son, Covent Garden, for which a Silver Banksian Medal was awarded. A small group of a form of the double garden Daffodil was shown by Mr. T. S. Ware, Hale Farm Nursery, Tottenham. A Silver Flora Medal was awarded to Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton, for a large group of well-grown Ferns, some Palms, and Ficus elastica variegata. A group of Roses was exhibited by Messrs. Wm. Paul & Son, Waltham Cross. Some baskets of splendidly flowered Polyantha Roses were shown by Messrs. H. Lane & Son, Berkhamstead. A form of Lilium longiflorum was shown by Messrs. J. Laing & Sons, Forest Hill. A spathe of Anthurium Rothschildianum maximum was shown by Sir Trevor Lawrence, Bart. (gardener, Mr. W. Bain), Burford Lodge, Dorking. Some Amaryllis, Asparagus medius, and Pandanus considens were shown by Messrs. B. S. Williams & Son, Upper Holloway. A seedling Carnation, under the name of Florence Emily Thoday, was exhibited by Mr. J. F. Thoday, Willingham, Cambs. A Silver Banksian Medal was awarded to S. F. Still, Esq. (gardener, Mr. J. Curtis), Wimbledon Park, for a collection of Auriculas, Amaryllis, and a species of Arisæma. Some blooms of Carnation Mrs. A. Hemsley were shown by Mr. H. B. May. A group of Primulas and Polyanthus in a great variety of colour was shown by Mr. R. Dean, Ranelagh Road, Ealing, and a Silver Banksian Medal was awarded.

Some prizes were offered by Messrs. Barr & Son for Daffodils, and the first award was made to H. J. Adams, Esq. (gardener, Mr. C. May), Roseneath, London Road, Enfield, who had a considerable number of varieties neatly arranged. The second award went to the Rev. G. P. Haydon, Hatfield Vicarage, Doncaster. H. Berkeley James, Esq. (gardener, Mr. J. Gibson), The Oaks, Carshalton, received the third award. The first prize for Alpine plants went to O. T. Hodges, Esq., Lachine, Chislehurst.

At a meeting of the Fruit and Vegetable Committee twelve varieties of vegetables were shown by Mr. Thomas, Royal Gardens, Frogmore, including Asparagus, Model Broccoli, Ellam's Early Cabbage, Sea Kale, Cottager's Kale, French Beans, La Grosse Sucré Strawberry, and others, all of excellent quality. The first prize for Strawberries was awarded to Mr. J. Gibson, gardener to H. B. James, Esq. A Cultural Commendation was awarded to Mr. W. Leach, Albury Park. A similar award was made to Mr. G. Wythes, gardener to the Duke of Northumberland, Syon House, Brentford, for a box of the Brown Turkey Fig. A like award was also made to Mr. Miller, gardener to Lord Foley, Ruxley Lodge, Esher, for a dish of Strawberries, and some Mushrooms He also showed Cucumbers and Apples.

WHAT TO DO IN THE GARDEN.

Basket Ferns.—Where a conservatory has to be kept gay, it is well to have a stock of Ferns of various kinds in baskets and which may be hung up or suspended from the roof. Suitable Maidenhair Ferns are Adiantum assimile, A. amabile, A. æmulum and A. caudatum. Then amongst Aspleniums are A. longissimum, A. flaccidum, and A. lucidum. Several of the Davallias are highly ornamental and suitable, including D. Tyermanni, D. elegans, D. bullata and others. Good-sized plants of Woodwardia orientalis and W. radicans are also very showy. The above will supply plants all the year round, so that when any kinds lose their fronds or become shabby they may be replaced by others, or they may be changed simply for the sake of variation.

Gleichenias.—Old plants of this class are generally allowed to get into a tangled mass of growth which not only looks bad, but acts detrimentally to the fronds themselves, causing the older parts to become brown and shabby, whereas if properly regulated all would be equally disposed to light and air. Where the young rhizomes are growing over the edges of the pots or pans they should be pegged on to the soil in places where there is the most space for the development of young fronds.

Coleus.—Plants of this class should now be grown on in a high temperature, in well-lighted positions near the glass. Ventilation should be freely given on all favourable occasions to keep the stems short jointed; the latter should also be pinched to cause a branching habit, whether the plants are to be flat-topped or pyramidal. Cuttings may also be struck now to get small plants suitable for conservatory work late in the season.

Deutzias.—Encourage the growth of Deutzias after they have finished flowering by putting them in a vinery or Peach-house at work, and supplying them with plenty of water. In the case of large plants that have thoroughly filled their pots with roots, frequent supplies of weak liquid manure would assist them greatly. They should not be overshaded, although they will stand a little of it without greatly injurious effects.

Tuberous Begonias.—Plants of these that were started early will now require abundant supplies of water, and those with long stems should be supplied with neat stakes, not only to support them but to prevent crowding and give them all an equal degree of light and air.

Vineries.—Grapes that are now colouring in the early houses should be kept warm by artificial means, so that a little ventilation may be given them by night, and more by day. What damping down may be done should be given early in the morning on bright days. Reduce the ventilation again early in the afternoon, keeping the fires going. Houses in which the Grapes are ripe should be kept cooler and drier. Young vines may now be planted in outside borders. The roots should be shaken out of the pots and spread out evenly within 6 in. of the surface, and should the soil be dry when planting give a good watering after mulching with fairly well rotted manure.

Peaches.—Where the fruits have commenced their second swelling in the early house, in order to colour them properly, every attention should be given to the proper exposure of the fruits to sunlight. Tie in all shoots not already so treated, and by means of short stakes or labels elevate the shoots bearing fruit, so that the latter will be on the upper side of the trees and fully exposed by being between the foliage and the glass instead of below the foliage.

Cabbages, Cauliflowers, &c.—Plantations of these that were sown in spring may now be made, so as to take advantage of the recent beneficial rains. They soon get established when put in moist soil and with the warm weather that may be expected presently. The autumn sown Cauliflower will all have been planted out by this time, but successional sowings made under glass in February should now be in fine condition for planting out.

Carrots and Parsnips.—If late Parsnips are required the final sowing may be made at once. Of course they cannot be expected to attain the size of those sown in March or early in April, but they will be useful to those who prefer young roots. What has been said of Parsnips will also apply in part to Carrots; but late sowings of Intermediate, Nantes and Long Red Surrey will come on more quickly than Parsnips.

Recently-transplanted Fruit Trees.—During dry weather, large trees that were transplanted last winter will require occasional copious waterings till the roots have taken a thorough hold of the soil. It is better to insure their thorough establishment in early summer, otherwise they may start into growth in autumn, when the shortening days and the increased amount of wet often starts newly-transplanted trees into fresh growth.

Obituary.

It is with sincere regret that we announce the death, on the 2nd inst., of Mr. Edward Cooper, who for exactly seventeen years was head gardener to the Rt. Hon. Joseph Chamberlain, M.P., at Highbury, Birmingham. He attended church on the previous evening with his daughter, and a brother gardener saw him as late as 10 o'clock on Sunday night, when he was in excellent spirits. Mrs. Cooper woke about 4 o'clock on Monday morning, and finding her husband was ill, sent immediately for the doctor, who saw that life was extinct, and that he could not possibly have lived ten minutes after being taken. The cause of death was cerebral apoplexy, with effusion of blood to the brain, caused by the rupture of a blood vessel. Mr. Cooper was greatly esteemed by a very large circle of friends, and great sympathy exists for Mrs. Cooper and family.

Mr. Alfred Watkins, nurseryman of Hockerill, Bishop Stortford, died on the 25th ult., after a comparatively short illness. Mr. Watkins was much respected in local horticultural circles, and we regret to say has left a widow and several children.

Questions and Answers.

Mushroom Beds in the Open-air.—*G. P.*: A Mushroom bed made in the open-air should take the form of a blunt backed ridge from 3ft. to 4ft. wide at the bottom and about 2½ ft. high in the centre, and as long as you like to make it. Collect your horse-droppings from the stable fairly free from long straw, until you have obtained a sufficient quantity. Keep them under a shed if possible, and turn them over every other day to promote fermentation until the rank heat has been got rid of. Then make up your bed, treading or beating it firm, and leave it until the temperature subsides to about 80°, when it may be spawned and soiled. From 2½ in. to 3 in. of soil will be ample, and it must be beaten firm and the surface made smooth with the back of a spade. Then cover the whole bed over to the depth of about 12 in. with straw or long litter from the stables, to throw off heavy rains and maintain an equable temperature in the bed.

Bedding Arrangement.—*Carpet Bedding*: You could utilise the plan you have sent with a little variation in detail. For instance, each of the four circles in the angles of the bed might be concave or lined off with a line and two pegs from the centre of the middle one. Then again these same circles might be run out to an angle or point into the angles of the bed with their sides running parallel with those of the bed, that is, on the two sides extending from the angles of the same. The central one might be made in the form of a diamond with concave sides, having its angles opposite the middle of the sides (not the angles) of the bed. In this case the inner sides of the circles might be left in a convex condition as they are at present and run into angles as above described in the corners of the bed. The four outer figures might be planted as you indicate, but they should have a line of Kleinia repens separating them from the general groundwork of Mentha.

Names of Plants.—*W. Y.*: 1, Dendrobium linguiforme; 2, Dendrobium miniatum; 3, Asplenium obtusatum lucidum.—*J. Gold*: 1, Narcissus incomparabilis aurantius plenus, or, Butter and Eggs; 2, N. incomparabilis albus plenus sulphureus, popularly known as Codlins and Cream, or Sulphur Phœnix: 3, N. incomparabilis Titan.—*S. K. G.*: 1, Cypripedium Argus; 2, Cypripedium barbatum Crossii, otherwise known in gardens as C. b. Warnerianum and C. b. biflorum; 3, Narcissus Pseudo-Narcissus plenissimus.—*W. G.*: 1, Dendrobium chrysotoxum; 2, Dendrobium Pierardi; 3, Euonymus japonicus foliis variegatis; 4, Euonymus japonicus latifolius-albus; 5, Hypolepis californica; 6, Selaginella Martensii robusta.—*W. Davis*: Acropera Loddigesii.

Daffodils Mixed.—*A. K. J.*: Put a peg to each of the different kinds and tie a parchment label or something of that kind to them, marking by name or number each sort so that you may know what you are doing when you come to lift them. We should not disturb them for the present, but tie the flower stems loosely to the pegs so that you may be able to trace the bulbs after the foliage has died down. This will allow the bulbs to ripen in the natural way and ensure their flowering well next year, whereas if you disturb them now it will greatly weaken them.

Propagating Sempervivum tabulæforme.—*A. F.*: You may do this now, but the best plan would have been to do it in the autumn, so that the young plants would have been formed by this time and ready to plant out in a bed of prepared soil consisting of plenty of sand and decayed leaves well worked into the natural soil. They cannot be expected to be of much service the first season, as the plants take some time in attaining size when propagated from leaves. The latter should be taken off in the autumn and thickly dibbled into light sandy soil in pots covered with a layer of silver sand. As the young plants are developed at the very base of the leaves the latter should be put very shallowly into the soil and stood in a light position on a shelf near the glass in a house or pit not kept at a lower temperature than 50° at least by night. As soon as the young plants have made a few leaves, pot them off singly into small pots with the old leaf still attached to them if not already decayed, for the latter will assist the young plants greatly in acquiring size and strength.

Lifting Rhododendrons.—*T. B.*: You may lift them now or later on with reasonable hope of success. The flowers will open all right provided the operation is properly performed. Take out a trench all round the plants so that you may be able to lift the plants with as good a ball as possible. If done in showery weather so much the better so long as the soil does not get puddled and muddy. A moist atmosphere prevents the roots from getting dried up between the time they are laid bare till finally planted and covered up, while at the same time it prevents loss of moisture from the leaves to some extent and promotes fresh growth.

Young plants on Asplenium bulbiferum.—*J. R. West*: If you have a bell-glass to put over the pot or pan in which you insert the plantlets you may remove them from the mother plant at once, because the bell-glass would keep the atmosphere about the plants moist until roots are formed. The dry atmosphere of your room would be prejudicial to their rooting, unless protected in this way when severed from the mother plant. You can, however, proceed in a different and equally successful way, by placing another pot or pan close by that containing the old plant, so that a whole frond with its complement of young plants may be layered or pegged down upon the surface so as to hold it in position till roots are developed. Use a compost consisting of peat and sand in equal proportions with plenty of sand. Press it down firmly and water frequently so as to encourage the development of roots. In this way you can get any number of useful little plants for the purposes you mention.

Communications Received.—W. D.—H. E. M.—S. P.—G. J. M.—Experience—C. L. G.—G. B.—G. A. S.—Daff—C.—R. S. M.—Eccles.

Trade Catalogues Received.

Wm. Clibran & Son, Oldfield Nurseries, Altrincham, Cheshire.—General Plant Catalogue.

London Seed Trade.

May 2nd, 1892.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a smaller demand for Clover and Ryegrass, at prices current last week. Mustard and Rape are enquired for at hardening rates. Bird seeds steady.

Covent Garden Market.

May 4th.

Fruit.—Average Wholesale Prices

	s. d.	s. d.		s. d.	s. d.
Apples... per ½-sieve	1 0	5 0	Strawberries per lb.	2 0	4 0
Canadian and Nova Scotian Apples per barrel	12 0	20 0	New Grapes per lb.	3 0	5 0
Tasmanian Apple per case...	8 0	15 0	Pine apples. —St. Michael's, each	2 6	6 0

Vegetables.—Average Retail Prices.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Asparagus.....bun.	2 0	5 0	Lettuces ...per dozen	1 6	2 0
Beans, French, per lb.	2 0	3 6	Mushrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers, Eng. doz.	3 0	6 0	Small salading, punnet	0 4	
Celery.....per bundle	2 6		Seakale ...per basket	1 6	2 0
Cucumbers .....each	0 6	1 0	Spinach, per strike ...	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	1 6	2 6
Herbs .....per bunch	0 2	0 6	Turnips ..... per bun.	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Acacia var., per doz.	12 0	18 0	Ferns, invar., per doz.	4 0	18 0
Arum Lilies, per doz.	6 0	9 0	Ferns, small, per 100	8 0	12 0
Azalea .....per doz.	18 0	42 0	Foliage Plants, doz.	12 0	60 0
—Mollis.....per doz.	24 0	36 0	Genista .....per doz.	6 0	10 0
Cyperus .....per doz.	4 0	12 0	Lily of the Valley, doz. pots	12 0	18 0
Cineraria ...per doz.	4 0	8 0	Marguerites, per doz.	6 0	12 0
Deutzia...per doz ...	6 0	9 0	Mignonette, per doz.	6 0	12 0
Dracæna term., doz.	24 0	36 0	Palms in variety, each	2 6	10 6
Dracæna viridis, doz.	9 0	18 0	Palms, Specimen ...	15 0	63 0
Echeveria Pyramidalis.....	9 0	18 0	Pelargoniums, per doz.	12 0	18 0
Erica Willmoriana per doz...	12 0	18 0	—scarlet .....per doz.	4 0	6 0
— various, per doz.	9 0	24 0	Primula Sinensis per doz.	4 0	6 0
Evergreens, invar. doz	6 0	24 0	Spiræas.....per doz.	8 0	12 0

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Acacia or Mimosa French per bunch	1 6	2 0	Marguerites, 12 bun.	2 0	4 0
Anemone various, French, doz. bun.	2 0	4 0	Mignonette... 12 bun.	3 0	6 0
Arum Lilies, 12 blms.	2 0	4 0	Narciss. var., Scilly, doz. bunches	2 0	4 0
Bouvardias, per bun.	0 6	1 0	Pelargoniums, 12 sps.	0 9	1 0
Bluebells, doz. bchs.	0 9	1 6	— scarlet.....12 bchs.	4 0	6 0
Carnations, 12 blooms	1 0	3 0	Primroses, doz. bchs.	0 6	1 0
Cowslips, doz. bchs.	1 0	1 6	Primula, double, bun.	0 9	1 0
Daffodils, double, doz. bunches	2 0	4 0	Primula single, doz. sprays	0 4	0 6
—Single, doz. bchs.	1 6	6 0	Pansies, doz. bchs ...	1 6	2 0
Eucharis ...per doz.	3 0	6 0	Polyanthus, doz. bchs.	2 0	4 0
Freezia .....doz. bun.	2 0	4 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Gardenias 12 blooms	2 0	4 0	Roses, yellow, dozen	2 0	6 0
Heliotropes, 12 sprays	0 6	1 0	— Red..... doz. blms.	2 6	4 0
Hyacinths, 12 bunches	3 0	4 0	— Saffrano...per doz.	1 6	2 6
Jonquils, doz. bnches	1 0	2 0	— Tea ..... per dozen	1 0	3 0
Lilac, French, per bunch	4 0	5 0	Spiræas...doz. bnchs	6 0	8 0
Lilium Harrisii, doz. blooms	2 6	4 0	Tuberoses, per doz	1 0	2 0
Liliums var., doz. blms.	1 6	3 0	Tulip, doz. bchs	2 0	6 0
Lily of the Valley, doz. bunches	6 0	10 0	Violets Dark, French, doz. bunches	1 6	2 0
Maidenhair Fern, 12 bs.	4 0	8 0	—English, doz. bchs.	1 0	1 6
			Wallflowers, doz. bunches	3 0	4 0

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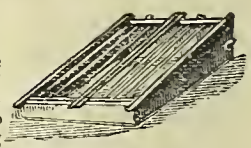

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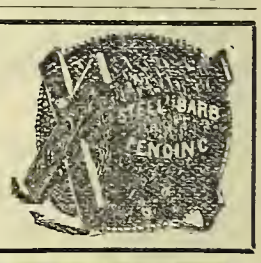

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And the two Sterling Novelties of 1891,

ROBERT MAHER & HARRY FREEMAN.

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BEGONIAS,

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August 26th, 1891.

DEAR SIR,
You will be glad to learn that the Begonias I had from you in the summer have turned out remarkably well. The pinks and terra-cotta are specially fine, some of the blooms measuring near 6 inches across. The flowers are of fine form, and good substance in the petals, plants dwarf in habit, and free flowering, foliage robust. I shall have much pleasure in recommending them to my friends.
Yours truly, H. C. PRINSEP,
Gardener to Viscountess Portman.

To Mr. H. J. JONES,
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PRIMULAS,

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Red, White, Scarlet, Rose, and Mixed.
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The flowers of this strain are exceedingly rich and varied in colour; beautifully spotted, and of remarkably fine form and substance.
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For Index to Contents see page 585.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

SATURDAY, May, 14.—Orchid Show at Brussels; opens at 9 a.m (closes on the 20th).
TUESDAY, May 17.—Gardeners' Orphan Fund Dinner at the Hotel Metropole. Royal Horticultural Society: Meeting of committees at 12 o'clock. Sale of Mr. A. E. Studd's Orchids at Protheroe & Morris' Rooms, 12.30 p.m.
WEDNESDAY, May 18.—Royal Botanical Society's First Summer Show. Sale of Stove Plants, Orchids, etc., at Protheroe & Morris' Rooms.
FRIDAY, May 20.—Sale of Imported Orchids, at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, MAY 14th, 1892.

METROPOLITAN HORTICULTURAL EXHIBITIONS.—We are much pleased to be able to state—after what seemed to be for a time a period of apparent stagnation—that the prospect of holding the proposed International Fruit Show on the Thames Embankment next September is now in a fair way to a successful issue. There can be no doubt whatever that the International Fruit Show in the City and the Series of great exhibitions to be held in connection with the International Horticultural Exhibition at Earl's Court, which was opened with such *eclat* on Saturday last, will be the chief horticultural events of the year; and the former derives special importance from the fact that just now no subject seems to possess greater interest in the estimation of gardeners than does fruit culture, and that the improvement and extension of hardy fruit culture has also to some extent become a "burning question" amongst all classes connected with the cultivation of the land.

The project has one grave difficulty to surmount, and that is the General Election, which most people assume will take place in June or July. Of course whilst an event

of that kind is proceeding—and one so exciting and absorbing—it will be difficult to keep public attention very closely to the fruit show, and the labours of the promoters may be to some extent obstructed; but if the Election takes place about midsummer no difficulties are likely to arise that cannot be surmounted, and we hope in the end to be able to record a grand success. A strong general committee is being formed from which an executive committee will be selected; the schedule will be issued immediately certain necessary business arrangements are completed, and most other administrative details are well advanced.

The Show of the Royal Horticultural Society in the Temple Gardens, only a fortnight hence, is the first great show of the season—other of course than the Royal Botanic Society's shows which now create no unusual interest. That is immediately followed by the Earl's Court series, and we shall see many very grand displays, without doubt, ere the fine show of the National Chrysanthemum Society closes the season.

A Gardeners' Gathering.—The great success which attended upon the dinner held a few years since in connection with the Vegetable Conference has inspired the suggestion that something of a similar nature should be much more frequently held, so as to give our provincial friends occasional opportunities to come together, and make the better acquaintance not merely of each other but of those generally with whom they may be in a trade sense identified. There will no doubt be a large gathering of gardeners in town for the Temple and Earl's Court Shows the week after next, but we fear it is too late to attempt the organisation of any such gathering then, especially as it follows so quickly upon the Gardeners' Orphan Fund Dinner, which will take place on the 17th. But if not done before there will be a splendid opportunity to carry out the suggestion on the occasion of the Great City Fruit Show in September next, to which gardeners will no doubt come from all parts of the kingdom, either as exhibitors or as visitors.

It may be that perhaps the Lord Mayor will give a Fruit Banquet in connection with that event, but then it will not be a gardeners' gathering. That is out of the question, especially with a recollection of the sharp insults heaped upon nurserymen and gardeners by the Lord Mayor who reigned when the Guildhall Show was held. Still further, a gathering of that kind would be far too stiff and formal to be at all acceptable to gardeners. Even the most liberally conducted of our dinners are somewhat starchy, stilted affairs at the best, and they need a lot of expanding to constitute them really social as well as sociable gatherings.

We get, as a rule, too long speeches, too often also very dry and uninteresting ones, and not enough of life and enthusiasm. We wish to see in association with gardeners' gatherings much more of freedom, of enjoyment, of relaxation, of sociability and of interest. We ought to have in gatherings of this sort such elements as should make our country friends full of anxiety to be present, and equally full of satisfaction when all is over that they attended. In their social relation with each other, Englishmen enjoy the reputation of being the most capable of wet blankets.

Mortality amongst Gardeners.—Though not called upon to endure dangers and excitements by flood and field, and presumably leading very prosaic lives, yet it is a fact that gardeners are in no way excluded from sharing in the accidents and dangers which ordinarily beset humanity, as the following distressing case will show. Richard Mitchell, a young man 29 years of age, married, and having two young children, was for four years gardener at Orleans House, Twickenham. He was a man of exceedingly pleasant and kindly disposition, much liked by all who knew him or served under him, and possessed capacities as a market fruit grower, although but a private gardener, such as but few older men could excel.

On Monday, April 25th, Mr. Mitchell was engaged in the work of tying down laterals in an early vinery, standing on a ladder which was placed against the glass partition dividing the house into two sections. Suddenly the ladder turned round, throwing him against the glass partition. He threw out his right arm to grasp something in the hope of breaking his fall, but unfortunately the arm went through the glass, which cut it terribly, causing a great flow of blood and rendering removal to the Cottage Hospital urgently necessary. Unconsciousness with partial delirium ensued, also probably blood poisoning. Later mortification set in, and the poor man died at midnight on the following Saturday.

Here was a case where nothing was less looked for or seemed less likely than death. How many similar cases occur, and as suddenly, of which we perhaps hear nothing. Yet the records of the Gardeners' Orphan Fund and of the great number of applications for assistance for orphan children made upon it, bear witness that mortality amongst gardeners from many causes is considerable. Poor Mitchell was not a contributor to the Gardeners' Orphan Fund—probably never dreamt that his little ones would be left orphans. How many other gardeners show the same indifference! May the publication of this sad case help to stimulate gardeners universally to become subscribers.

Giant Polyanthuses.—The very fine groups of border or large flowered Polyanthuses which Mr. Richard Dean exhibited at the last Drill Hall Meeting, and again at Earl's Court on Saturday, served admirably to show to those not yet conversant with this class of hardy spring flowers how beautiful they are and how worthy of cultivation. We have had some strains which may have possibly produced larger blooms, but then of course irregular in size and of indifferent quality.

Polyanthuses which are but giant reproductions of the poorest forms of a bastard, gold-laced section, are comparatively worthless and unattractive as compared with the richly coloured and finely formed flowers found in any good fancy strain. So popular are these Polyanthuses that market growers who have them tell us that they cannot get enough of plants. There is about them some certainty as to blooming time. They are not so much influenced by cold seasons as Pansies are for instance, and whilst we have this year seen Pansies flowering exceptionally late the beautiful Polyanthuses have been flowering during April with all their accustomed freedom. Those who have only poor flowered and indifferent looking strains should get rid of them as being libels on good forms.

They have only to invest a shilling or two for a packet of seed, raise perhaps a couple of hundred plants, dibble them out into the border and the thing is done, and they are endowed for two or three seasons with a fine show of bloom, of many colours. It does not require much of skill to sow seed either in the autumn or spring, to raise the plants in pans or shallow boxes, to dibble them out into the open ground, and that is about all.

Mrs. Mendell, the widow of Mr. Sam Mendell, formerly of Manley Hall, Manchester, died at Teston, near Maidstone, on the 3rd inst., aged 73 years.

The Collection of Orchids formed by Malcolm Cooke, Esq., Kingston Hill, has recently passed into the possession of Mr. Mackasick, Lyttel Hall, Redhill, Surrey. Mr. Cullimore continues in charge of them at their new home.

The Kenilworth Horticultural Society will hold its annual exhibition on Thursday, August 25th, some two months later than usual, owing to the Royal Agricultural Society's meeting taking place at Warwick, at the end of June.

Gardeners' Orphan Fund.—In our note respecting the Concert held at Kingston recently, in aid of this fund, the amount stated to have been realised and paid to Mr. Barron should have been eleven guineas, and not eleven pounds as inadvertently stated in our last.

The B. S. Williams' Memorial Trustees have decided to offer the following medals this year:—At the Temple Show of the Royal Horticultural Society, a large Williams' Memorial Silver Medal for the best group of Orchids exhibited by amateurs. At the International Horticultural Exhibition, Earl's Court, a Williams' Memorial Medal and £5 to the winner of first prize in class 23 at the show to be held on the 27th and 28th of May.

A New Rose.—We learn from *The American Florist* that Mr. May, the most famous of the Morris county, New Jersey, Rose growers, has a seedling hybrid Tea Rose, not yet named, which would appear to be a genuine acquisition. Its blooms are described as large, full petalled, and yet long in the bud, and a real pink in colour, equally removed from the yellow of Catherine Mermet, and the blue pink of La France. It appears to last well, to be strong in growth, and free flowering.

Royal Horticultural Society.—The next meeting of the society will take place at the Drill Hall, James Street, Victoria Street, Westminster, on Tuesday, May 17th, when prizes are offered for competition among amateurs who exhibit Indian and Hardy Azaleas and Pelargoniums (zonal excluded) In the afternoon, at 3 p.m., a paper on "Hardy Climbers and Creepers" will be contributed by Mr. W. C. Leach.

Sutton's Cricket Club.—We have been favoured with a copy of the match card of this Club for the present season, which bears silent but none the less eloquent testimony to the good relationship and kindly feeling which exists between the famous Reading seedsmen and their employés. We note that Mr. Martin J. Sutton is President and Captain; that the club is strong enough to support two teams, and that arrangements have been made to play thirty-five matches during the present season.

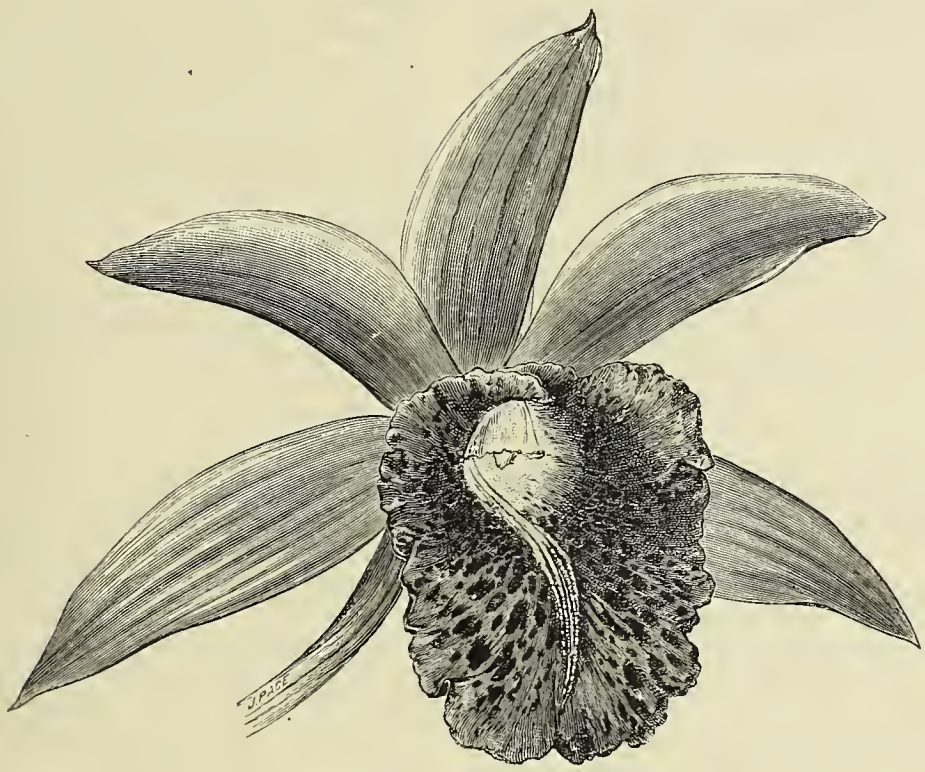
The Cork Flower Mission is an excellent institution which collects flowers and fruits from those who have and to spare, and distributes them among those who have not. It is entirely managed by ladies, and during last session distributed some 5,000 bunches of flowers among the various hospitals of the city. The Mission has a Committee Room at 35, Grand Parade, Cork, and here between the hours of 10 a.m. and 4 p m., every Saturday, from May 14th to October 29th, flowers will be received and distributed. We could wish that there were such a Mission in every large city.

The Death of Mr. Edward Cooper.—In our last week's issue we gave a notice of the death of this well-known gardener to the Rt. Hon. Joseph Chamberlain, M.P. An unusually large number of gardening and other personal friends attended the funeral, and Mr. Austin Chamberlain, M.P., as representing the family, attended; a mark of respect and sympathy most gratifying to the late Mr. Cooper's friends and old associates. A great lot of wreaths and other floral emblems were sent, amongst them a very beautiful one of Roses and Lily of the Valley, from the Rt. Hon. Joseph and Mrs. Chamberlain; a

beautiful cross of Lily of the Valley and Orchids, from Mr. Austin Chamberlain, M.P. and his brother Mr. Neville, who is at present in the Bahamas; another from the Misses Chamberlain; also from the Birmingham Chrysanthemum Society, the two Gardeners' Associations, from Messrs. Thomson, Pope, and Hewitt the nurserymen, and numerous other friends.

A Valuable Odontoglossum.—A fine healthy plant, with a spike of thirteen flowers, of one of the most beautiful spotted Odontoglots yet seen—Odontoglossum crispum Wrigleyanum—was sold by auction in Protheroe & Morris' Rooms on Friday of last week for 60 guineas, the purchaser being Mr. George Hardy, of Timperley. The only other known plant of the same variety was in the late Mr. E. G. Wrigley's collection at Howick House, and this, we believe, has passed into the possession of a Belgian amateur, M. Jules Hye.

The Scottish Auricula Society's Show, held at Dundee on the 6th inst. owing to the late spring, the frost and the snow, was not so extensive as heretofore but of good quality all round. By far the most successful exhibitor was Mr. J. D. Ker, Douglasfield, who took all the 1st prizes, nine in number. Mr. Ben. Simonite, Sheffield, was the judge, and the Rev. F. D. Horner was also present. Both of these noted growers exhibited a few choice show varieties.



PHAIUS COOKSONI.

The Waban Rose, an American sport from Catherine Mermet, which obtained a certificate at the meeting of the Floral Committee of the R.H.S., on the 3rd inst., does not (according to Miss Taplin in *The American Florist*) appear to be giving general satisfaction in the States this season. There has been a general complaint about the number of malformed flowers produced, but this may be due to temporary weakness of constitution, owing to excessive propagation. As seen at the Drill Hall, it is a pretty flower, soft rosy pink in colour, and promises to make a popular button-hole flower. One of the blooms exhibited had been worn in a gentleman's coat all the previous day, and was still perfectly fresh.

The Sunderland Gardeners' Association met on the 5th inst., when a paper was read by Mr. Falconbridge on the Cultivation of Figs, and a long discussion ensued, the following members taking part:—Messrs. Vosper, Whitley, Hall, Gilchrist, and Honey. Mr. Gilchrist exhibited a well-finished bunch of black Hamburgh Grapes, grown in 90 days. Mr. Whitley gave notice that on the 16th June he would read a paper on the Cultivation of Indian Azaleas. The subject for next meeting will be Mushroom Culture, by Mr. George Wrigglesworth, gardener, Thornhill. Arrangements have been made for Mr. Goaring, lecturer to the Hants County Council, to address the society in September next.

Great Flower Show in the Inner Temple Gardens.—On Tuesday and Wednesday, May 25th and 26th, by kind permission of the Treasurer and Masters of the Bench, the Royal Horticultural Society will hold its fifth great annual Flower Show in the gardens of the Inner Temple, London, situate close to the Temple, Blackfriars and Ludgate Hill Railway Stations, and overlooking the Thames Embankment. Last year over 10,000 people visited the exhibition, and it may be fairly assumed that the show this year will be in every respect at least as successful and interesting as those which have preceded it—if the weather be favourable. To enable gardeners (that is *bona fide* employés in a private garden, nursery, market garden, or seed establishment), who are not already fellows or associates of the society, to visit the show, the council have decided to allow them to purchase 2/6 tickets for 1/- each, admitting at 10 a.m. on Thursday, provided that applications for same, accompanied with stamped and directed envelope in addition to the price, be made to the secretary, 117, Victoria Street, S.W., prior to the opening of the show on May 25th. Arrangements have been made with Messrs. J. Lyons & Co., of "Olympia," to supply refreshments of all kinds, and music will be performed each day by the band of Her Majesty's Royal Horse Guards (Blues), under the able conductorship of Mr. Chas. Godfrey, R.A. Mus. A catalogue of the show will also be presented to every person visiting the exhibition.

PHAIUS COOKSONI.

HYBRID forms of Phaius are as yet by no means numerous, indeed that here mentioned is the only one between two species of Phaius, while there are a few others which have been raised between P. grandifolius and some of the forms of Calanthe, thus producing what are termed bigeneric hybrids. There are few cultivators of Orchids who can grow P. tuberculosus successfully for any length of time, but the hybrid under notice will not we presume present the same difficulty. It was raised from P. Wallichi as the seed parent, fecundated with pollen taken from the more difficult subject P. tuberculosus. Judging from the vigour of growth the seed parent has infused a strong constitution into it, while the pseuso-bulbs are similar to those of that species. The foliage is intermediate between the two, and slightly overtops the flower scapes. The latter bear a raceme of four to five or more flowers according to their strength. The sepals are lanceolate and pale rose, more or less tinted with yellowish-brown along the centre; the petals are simliar but smaller. The lip has been more influenced by the pollen parent than perhaps any other part of the flower, and is convolute at the base, forming a tube round the column, while the lamina is expanded into a wide-mouthed funnel, reflexed at the apex; the sides are beautifully undulated or crisped. The central line is yellow, and this extends downwards to the basal area, which is wholly of this colour; on each side of the central line the ground colour is rose, spotted with carmine-purple. The hybrid was raised by Norman C. Cookson, Esq., Wylam-on-Tyne, and a large plant of it, no doubt the original, was exhibited recently at a meeting of the Royal Horticultural Society, and from this our illustration was prepared.

THE TRADE OF COVENT GARDEN.

DURING the past quarter of a century an immense change has taken place in the trade of Covent Garden. Until about 1871 the provision of plants and flowers for the supply of London was practically left in the hands of some twenty or thirty growers for market and a few private firms who may then have been said to have had a monopoly of the decorating business. This small number of growers was then sufficient to meet the demands made upon them, which were not large. But about the time named a change came over the scene, the public taste for flowers and floral decorations increased by leaps and bounds, and the demand for plants and flowers increasing in a proportionate ratio, the resources of the growers had to be greatly extended in order to keep up the supply. This again brought about a demand for increased market accommodation to facilitate distribution.

The area at the disposal of the flower growers in Covent Garden was not only limited in extent, but wanting in such needful essentials as a roof above, and stands upon which to display the produce. To remedy this defect and make suitable provision for the growing trade, the late Duke of Bedford converted a certain piece of ground into a flower market. At first the arrangements were of a rude and temporary character, but subsequently a lofty market with a glass and wood roof supported on iron pillars, and conveniently placed stands, was provided. This market has from time to time been extended as its extension became necessary, and houses adjoining it became available, until the handsome and commodious building now in use was completed.

The old market of 1872 accommodated about 100 tenants or stand-holders, and there was plenty of room for casual traders and places for all comers. The present market contains 371 stands, and has about 230 tenants, besides making provision for a large number of casual stand-holders, who rent from day to day any vacant places, and who in the busy season are crowded out into the outer roadway, and on to the site of old Tavistock row, where an overflow market is carried on during the busy season.

Flowers and shrubs in pots formed at one time the staple trade, but such is the demand for cut bloom that this is now the most popular branch, as it is the most extensive—and it is still increasing. Plants in pots must be grown within such a radius as will admit of their being sent to market by van—a railway journey is out of the question; but it is not so with cut flowers. These come from Nice, Paris, Holland, the Channel Isles, the Scilly Isles, Ireland, and the remotest corners of Great Britain. The choicest hot-house flowers, the commonest wild ones, and the cultivated hardy flowers all find their way into Covent Garden in competition for public favour, Violets, Hyacinths and Daffodils from Italy, France, and Holland jostling with Primroses from sheltered nooks in our southern counties, and the magnificent hot-house-grown Roses, Carnations, &c., grown within the twelve mile radius. The early, open-air produce of the Scilly Isles competes with the same flower grown under glass near London.

The choicest and best flowers are in demand as offerings alike of affection and respect, and the extent to which this particular line has increased has during the last few years greatly stimulated the investment of capital in their production; businesses have been established which in the aggregate give employment to thousands of hands; and literally acres of glass have sprung up in certain favoured localities, such as would astonish the fathers of the present growers.

Flowering plants in pots are closely followed by foliage plants in popular esteem. In many houses flowers die quickly, but a bit of green gladdens the eye, especially if variegated leaved, or the plant is at all times of graceful habit. Palms take the lead of course, and they are now produced in enormous numbers, and sold at prices which even ten years ago would have been thought ruinous.

A large trade is done with boxes of bedding plants, generally one kind in a box, such as shrubby Calceolarias, Pelargoniums, Lobelia, Pinks, Lupins, Pansies, Mimulus, Creeping Jenny, Daisies, Nasturtiums, and other popular favourites, including Hollyhocks and Dahlias. Above all we must not forget to mention Chrysanthemums, the show of cut flowers of

which popnlar favourite on some market mornings is almost beyond belief.

To crown all in the way of provision for London's wants we must not omit the trade in moss and other sundries, quite a number of persons being employed in gathering and bringing to market hampers of moss, Ivy, and coloured foliage of various kinds.—*A.*

AZALEAS AT FALKLAND PARK.

Since the large and tempting prizes for huge specimens of Azaleas at exhibitions have lapsed, Azaleas as they used to be seen have disappeared, and those that are presented to the public gaze are but poor apologies for those formerly seen. Azaleas are still grown, and extensively so in some establishments, but they are relatively small and valued only for their utility as general decorative snbjects. A good collection, mostly of first-class varieties, have recently been got together at Falkland Park, South Norwood Hill, the residence of J. McMeekin, Esq., and which is now under the care of Mr. A. Wright. One of the large houses of the fine new range of glass-houses is devoted to their accommodation, both the central and the side stages being occupied with Azaleas, while the overflow is accommodated in the long corridor connecting the honses together. The Azaleas in qnestion have been obtained from the Continent, and comprise a large number of new and highly improved kinds, noticeable for the profnsion of bloom and the large size of the individual flowers.

Double Varieties.

One of the most popular of the double sorts at Falkland Park is evidently Madame Van der Cruyssen, judging from the number of specimens of it arranged in different parts of the honse. This is matter for no surprise considering its general excellence, the size of the flowers, and their beautiful, lively rose colour. The plants are simply a mass of bloom, almost completely concealing the foliage. Another useful sort is Punctulata, with rosy orange flowers streaked and flamed with cherry-red and reddish-carmine spots. The blooms are quite full and last a long time in perfect condition; the variety also flowers early. The vermillion-orange flowers of Phœbus are large and striking, the upper segments being bold and prominent. Empereur de Brésil must also be placed amongst the first class kinds on account of the large size, fine form and rose-coloured flowers, banded or striped with white. What is noticeable amongst these modern Azaleas is the liability of the striped or parti-coloured flowers to vary with different amounts of either colour. Sometimes whole flowers assume one colonr only, a circumstance pointing to the separation of two originally combined colours, whether we regard those as a reversion or otherwise. The single flowers are more prone to this than the donble kinds. We meet with similar cases amongst Dahlias, Carnations, Chrysanthemums, and other garden flowers which have been subjected to long cultivation, cross-breeding and selection.

A floriferous kind is Bernard Andreas alba, having fully double white flowers. Deutsche Perle cannot be omitted from a list of even the best kinds, as it is well represented here, although it may be stated that it is now out of bloom, being naturally an early flowering kind. It has never been over-rated whatever has been said of it as a useful decorative subject or for cut bloom. Docteur Meyger is also a very perfect flower, produced in great abundance, and the plant is a vigorous grower; the flowers are rose coloured. Like Dentsche Perle, Rhea is also a double white variety, beautifully imbricated and useful for forcing. The varieties with Vervæne attached to them are all good, and Ed. Vervæne is no exception, having medium-sized claret flowers of fine form and useful for forcing. Roi de Hollande has orange flowers of large size and richly spotted with saffron.

Single Varieties.

One of the most charming of the single white kinds is Baronne de Vrière, with huge snow-white flowers, broad, rounded segments beautifully undulated, and reminding us of some of the white sports from Pelargonium Madame Thibaut. Sometimes the flowers have a few red stripes and are spotted with sulphur. Apollon is another grand kind with huge white flowers of fine shape, and sometimes though seldom striped with bronzy carmine. Ceres, on the other hand, has milk-white flowers, spotted with pale rose and produced in great abundance. A beantiful soft-coloured flower is that of Madame de Grevé, of a lively flesh colour edged with white, and having a pale crimson spot in the centre. One of the most popular at Falkland Park is Madame Camille Van Langenhove, on account of its extreme floriferousness. The blooms, as might be expected, are only of medium size, and white with salmon red lines and some deep green spots. The foliage is completely hidden by the bloom. An old favourite at exhibitions is Sigismund Rucker, having lilac-rose flowers netted and edged with white as well as having a large bright saffron blotch. Equally prominent amongst dark kinds is Flambeau, with intense crimson-red flowers. Souvenir de Arthur Veitch is a large salmon-crimson, and strong growing kind. One of good shape is Versicolor, with white flowers splashed with rose and streaked green and yellow. Altogether the house presents a very attractive appearance at the present time, and it may be stated that all of the plants are untrained

FORCING STRAWBERRIES.

It is quite remarkable to notice the diverse methods of dealing with pot Strawberries for forcing found in different places, and equally is it interesting to note the favour shown special sorts. A dozen growers wonld seem to have as many different fancies with regard to culture and methods of forcing, and all will favour different sorts. No wonder that in such case the tyro in Strawberry forcing finds it difficnlt to determine which method of cnlture in forcing is best and which sorts are best. It is indeed difficult to understand why one sort should force so well in one garden, and do so indifferently in another. There seem to be but two appreciable canses for this divergence: one in soils, which may and indeed do appreciably affect Strawberries; the other in the method of treatment, for it would seem as if some sorts doing well under one conrse of treatment failed lamentably under another course. And yet there are growers so strangely constituted or else so happily placed as to laugh at this discrepancy and declare that it is all nonsense, that with them one sort does as well as another, and so on. Perhaps it is so.

Very recently I was in a garden where 11,000 plants are annually forced. That is an enormous quantity, and as I saw what was nearly the last of the bulk, for several thousands had been already forced, I was justified in assuming that the plants were all equally well done, and that the sample was equally good. The garden, although the property of a wealthy man, was really devoted to fruit forcing for market, and, judging by appearances, was very likely a profitable speculation. Peaches, Nectarines, Grapes, and Strawberries were all first class; could hardly have been better anywhere. Now the Strawberry plants were not forced in houses or on shelves or stages, as is the rule, but were all in long low ranges of brick frames, each having assistance in heat from hot-water pipes. These ranges, four or five in number, were each over 100 ft. long and 7 ft. wide. They were first filled with a bed of leaves and stable-manure well mixed, into which the Strawberry plants in pots were plunged.

There was a little artificial warmth generated by the bed at first, but it was too shallow to be of long duration. The bed served to furnish moisture for the pots, and some ammonia for the roots and foliage. The sorts grown were only President, Sir J. Paxton, and Sir C. Napier, the most favoured of all market varieties; and it was evident that whilst many growers of a few hundreds of plants hold that it was useless to look for fruit early from other than Héricart de Thury, Keen's seedling, Le Gros Sucree, or Noble, here was a splendid early crop being obtained from President and Sir Joseph Paxton, Sir C. Napier coming on for the latest successional crop.

All the plants, and there were literally thousands fruiting at once, were doing wonderfully well, carrying large crops of very fine rich-coloured frnits, the which fetched the best prices in the markets. Nothing could be simpler, nothing more satisfactory; and it was evident that given ample frame room, and the plants, it would have been just as easy to grow 100,000 as the number named. Now as to runners, "we pull out," said the grower, "strong tall runners in trebles in September, pinch out all bloom in the spring, and leave the plants to produce runners only, which they do early, hence we get plenty of fine young plants; we don't overpot, and grow in rotted stiff loam. The plants are kept during the winter in cold Peach-houses, and thns suffer nothing from frosts, snowfalls, or heavy rains.—*J. D.*

INTERNATIONAL HORTICULTURAL EXHIBITION.

Under meteorological conditions of the most delightful character, as compared with the chilling weather of the previous week, the great show at Earl's Court, which is to remain open until October next, was opened on Saturday last by H.R.H. the Duke of Connaught and Strathearn, and we are happy to say that, considering the exceedingly short time which Mr. Milner and his staff had to get all things into working order, the display as a whole was singularly complete, and the *tout ensemble* bright, gay, and exhilarating. In the party which made a tour of the Exhibition with the Duke were the Bishop of London and Mrs. Temple, Sir Charles Mills, Lord Rowton, Baron de Worms, M.P., Lord Ashbourne, Sir Charles Tupper, Lord Basing, Lord Balfour of Burleigh, the Lord Advocate, Lord and Lady Kilmorey, Lord Manners, Mr. Henniker Heaton, M.P., Sir J. Hay, and Admiral Mayne, M.P.—Before declaring the exhibition open Mr. Milner read an address to His Royal Highness, who was understood to say in reply (for nothing could be heard beyond a few feet from the dais, sweldom having run riot through the usual barriers having been dispensed with) that he congratnlated the promoters on the delightful improvement in the weather, and the beautiful display of horticultnral products. Some two hundred and fifty persons subsequently sat down to lnncheon in the French restaurant in the Western Gardens, and the toast, "Snccess to the International Horticultnral Exhibition," was proposed by the Bishop of London, who spoke of the delights and educational uses of horticulture, especially calling attention to the admirable series of exhibitions designed for successive months from May to October. To this Mr. Milner, the chairman, briefly responded.

The visitor to the Exhibition, if he takes his stand at the north end of the main building entrance, and looking along the central avenne, gets the best view of the whole from any one point. The roof of the building is hung with wreaths of greenery from one end to the other (artificial of course), intermixed with Roses in some places.

Sub-tropical Garden.

The garden itself consists of large and variously shaped beds on undulating mounds with the interspaces of green sward, and intersected with broad gravel walks to which the public are confined. This will no doubt constitute the favourite promenade of the public during dull and wet weather. The beds are largely planted with Palms, some of which are of great size, and they are intermixed with other fine foliaged plants and flowering subjects round the sides, the latter of which will be replaced from time to time with plants in season. Messrs. B. S. Williams & Son, Upper Holloway, are the largest planters in this area. One large bed planted by the firm contains some fine specimens of Seaforthia elegans, Phœnix, Rhapis flabelliformis 8 ft. high and consisting of seventeen stems, Cordyline australis 12 ft. high, intermixed with Rhododendrons, Azaleas, aud Lilies. Another bed consists of Palms, Dracænas, Crotons, and Araucarias; while a long undulating border, running along each side of the building for the whole length of the garden, is planted with Conifers, Palms, and a mixed assemblage of other plants. On one side is a piece of rockwork and a dripping well. An interesting little bed is that filled with flowering Clivias and Azalea mollis grown as standards.

Messrs. J. Laing & Sons, of Forest Hill, also plant a number of large beds, including one near the entrance containing an Araucaria 15 ft. high, Palms, Azaleas, Lilies, &c. Two other beds are filled with various stove and greenhouse plants, and they have several small groups of greenhonse plants in another part of the building. Messrs. Wm. Cutbnsh & Son, Highgate, fill two large curved figures with Palms, Dracænas, Heaths, Azaleas, &c. Mr. Geo. Phippen, of Reading, occnpies two large beds, one of which represents the prince's feather, filled with Palms, Cycads, Crotons, Pandanus, and flowering plants. An arrow-shaped bed is filled with Azalea mollis. An oval bed of the last-named in great variety is filled by M. Coster, Boskoop, Holland. A large irregularly shaped bed filled by Mr. C. Turner, Slongh, contains a fine specimen of Chamærops excelsa, 10 ft. high, and some large plants of Phœnix. He also has two other beds filled with a variety of plants and edged with pot plants of Roses in bloom, the pots being plunged in the soil.

PRELIMINARY EXHIBITION.

A large rectangular space at the south end of the main building, but distinct from it, was occupied with exhibits from various nurserymen, forming a sort of preliminary exhibition, but not a competitive one. Most or all of the exhibitors were awarded Silver Medals. Messrs. J. Laing & Sons occupied two tables with Palms, Dracænas, Orchids, and other stove and greenhouse plants. A third table was furnished with Tulips, Daffodils, Tuberous Begonias, and other cut flowers of various hardy herbaceous plants. Messrs. B. S. Williams & Son had a table one side of which was occupied with Amaryllis and Dracænas, and the other with Orchids including Cypripedium Morganiæ, Oncidium sarcodes and others. At one side of this area Messrs. H. Low & Co., Clapton, had a fine display of Erica coccinnia minor, and other Heaths as well as Azaleas and New Holland plants.

A small glass plant case was filled by Messrs. B. S. Williams & Son with carnivorous plants; but they are to build and fill a house with these subjects always interesting to the British public. Messrs. H. Cannell & Son, Swanley, occupied a table with grotesque Cacti, lighted up with cut flowers of zonal, show, and fancy Pelargoniums, and Tuberous Begonias. Messrs. Barr & Son, Convent Garden, occupied two sides of a quadrangular space with a fine display of Daffodils, Tulips, and Anemones. Amongst the former were groups of Narcissus Burbidgei, Little Dirk, Emperor, Sir Watkin, Barri conspicuus, and Mrs. Langtry. Mr. T. S. Ware, Tottenham, had a large and showy table of herbaceous plants, including Iris susiana, Saxifraga pyramidalis, Primula Sieboldi in great variety, Daffodils, and others. A table of Daffodils—including Emperor, Sulphur and Orange Phœnix in quantity, Crown Imperial and Irises—was set up by Messrs. William Cutbush & Son.

A large square space on the floor was occupied by Messrs. E. D. Shuttleworth & Co., Albert Nursery, Peckham Rye, with large Kentias and other Palms, as well as Cycas revoluta, Pandanus, Dracænas, etc. Near by this, Messrs. J. James & Son, Woodside, Farnham Royal, had a table of their celebrated strain of Cinerarias, in many shades of colour. Mr. R. Dean, Ranelagh Road, Ealing, had a showy exhibit of Primulas and Polyanthus, the latter especially being very floriferous. Leopold de Rothschild, Esq. (gardener, Mr. W. Jennings, Ascott, Leighton Buzzard) was the only amateur represented in the show; and his exhibit of a group of the giant Souvenir de la Malmaison Carnation, with the pink variety, certainly did the gardener credit. Some of the blooms measured 4½ in. and 5 in. across, while the fragrance was all that could be desired in a Carnation. Mr. Chas. Turner had a table of show and Alpine Auriculas, the latter being specially attractive. He also had a table of small but well flowered greenhouse Azaleas. Messrs. J. Peed & Sons, Roupell Park Nursery, Norwood Road, had an exhibit consisting of Palms, Dracænas, Heaths, Crotons, Ferns, Orchids, and other subjects arranged in their best style.

A large rectangular area on one side of the building was occupied by Messrs. H. Lane & Son, Berkhamstead, with Rhododendrons in pots, Lilies, and Roses. Near by this was a large group of show and regal Pelargoniums in 60 and 48-size pots, by Messrs. J. & J. Hayes, Edmonton. In another rectangular area was a large group of standard and bush Roses in pots on a groundwork of Maidenhair Fern, and a smaller group in the opposite corner shown by Messrs. Wm. Paul & Son, Waltham Cross. A fine group of Palms, large specimens of Eurya latifolia variegata, Rhododendrons, Azaleas, Spiræas, etc., was exhibited by Messrs. Chas. Lee & Son, Royal Vineyard Nurseries, Hammersmith. A large group of pot Roses, with Palms behind and Maidenhair Fern in front, was arranged by Mr. Wm. Rumsey, Joynings Nurseries, Waltham Cross. Mr. George Phippen had two small but tastefully decorated tables of cut flowers, bouquets, wreaths, baskets, and other devices. Some prizes were offered for designs of a typical estate of 100 acres, but there was no time for the adjudication of the awards on the opening day, so that only one design was then exhibited, namely, that of Messrs. Reid & Bornemann, Trewsbury Road, Sydenham, whose design seems well planned and executed. A separate plan shows the undulations of the ground, and its elevation in different parts above water and sea level.

OUTDOOR GARDENS.

There is the usual amonnt of grass lawns in the open air, with large undulating beds and borders of shrubbery. There is a group of golden Yews in various forms, standard and pyramidal, by Mr. A. Waterer, Knapp Hill, Surrey. Messrs. Wm. Paul & Son have a long, undulating bed of Rhododendron ponticum. Messrs. J. Cheal & Sons, Crawley, Sussex, have a small plantation of fruit trees showing the methods of pruning and training horizontal and upright cordons, bushes, and standards. We should have liked to see this practical illustration of fruit culture on a much more extended scale. There is a permanent exhibition of this kind in connection with the *Jardin de Luxembourg* at Paris. Two large areas are planted by Messrs. Wm. Cutbush & Son with Conifers and a large collection of Hollies. Messrs. Lane & Son have a bed of Rhododendrons and another of Yews in various forms, including dwarf golden Yews for bedding purposes. An arrow-shaped bed has been planted by Messrs. Laing & Sons with Cordyline australis, American Aloes, and succulent plants. Messrs. Chas. Lee & Son have a bed of Prunus Pissardi, Japan Maples, Euonymus, Ivies, and similar subjects.

The specially designed gardens will be objects of some interest to visitors. One of the most novel and interesting is the Egyptian garden planted with Musas, specimens of Phœnix representing the Date Palm, Bamboos, Acacias, Oleanders, and pictures behind representing the temple in which the Pharaohs worshipped and other Egyptian scenery. There is a glimpse of the Nile having its sloping banks planted with tall growing grasses. Besides this there is an Indian Tea garden planted with some 306 young Tea plants. Close by is the Japanese garden with a pond in front containing some water plants, and the surrounding ground occupied with Japanese Conifers. Then there is a flower market, a Tudor mansion and garden, a floral maze, a Roman garden, an Italian garden, a Jacobean garden, and a Victorian garden, all more or less in a forward state, but by no means completed on the opening day of the exhibition. Between the theatre and the West Kensington entrance is a picture or painting representing the long walk in Windsor forest leading up to the Castle. As a painting its merits may not stand particularly high, but as a piece of clever deception or optical delusion it is certainly remarkable. Viewed from different points of view, a casual observer would imagine that there are at least three walks or drives to be seen, while the picture seems to change in character as one is walking past but is keeping an eye upon it. Mr. Halley, the scenic artist, is the author of the picture which is placed here to hide chimney pots and other objects behind and not in character with the garden scenes at Earl's Court.

The display of horticultural implements and appliances is both extensive and instructive, but many of the stands were not wholly completed, and the demands on our space forbid notice of them this week. In succeeding numbers we hope to note all that is worthy of comment.

THE VEGETABLE GARDEN.

CHOU DE BURGHLEY.

THE hardiness of this vegetable is getting more and more recognised by those who have been induced to give it a trial for winter use. When the heads have been cut and the old stems left in the ground, the latter throw up three or four buds which develop into small and useful heads about the time when young Cabbages are looked for. When it first attains a usable state it is a Cabbage pure and simple. but sprouts are ultimately developed from the axils of the leaves forming the head, and, for all practical purposes, these may be considered Broccoli. The leaves of the head require a considerable amount of boiling, but after that they are very tender and of excellent flavour. A plantation of it at Dibdin House, Ealing, has had all the primary heads cut, but others are now being developed and some of them are fit for cutting. Cabbages proper in the neighbourhood of London do not, as a rule, keep well in winter, but if the necessity for them is obviated by growing Chou de Burghley a gain will have been made by those who are required to supply a varied assortment of green vegetables in winter and spring, till a supply from the autumn planted kinds can be obtained.—*F.*

THE HERBACEOUS BORDER.

Choice Plants in Flower.

DORONICUM PLANTAGINEUM.—Of the two species of Doronicum which are occasionally found wild in Britain, that here named is certainly the finer and more ornamental for border culture. It is certainly a stronger grower than most of the other species in cultivation, but its long bright yellow rays and orange disc are very effective in the early part of the summer, when flowering plants in a cold season like the present are by no means plentiful. If transplanted and broken up once a year and planted in rich soil, new growth continues to be made all through the summer, and a succession of flowers kept up till the accession of frost. There is a variety named D. p. excelsum that attains a height of 5 ft., but the influence of rich, moist soil seems to account in a great measure for this vigour.

CARDAMINE PRATENSIS FLORE PLENO.—The flowering period of this plant is limited to spring or early summer, but it is extremely pretty during that time. The typical form is a native of moist meadows or marshy places, so that when brought under cultivation a cool, moist spot should be selected for it, not necessarily boggy, but such as will be retentive of a fair amount of moisture during the summer months. In soil of this nature a fair amount of growth during the season is possible, and a fine display of bloom may be expected in the following spring. The same, of course, applies to the double variety under notice, and which is the most ornamental for garden purposes. The flowers are perfectly double, of a beautiful lilac and freely produced.

HELONIAS BULLATA.—Those who can command a cool bed of peaty soil would find in this Liliaceous plant a neat, slow growing, pretty, and interesting subject. The oblong-lanceolate leaves are evergreen, somewhat leathery, and form a dense tuft, lying pretty close to the ground. From amongst these the flower scapes arise in May, and stand clear above the foliage, bearing a dense, ovate spike of rosy purple flowers with the violet anthers extending beyond them. Although the individual blooms are small, they are effective and conspicuous enough in the mass.

RANUNCULUS SPECIOSUS.—This name is applied to a dwarf double flowered Buttercup, with broad rounded, deeply three-lobed leaves, and golden yellow, double flowers. Altogether the plant is dwarfer and more compact than the double form of R. acris, so widely distributed in old-fashioned gardens. The thick consistency of the foliage gives the plant a robust appearance notwithstanding its dwarf habit; and the plant, being perfectly hardy, may be grown in the front line of the herbaceous border or upon rockwork.

SAXIFRAGA CORDIFOLIA PURPUREA.—One of the hardiest and most vigorous of the Saxifrages belonging to the Megasea section, is that here named. The huge orbicular leaves made during the summer partly die away, that is, the older of them, so that when the plant flowers in spring and early summer, the panicle is well thrown above the foliage, and is thereby seen to best advantage. Some clumps should be planted at intervals in the border, both for effect in winter and also when in bloom. The flowers are of a much darker purple than in the type. The massive appearance of the foliage makes the plant highly suitable for planting in masses along the front of shrubbery.

EPIMEDIUM ALPINUM RUBRUM.—The leaves of this beautiful spring-flowering plant are twice or three times ternately divided with ovate or heart-shaped leaflets. The flower stem bears as a rule only one leaf (the rest springing from the rootstock), and terminates in a raceme of curiously formed, deep red flowers. The young foliage is also more or less tinted with red, and adds considerably to the attractiveness of the flowers. The plant will grow in almost any friable, good garden soil, but where the latter is heavy or otherwise bad it may be improved by a liberal use of peat.

TULIPA OSTROWSKIANA.—The flowers of this Tulip bear a considerable resemblance to those of T. Oculus-solis, but are of a brighter red, approaching almost to scarlet. The segments are ovate, acuminate, and have a black blotch at the base, inside, surrounded by a yellow line. The leaves are long, linear-lanceolate, and glaucous. A clump of it in the border is very effective; and if the bulbs are planted in the spaces between the lines of the more durable occupants, no blanks are left when the foliage of the Tulip dies down.

THE FROST AND THE FRUIT BLOOM.

Audley End, Saffron Walden, Essex.

THROUGHOUT the eastern counties I fear the late severe frosts have had disastrous consequences. Here we have registered frost nearly every morning until the last two. On April 30th we had 12°, and on May 1st 10° of frost. Our Peaches and Nectarines are, I think, saved, as they were well protected, but where there was no such protection the crops must be lost. Cherries, (with the exception of Morellos, which are not out), Pears and Plums, showed remarkably well, particularly on the walls, but have been reduced to half a crop; while Gooseberries and Currants, which also showed well, are reduced to a fourth. Owing to the cold north-east winds nothing can make growth, and as soon as the Asparagus made its appearance through the ground it has been killed by frost. I had more outside a fortnight ago than I have now.—*James Vert, Audley End Gardens, Saffron Walden, May 4.*

DURING the month of April our thermometer, standing 5 ft. above the ground, registered on twenty-one frosty nights a total of 127° of frost, and on three other nights the temperature went down to 30°; on Saturday morning last we had 12° of frost. There was a fine show of flowers on Peaches, but they are much damaged. The Apple blossoms are not yet open. Gooseberries and Currants had escaped so far, but I hardly know how this frost will affect them. —*A. S. Butcher, The Hamlet, Bures, Essex.*

Kent.

WE had 10° of frost this morning, which has played sad havoc with the bloom.—*F. Bridger, Penshurst Place, May 7th.*

Dunkeld, Perthshire.

THE spring has been unusually severe on fruit trees in this district, as few nights are without frost even now. Apricots are very much destroyed, more so than they have been for twenty years. The foliage is suffering much, while the young fruit is killed after attaining the size of Peas. Peaches are much hardier here, and promised well for a while, but now I think I may only calculate on half a crop of most kinds, except White Silver and Early Albert; they are exceedingly hardy. Early Plums have suffered much, yet I think a fair crop may be looked for. Cherries look well; however, it is too early to say definitely what sort of crop these will be. Pears and Apples on walls are in flower; those in open ground are not yet in flower. Small fruits of bush kinds are looking fairly well.—*P. W. Fairgrieve, Dunkeld Gardens, May 9th.*

Gordon Castle, Banffshire.

THE effect of the long spell of cold weather does not seem to have done much damage to the fruit blossoms in this neighbourhood as yet, but the wind still continues in the north, with slight frosts at night; and unless we have a change to more genial weather I am afraid the Plums, Pears, and Cherries will stand a poor chance of setting. The Apricots have been very irregular in flowering, and on most of the trees you can find fruit as large as blackbirds' eggs down to the flower buds not expanded. Peaches have set better, and all the protection we give them and the Apricots is a double herring net with a few Spruce branches strung along the top of the walls, and it is seldom we fail to secure a crop of both fruits. We had only one week in March without frost; and the aggregate for the month amounted to 142°, the lowest reading being 17° on three different occasions.—*C. Webster, Gordon Castle Gardens, May 9th, 1892.*

Gunton Park, Norfolk.

VEGETATION fortunately is very backward on the seaboard of Norfolk. Plums and Cherries (May 9th) are only just beginning to open their blooms. Pears have set on south walls and have escaped the late frosts. Pears on other aspects are not forward enough to have taken harm. The severe wind and frosts the first week in March took all the foliage off Strawberry plants and did more damage than the previous hard frosts of winter, and there has been quite a dearth of vegetables from the same cause. On the whole, through the absence of snow, the winter and spring of 1892 has proved much more damaging to vegetation than the harder frosts of 1890 and 1891. The severest frosts registered here on two occasions was 18° although I heard of 24° a few miles further inland. I never remember the work of the garden and farm being so backward at this date. It was one continuous winter up to the 29th of March.—*Wm. Allan, Gunton Park.*

Hutton Hall, Yorkshire.

THE long continued cold, stormy weather we experienced in this part of Yorkshire during part of March and the greater of April has had the effect of seriously retarding all kinds of hardy fruits. Apricots where not well protected suffered a good deal through the hard frosts on April 13th and five following days. This district is too cold for successful out-of-door Peach culture, and very few are grown. Cherries, Plums, and Pears, with the exception of a few early blossoms which were open during the severe weather, are safe so far. Apples and all bush fruits are safe and promise good crops.—*J. McIndoe, The Gardens, Hutton Hall, Guisborough.*

Mentmore, Bucks.

WE have had 10°, 8° and 7° of frost here during the end of April and beginning of May. All flowers that had opened on Plums, Pears, etc., have been destroyed, and only the late blooms are safe at present. Cherries seem to be safe, and are a good show. Gooseberries and Black and Red Currants are so far safe from the frost as the leaves have in a great measure sheltered the blooms. Apples in this district are not far enough advanced to be hurt by frost, but everywhere they promise an abundant crop. To-day I have gone over our Plum orchard and find most of the bloom on the Victorias destroyed, and we shall only have the few late blooms to depend on for a crop. Greengage Plums seem half destroyed, and Prunes and Damsons are the same. The frost seems to have taken place at the most unfortunate stage here, for the trees were just coming into bloom and had no leaves to protect them. I think the late bloom if saved may produce one-third of a crop.—*J. Smith, Mentmore, Leighton Buzzard, May 9th.*

Powis Castle, Montgomeryshire.

IN spite of the intense cold frosty nights I am in hopes that we shall have fair crops of all kinds of fruit. In regard to Peaches and Nectarines growing outside we must not expect much, owing to the wood not being ripened through lack of sunshine last autumn. Although we have had but one week of warm nights all the spring, the very sharp frosts that we have had do not seem to have damaged it much, through its being so dry. The three worst nights we had in April with everything dripping wet through the day, and 14°, 14°, and 17° of frost. Apricots being set, Peaches and Nectarines in full bloom at the time were protected and kept dry, and some of them I see are still left. Things in general throughout the garden do not seem to be hurt so much as one would expect to find them.—*John Lambert, Powis Castle, N. Wales.*

Herefordshire.

THE very cold weather and repeated sharp frosts at night during the last three or four weeks have ruined our prospects of a good crop of Pears, Plums, Gooseberries, and Currants. The week previous to April 13 was very hot; this brought on the fruit blossoms very rapidly, but on this day a great change in the weather took place, we had a snow-storm followed by hail and sleet, many of the blossoms being covered with frozen sleet. The wind went into the north-east, in which quarter it continued more or less until May 8, when it turned to the south-east, and the weather became much warmer. We have had continuous frosts at night, registering from 6° to 12°, with the result that the Plums which were mostly in bloom or ready to open their blossom, and a fine prospect, have only a scanty sprinkling left uninjured. The Gooseberries were reduced by about two-thirds, and Currants are almost all gone. The Pears in the open have hardly a fruit set, and only a small sprinkling on the walls. The Apples and Strawberries, not being so forward, I hope are not hurt severely, but I have noticed that many buds not nearly opened when examined closely are killed, and others seem crippled and fall off. Peaches and Apricots on walls being set, where sheltered, have a sprinkling of fruit. These remarks apply chiefly to land lying low; on other land lying on a bank, although within sight, the damage is not nearly as severe.

I have kept notes for the last four years of the time of blooming of different varieties and sorts of fruit trees, and it may surprise many to hear that in such a cold season as the present, Plums and Pears have generally been in blossom from ten to fourteen days earlier than for the last four years. The earliest Plum to bloom last year was open on April 27th, this year the earliest was open on April 12th. The earliest Pear was Brockworth Park last year on May 1st, this year it was out on April 18th, and although in the previous four years no Pear was in full bloom in April, this year the great majority were, the early blooming no doubt being caused by the week of forcing weather previous to April 13th, unhappily followed by sharp cold weather. The Apples will, however, not be earlier, if so early as in previous years, the late severe weather having kept them back. These notes were all taken from the same trees in the open, so difference of site or aspect would not make any difference in the time of blooming.—*John Watkins, Pomona Farm, Withington, near Hereford.*

FLORICULTURE.

The Northern Auricula Show.

THE Rev. F. D. Horner, writing with reference to the exhibition held at Manchester, on April 26th, says:—"Considering the late cold spring, the flowers were good in both quality and quantity. Throughout the season, there had been very few such days as Auriculas expect, and delight in, and many of the flowers exhibited were hardly at their best. The date was too early for cold hilly districts such as Todmorden and Halifax. Both in London and Manchester, these flowers suffer greatly in effect from the dull and dreary vastness of the exhibition place; and it is not easy to say which of the two deadens them the more. When, as I have known it, the gas has had to be turned on, over Auriculas, in Manchester, the ruinous effect is complete."

In our report last week we were unable to give any particulars of the winning varieties, and owe the following to the courtesy of Mr. Horner:—The 1st prize collection of six show Auriculas, consisted of Ossian (Simonite) and Rev. F. D. Horner (Simonite) green-edged; Samuel Barlow (Bolton) grey-edged; Hypatia (Horner) and Heatherbell (Simonite) white-edged; and Dusk (Horner) self. The 1st prize four (also Mr. Horner's) were Rev. F. D. Horner, green-edged, Aspera (Horner) grey-edged, Snowdrift (Horner) white-edged, and Mrs. A. Potts, self. Mr. Simonite's 1st prize pair were Melanie (Horner) self, and Jenny Crossland (Simonite) white-edged; other winning flowers in the same competition being Traill's Beauty, Black Bess, Frank Simonite, Heroine, Grey Friar, and Gen. Niell.

In the single plant classes the winning flowers were as follows, and in the order named:—Green-edged: Shirley Hibberd (Simonite), Touchstone (Horner), Rev. F. D. Horner (Simonite), Brilliant (Horner), Commander (Horner), Col. Taylor (Leigh), Prince of Greens, and Imperator (Lytton). Grey-edged: Dinham (K. Penson), R. Penson (K. Penson), Seedling, A. Meiklejohn (Kay), S. Barlow (Bolton), Irreproachable (Horner), Rachel and George Rudd. White-edged: Atalanta (Horner), Mydia (Horner), Acme (Read), Mrs. Dodwell, Reliance (Mellor), John Simonite (Walker), Snowdrop (Horner), and Heatherbell (Simonite). Selfs: Enchantress (Horner), Juno (Horner), Ophelia (Horner), Dimple (Horner), Mrs. Potts, Black Bess, Charles J. Perry (Turner), and a Seedling (Simonite). The premier Auricula was Ossian (Simonite), green-edged, shown by Mr. Horner.

National Pink Society.

MIDLAND SECTION.

THE schedule of prizes of the above has just come to hand, and it is pleasant to note that two additional classes have been added. The exhibition will take place as last year in connection with the great Floral Fête at Wolverhampton. Our Midland friends certainly had the best of the Pink exhibition last season; the south, owing to the necessity for the show being fixed early in the season for a definite date, was practically out of it. The Wolverhampton fixture is July 12th, which appears to suit the district well, and the success which attended the first exhibition in July last, has inspired the midland growers with a desire to make the 1892 more successful still. The president is that devoted lover of the

pink, Mr. F. Morton, Merridale Grove, Wolverhampton; there is a good committee of well-known growers, and Mr. C. F. Thurston, whose zeal on behalf of the Pink is second only to that of his worthy sire, Mr. James Thurston, of Cardiff, is the secretary. His address is Penn Fields, Wolverhampton. May the pink flourish in the Midlands is the wish of every florist.—*R. D.*

A MANUAL OF ORCHIDACEOUS PLANTS.*

THE eighth part of this useful manual being published by Messrs. J. Veitch & Sons, is carried out on precisely the same lines as those that have already appeared. The greater part of the present portion of the work is occupied with the genus Oncidium, although a number of the small and closely allied genera is also included in it. About 300 species of Oncidium are known to science, and of that vast number about three-fifths of them have been introduced to British gardens at one time or other; bnt the bulk have sooner or later dropped out of cultivation again. Only the best and most useful from a horticultural point of view are described in the manual, including some for which dried material had to be obtained for the purpose.

The part under notice contains a map of Central and South America, showing the geographical distribution of the principal types of Oncidium; but no attempt has been made to show the distribution of even a tithe of the known species. Numerous wood-cuts represent flowers of the principal and more valuable species, and there are several whole page illustrations showing as a rule the general character of the plants. The inflorescence only of O. Brunleesianum is shown, but that is sufficient to show how markedly the species differs from others of the genus in the incurved sepals and petals, but more especially in the lip, which is folded over the column, like that of a Bletia or Cattleya, and is therefore very deceptive as to the affinity of the species on casual observation. Only three plants of it are known in Britain.

The genus Miltonia is a small one, and the species to the number of fourteen being of a highly ornamental character, all of them, with the numerous varieties occurring in some, have been described, and several of them figured.

We take exception however to the figure given as Miltonia Roezlii alba, for it was evidently meant by the artist for the type, and probably the addition of the varietal name was a mistake. The supposed natural hybrids are made to follow the true species, after which the only garden hybrid known, namely M. Bleuana, is described. It is somewhat remarkable that this hybrid should have been affected on both sides of "the silver streak" almost at the same time. M. vexillaria and M. Roezlii being the parents, it is scarcely to be wondered that the progeny should not be strikingly different from either, seeing that the two are very closely allied. About half of the known species of Brassia are next reviewed, but their description and history are but briefly recorded, a fact which is quite in accordance with the degree of popularity the species enjoy in gardens, and that is not much, although some of them are very pretty.

Ada, Ionopsis, and Ornithocephalus, come in last, but very few species of either are to be found in gardens, two species only of the first named being known.

Ornithocephalus grandiflorus is the most ornamental of that genus, and certainly a gem amongst Orchids. The accompanying illustration, for which we are indebted to Messrs. J. Veitch & Sons, represents it admirably. The rich bright green spots at the base of the sepals, petals, and lip render it very attractive, while the remarkable length and curvatures of the rostellum and pedicel of the gland (all shown in the illustration) are extremely interesting botanically. A plant bearing two racemes of bloom may at present be seen in Messrs. James Veitch & Sons' nursery, at Chelsea.

ORNITHOCEPHALUS GRANDIFLORUS.

1, side view; 2, front view of flower, natural size; 3, column and lip; 4, rostellum; 5, Pollinia and caudicle enlarged.

* "A Manual of Orchidaceous Plants." Part VIII. Oncidium and Miltonia, Ada, Brassia, Gomeza, Ionopsis, Ornithocephalus. James Veitch & Sons, Royal Exotic Nursery, King's Road, Chelsea, S.W., 1892.

WINTER-FLOWERING PLANTS.

THESE, especially the winter-blooming Begonias, should be propagated at once, or one will not be able to obtain fair-sized plants by the autumn. Such varieties as Begonia Knowsleyana can be raised from seed. Many of the shrubby species are also very serviceable for winter-flowering, B. Digswelliana, B. insignis, &c. for example; there are also several of the tuberous-rooted class that will require attention at the present time if one is to have a stock of useful plants for enlivening the greenhouse during the dull days of winter. Both these last named, and the earlier spring-blooming varieties of the shrubby section, should be increased from cuttings as soon as possible. These will now be carrying several stout sucker-like shoots, and if these are taken off with a slight heel and treated similar to Dahlia cuttings, there will be no difficulty in making an increase of any particularly favourite kind.

Light, sandy soil is best for Begonias, and good leaf mould is very suitable. In striking them, I prefer to use small "thumb" pots, and a compost of leaf soil and sand in about equal proportions. Among the best of the early spring-flowering shrubby kinds we must include B. ordorata; B. manicata; B. nitida; and B. hydrocotylifolia.

The Rex, or fine foliaged section, are exceedingly useful towards the end of the autumn, more especially for vases and table plants. These are very readily increased by leaf propagation, and where a few, or even one, healthy and well developed leaf can be obtained, there will be no difficulty in obtaining a fair stock of these showy Begonias. The method is interesting and exceedingly simple. Make a cut through the stronger veins of the leaf, and then lay it face upwards upon a pan of sandy soil and leaf mould. It is well to peg the leaf down into more direct contact with the soil, and if you do not fill the pan or box too full, it is easy to keep them close by laying a sheet of glass over the top.

When placed in a genial temperature and occasionally syringed, you will soon be rewarded with many young plantlets, which will form at each cut made in the stronger veins of the leaf. You can thus obtain as many as twenty to thirty healthy young plants from a single leaf. Pot on into "thumbs" and treat the same as those obtained from cuttings, and you will have very nice and useful-sized plants by the autumn. Begonia seedlings must be shifted on as occasion demands; it is well not to let them become pot-bound until they are shifted into their flowering pots, nor will they be improved by any increase in the temperature after this date. I find they are much better if they come on steadily, without any excitement or sudden changes. With these few remarks I will dismiss the Begonias.

Franciscea Hopeana is an excellent winter-flowering shrub that does well in a warm greenhouse. This may also be propagated from cuttings now. In appearance during the flowering period this plant is somewhat singular, as you have two colours upon the plant at the same time, owing t its blossoms opening a very rich mauve colour and gradually fading off to pure white. This Franciscea is very sweet-scented and is one of the most easily grown and showy winter-flowering shrubs we have. Plumbagos in variety may also be struck now, and such plants, when grown on quickly, are better, and of far more service as winter-flowering subjects, than older plants that have been kept round from year to year.

Centropogon Lucyanus, Justicias, Pentas, Amazonia punicea, and Scutellarias, as well as Bouvardias, Eranthemum pulchellum, Poinsettias, Euphorbias, etc., may all be struck advantageously at the present time; indeed, it depends very much upon the treatment and care your plants receive during the next three months as to how good or indifferent a show of bloom you secure in the greenhouse during next winter. Such subjects as Primulas, Cyclamens, and others must have attention given to them in due time if you are to secure the best results. —*Experience.*

The Essex Agricultural and Horticultural Society will hold their annual show at Harlow, on Tuesday and Wednesday, June 14th and 15th, 1892. Entries for the horticultural show close on June 4th (prizes £180), and schedules can be obtained of the hon. sec., Mr. Jas. Scruby, Harlow.

NEW & RARE PLANTS.

The under-mentioned plants were awarded Certificates by the Committees of the Royal Horticultural Society, at the Drill Hall, on the 3rd inst. Orchids receiving honours at the same time are recorded under "Orchid Notes and Gleanings."

Caladium Souvenir de Paro.—Caladiums with few exceptions are too large for ordinary decorative purposes. That under notice may be considered an exception, for it grows only 6 in. to 12 in. high, with leaves about twice the size of those of the popular C. argyrites. The leaves are subpeltate, with short auricles, deep red, with broad green margins, and having a few red veins mingling with the green.

Tillandsia Mœnsii, T. Massangeana superba, and Aglaonema costatum.—For description of these three fine-foliaged plants see p. 566. They, as well as the Caladium, were exhibited by Messrs. J. Veitch & Sons, Chelsea, and all received First-class Certificates.

Dracæna Coullingii.—This is a garden hybrid raised between D. Mooreana and D. terminalis alba. The leaves are somewhat similar to those of D. terminalis in width, but they are narrowed to a petiole, and again dilated and sheathing at the base. They are of a deep shining green, with a broad creamy-white margin, sometimes the leaves of the crown, and occasionally a few others, have the creamy-white hue extending over the greater part of the surface. It was shown by Messrs. B. S. Williams & Son, Upper Holloway, and received a First-class Certificate.

Lotus peliorhynchus.—The leaflets of this species are linear, glaucous or hoary, and so closely arranged on an excessively shortened footstalk as to appear fascicled or somewhat verticillate, and generally number about six. The flowers are crimson-red or scarlet, with a dark band along the centre of the upper petal or standard. The stems, as usually seen, are about 2 ft. in length, with the flowers in clusters on short, axillary shoots towards the apex of the main stems, but a specimen grown in a basket and exhibited by Sir Trevor Lawrence, Bart., M.P. (gardener, Mr. Bain), Burford Lodge, Dorking, had pendulous, cord-like, leafy stems 8 ft. to 10 ft. long. In this form the species would make a grand subject for suspending from the roof of large, cool conservatories. The species is a native of Teneriffe, and when shown was honoured with a First-class Certificate.

Rose Waban.—In this we have a sport that originated in America from the Tea Rose Catherine Mermet. The foliage is of a rich dark green colour, while the flowers are of good average size for the class to which the variety belongs. They are of a warm but soft rose, fading to a rosy pink after a time. The petals are closely arranged, compact and revolute at the margins. The half-expanded buds are darkest in colour. It was accorded an Award of Merit when shown by W. Furze, Esq., Roselands, Teddington.

Auricula Golden Drop.—The flowers of this variety are bright lemon yellow and double, with the overlapping segments arranged about three tiers deep. The leaves are obovate, serrate, mealy, and sulphur-coloured on the edges owing to the quantity of mealy powder there. The variety was shown by Mr. R. Dean, Ranelagh Road, Ealing, and received an Award of Merit.

Rose White Lady.—The flowers of this are white, with a pale blush tint in the centre, and of large size, as the variety is a sport from Lady Mary Fitzwilliam. It is also described as a hybrid Tea, and has a somewhat massive and compact appearance.

Rose Corinna.—The leaves of this Tea Rose are of a shining dark green, and the young shoots are of a deep red. The flowers are salmon pink, darkest while still in bud and in the centre of the old bloom. It is prettiest and most attractive while still in the bud or even half-expanded state. A little group of plants was exhibited by Messrs. Wm. Paul & Son, Waltham Cross, and both this and the previously-named variety received Awards of Merit.

RANUNCULUS MONTANUS.

Of all the golden yellow Buttercups, few present a neater appearance than R. montanus. The leaves are suborbicular, three-parted with wedge-shaped segments and form a dense green tuft surmounted by the flowers which are relatively large and produced singly on the stems. The plant may be compared to some of our British species such as R. acris, than which it is smaller in all its plants with exception of the flowers which are larger. If planted in a good sized patch in the front line of the herbaceous border it would have a very telling effect during the spring and early summer months; but most growers who have a rockery would prefer to have it there, so as to be out of the way of harm and more under the eye. It is perfectly hardy, and although it grows but slowly, it may easily be propagated by division.

GARDENING MISCELLANY.

"JOHN" AS A VEGETABLE GROWER.

The habitues of Mott Street, New York, are supplied with vegetables *à la Chinese*, grown by their own countrymen in Long Island. Near Steinway there are four farms, each worked by three Chinamen, and a visit was recently made to the farms by a *Sun* reporter, who gleaned the following information in regard to the names and kinds of the vegetables grown. A monstrous green fuzzy Melon, that looked like a Water-melon covered with mouldy moss, was said to be a Chinese Cucumber, and was called wong-wa. Some Greens that resembled discarded Turnip tops were, said the Chinaman, gui-tui, and the rest of the same Turnips were lou bak. Chinese Celery, or something identical in appearance with the American vegetable, was bak-tui. The Spinach-like Greens were hong-tui, and the Chinaman said they were used for salad. The most curious of all was a long, slender Melon that looked like a thin Cucumber covered with spikes. This was a lak-wa. Its seeds were cut up and boiled. The hedges which lined the road on the south end of the farm bore Chinese string Beans. "All the seeds we use," said the almond-eyed farmer, "come from China. We don't grow your vegetables, because Chinamen don't know how to use them. Sometimes we have seeds left over that we can use, but if the winter is cold they spoil. This has been a bad season for us. It was too dry in June, July, and August, and too wet in September. Lots of our vegetables rotted before they got ripe. The biggest of these farms is Lee Wah's. He raises more than he can sell. We were all farmers in China, and we work here as we did there."—*Florists' Exchange.*

RHODODENDRON VEITCHIANUM.

Seeing that this Moulmein species can be grown to perfection even in a greenhouse, and that too in pots, there is no necessity for planting out the large-flowered Himalayan kinds for the sake of the effect they produce. In a wild state the plant attains a height of 6 ft., but in pots it flowers well when only 2 ft. high. The flowers are produced in trusses of two or three blooms only, but such is their size, that a greater number could ill be accommodated. This applies to the flowers of R. Edgeworthii. In the species under notice they are widely bell-shaped, pure white or slightly tinted with pink at the base outside, and the wide lobes are beautifully waved and crisped. The leaves are very moderate in size, oblong or obovate, leathery, and closely furnished with rusty scales beneath. The flowers are perceptibly and agreeably fragrant. We noted it flowering finely in a cool conservatory at Falkland Park, South Norwood Hill.

PLANT LIFE.

In the last of a course of six lectures given by Mr. Alfred Moore, under the Kent County Council Technical Educational Scheme, the lecturer said that alcohol was a foe to plant life, yet nearly all forms in the vegetable world were most immoderate drinkers. Still, however, the vegetable kingdom was a great army of "teetotallers," for, though so universally thirsty, they drank only water. But, he must confess, they liked a good many things mixed up in it. Now, as they took in so much oxygen and hydrogen, one could not be surprised that a chief constituent part of plants was water, which formed no less than from about 80 to 90 per cent. of the total weight of fresh plants. In Turnips there was quite 90 per cent. of water, and it might surprise some to learn that when a farmer bought a ton of Turnips he really purchased somewhere about 18 cwt. of water. Another kind of food material stored up in plants was the cellulose group, which included starch and sugar. Another group of food material was that of the vegetable acids, one of the best known, perhaps, being malic acid, or the acid contained in Apples. Then, again, there was the fat group, a most invaluable one, which was found chiefly in seeds in the form of little globules, tiny homœopathic pills put up in the laboratory of old mother nature. These oils and fats were probably formed by the transformation of starch and sugar, and many seeds were such fat gentlemen that, even after a large percentage of oil had been pressed out, the residue often contained enough fatty matter to make it a very valuable article of food, as our Christmas bullocks would tell us if they could speak. Lastly, there was the albuminoid group. This group was found in seeds and rinds, and had a most enormous value as an item in our daily food supplies. Everything, said the lecturer, came from plants, either directly or indirectly. He would say nothing either for or against vegetarianism, but those who most strongly condemned it must remember that our juicy beefsteaks themselves were the indirect product of a vegetable diet, for animal albuminoids, as in blood or muscle, had their indirect origin from plants.

EXOCHORDA GRANDIFLORA.

The flowers and foliage of this beautiful shrub, especially the former, are easily excited into growth in a mild spring, so that should frosty nights subsequently intervene, as they frequently do, the early developed leaves get browned and shrivelled up, leaving the plant in a sorry plight until further growth is induced by the accession of fine weather. The almost continuously cold winter and spring has kept the buds this season in a resting state till quite recently, so that now the plant presents quite a snowy appearance where laden with bloom. There is always a sufficient amount of foliage to tone it down. In general aspect the plant resembles a Spiræa, than which the flowers are much larger, and possess besides some botanical peculiarities which are sufficient from the botanist's point of view to distinguish it.

RUBUS ARCTICUS.

The Arctic Raspberry is a very diminutive and humble plant when compared with some of the tall-growing species; but it is nevertheless pretty and full of interest at this season of the year when its dwarf stems are terminated by bright rosy-red flowers having a white eye. The stems are herbaceous, about 6 in. high, and arise from long, creeping, underground rhizomes. A bed of peaty soil in a cool, half-shady situation suits it well even in the southern part of the country. It is a native of the Arctic regions, both of the Old and New Worlds, and is therefore perfectly hardy.

VEGETATION OF PERU.

Messrs. Ross & Sinclair, who, in May of last year, went on a mission to Peru for the purpose of selecting and reporting upon land suitable for agriculture, but with more especial reference to its fitness for tropical products, have presented their report to the Directors of the Peruvian Corporation, Limited, which has just been published. With regard to the vegetation of the country visited they say:—

"In writing of the vegetation of a country, where the luxuriance is such that Nature in sheer wantonness seems to run riot, it is difficult to keep within the usual bounds of an official report. There are, perhaps, few countries where first impressions prove more at fault than in Peru. Few who sail along the coast could imagine the luxuriance of the Valleys of Chiclayo, Chicama, Cartavio, Chimbote, or the Rimac. Few who travel by the Central Railway and look upon the apparently bare brown hills, could conceive the cereal and floral wealth which clothes and adorns them. We were particularly struck with this in climbing a few thousand feet above the Matucana Station, where the hills look so bleak in the distance, yet, where nearly all the most prized flowers of our British gardens cover the rugged ground in their native profusion.

"And these modest little plants have their uses beyond the mere gratification of the florist and botanist. In an economic sense their presence sufficiently indicates where other products, more valuable commercially, might also best be grown. At the same time they indicate the altitude more correctly than some of our aneroids. The Ageratum, for instance, so formidable an enemy to us when Coffee was at its best in Ceylon, serves here to show a soil suitable for 'the fragrant berry,' though the locality may not in other respects be convenient. Acres of luxuriant Heliotrope scent the air, testifying that—though at a height of over 8,000 ft.—we are still safe from frost. The more hardy Calceolarias come next, and with the curious Cuphea, the red and the blue Salvia, flourish up to 10,000 ft. After these the chief representative is the blue Lupin, beds of which may be seen covering thousands of acres up to 12,000 ft. or 13,000 ft., leaving a few Sedums

Anemones, and Dandelions to dispute the limit of 16,000 feet with the snow.

"From 8,000 ft. to 10,000 ft. above sea level, Wheat, Barley, and Potatos grow to great perfection, while the Oat is a wild weed, giving when ripe a yellow tinge to whole mountain ranges where the feet of man never tread.

"The cultivation, such as it is here, is laborious enough, and is hardly suited to our European ideas of husbandry. To scramble over the miles of precipitous paths leading to these terraced fields of a few yards in breadth seems a day's work in itself; but the merest scratch in the shape of ploughing is sufficient, and such is the richness of the soil that no manuring is ever necessary to grow heavy crops of grain and excellent Potatos, Oca (oxalis), etc. Europe has already been indebted to Peru for many valuable acquisitions to the field and garden, and there is still to be introduced a Potato, unquestionably superior as a food to anything of the kind now grown in Britain. From 12,000 ft. to 14,000 ft. altitude barely continues to grow luxuriantly, but ceases to mature its grain.

"The Alfalfa, as it is here called, grown so extensively from the coast up to and over 10,000 ft., is really a native of England. The Lucerne (Medicago Sativa), so well known to our forefathers, has here in Peru become the most productive and nutritious of all fodders for cattle. On the mountain plateau, which extends for hundreds of miles, the rains seem somewhat fitful and uncertain, but not more so than in most parts of Australia; and it is curious to note how kindly Australian trees, chiefly the Eucalypti, take to this climate, growing with great luxuriance wherever planted. Amongst the rest of the somewhat scanty vegetation here, we observed the Elder, and by the watercourses the Alder, both natives of Britain. Again, amongst the native trees a very beautiful and useful evergreen Willow (Salix Humboldtiana) abounds, a tree that would be a great acquisition to Ceylon, North Burmah, India, etc. We will now pass over these rather grassy lands on the eastern side of the Cordilleras (upon which llamas, alpacas, vicunas, and sheep seem to find ample pasturage), and after a journey of about sixty miles N.E. from Tarma, plunge at once into the primeval forest, at an altitude of 4,000 ft.

"The first thing that struck us was the marvellous variety of the gigantic trees. In most other countries large groups of the same family are found growing up together; such as Pines in North America, Gums in Australia, &c. Here diversity is the rule, and seldom do we find two of the same kind growing in company—nature delighting rather in variety and contrasts—one tree upright as an Areca Palm, another sloping over a chasm; one with bark smooth as ivory, the next prickly as 'Acacia horrida.' Exceptions there are, and one might be seen on most river banks, viz., the Balso wood (Ochroma piscatoria), as if providentially placed there for the natives, who invariably use its remarkably light wood for their rafts. The Ochroma has a cotton-like fruit which might be used for stuffing beds, &c.

"The graceful Ivory Palm (Phytelephas), may also be seen in small groups, indicating the very richest spots of soil. Near to this may be found a solitary Cacao (Theobroma), 30 in. to 40 in. in circumference, and rising to the mature height of 50 ft. Coffee of course is not found wild here, but at intervals we came upon gigantic specimens of the Cinchona, both Calisaya and Succiruba, 6 ft. in circumference. The Walnut of Peru is frequently seen in the Perene Valley, growing to a height of 60 ft. to 70 ft. Satinwood there is also, but not the Satinwood of Ceylon (Chloroxylon); for though the wood looks similar, the family (Ebenacea) is in no way related to our Ceylon tree. The indigenous Coca as an undergrowth we rarely came across, except in semi-cultivated patches. Gigantic Cottons, the Screw Pine (Carludovica) from which the famous Panama hat is made; the grand scarlet-flowering Erythrina, and another tall and brilliant yellow flowering tree—probably the Laburnum of Peru—add much to the beauty of the scene. Many other leguminous plants we also noted, particularly Calliandra and Clitoria.

"Innumerable Orchids, mosses, and Ferns sufficiently indicated the humid nature of the climate, and fully satisfied us as to the rainfall.

"Probably the chief distinguishing feature in Peruvian vegetation is that it is an essentially flowering and fruit-bearing vegetation, rather than the excessive leaf-producing which so distinguishes the luxuriant greenery on the Island of Ceylon. Peru undoubtedly possesses a richer soil and a climate more favourable to fruit bearing; while, compared with the massiveness and grandeur of the Trans-Andean forest monarchs, the jungles of Ceylon are somewhat diminutive. A few plants we missed: the beautiful and useful yellow Bamboo is not there, nor are the Palmyra, Talipot and Cocoa-nut Palms. The Jak and Breadfruit trees might also be introduced with great advantage. The cultivated grasses of the East, the Guinea and Mauritius grass, are here already, but as a nutritious fodder they cannot be compared with the "Alfalfa" (Lucerne). Of the leaf products, perhaps none are destined to become more important than the Coca (Erythroxylon), which is bound to increase in value commercially as its undoubted virtues become better known. The land we have specially selected on the Perené, as hereafter shown, may be said to be the native home of this invaluable plant, and as we doubt if it can be grown in any other part of the world with equal success we would strongly recommend its being planted out on an extensive scale to meet the growing demand.

"The various kinds of Rubber found here might also be cultivated, or rather planted out, on a large scale with much profit and at little cost."

As regards Peru as a field for colonization, they say:—"This land of the ancient Inca has such vast undeveloped resources, at altitudes and temperatures so varied, that people from every known climate might here find a congenial home; and we cannot conceive of any healthier, more interesting or profitable occupation for European agriculturalists with a little capital than might be found on the borders of the great grassy pampas, at an altitude of 4,000 ft. and upwards, where a mixed cultivation might be introduced, including cereals, Potatos, and other vegetables, around the homesteads, with a field of Coffee or Coca below, all interesting and profitable to the grower.

"It is only to be regretted that so little is known in Lima of these localities, and that the facilities for approaching them have hitherto been so indifferent.

"With the opening of the Oroya railway, however, all this will be changed, and the prospect of successful colonization rendered such as was never before possible in Peru.

"For trained planters, with a command of labour, and judiciously backed by capitalists, we believe, there is not in the wide world a better opening than in the upper valleys of the Amazon and its Peruvian tributaries."

ORCHID NOTES AND GLEANINGS.

Cattleya Victoria-regina.

The pseudo-bulbs of this Cattleya are elongated, and somewhat angled and furrowed. The sepals are oblong, the lateral ones being falcate, and all are of a clear, warm purple. The petals are at least twice as broad, oblong-elliptic, and rather darker or richer in hue. The three-lobed lip has rounded or blunt lateral lobes, enlivened with deep purple, branching veins; the middle lobe is moderate in size, oblate, slightly crisped or undulated at the margin, and of a deep rich purple. The three-angled column is blush. A First-class Certificate was awarded it when shown by Messrs. F. Sander & Co., St. Albans, at the Drill Hall, on the 3rd inst.

Phaius Sanderiana.

The vigour of this Phaius reminds one of P. grandifolius, as the elliptic leaves are very large with three to seven strong ribs, and plaited. The flower stem is about 3½ ft. high, furnished with distant bracts and a raceme of flowers at the top; the latter are of large size and bold appearance. Both sepals and petals are lanceolate, with long points, and of a warm reddish-brown. The tube of the lip externally is yellow merging into brownish-purple at the base of the lamina, which is white with a purple central line; and the base of the lateral lobes is purple. An Award of Merit was accorded it when shown by Messrs. F. Sander & Co.

Cynorchis flexuosa.

The leaves are radical, linear, strongly three-ribbed, and lined with purple on the veins beneath. The scape is about 18 in. high, bearing a raceme of few flowers at the top. The sepals and petals are relatively small, ovate, and green, the latter being somewhat paler. The lip is deeply three-lobed with the middle lobe bifid, and all finely crenate at the outer edge, the whole is of a clear yellow, with a maroon blotch at the base. Messrs. F. Sander & Co. exhibited it, and a Botanical Certificate was awarded.

Lælio-Cattleya Phœbe.

This bigeneric hybrid was obtained from Cattleya Mossiæ, fertilised with the pollen of Lælia cinnabarina, and was raised by Mr. William Murray. The pseudo-bulbs are somewhat peculiar, being intermediate between the parents, cylindrical or spindle-shaped, and of a shining green. The leaves are oblong, 6 in. to 10 in. in length, recurved or bent, rigid, and of a dark green. The plant shown by Norman C. Cookson, Esq., Wylam-on-Tyne, at the Drill Hall, on the 3rd inst., bore two flowers, but will in all probability develop more from a spathe as it increases in size and vigour. The sepals are oblong-linear and pale orange. The petals are somewhat broader, oblong, finely serrulate on the upper half, and similar in colour to the sepals. The lip is intermediate in character between those of the parents. The tube is paler than the sepals and petals and lined with purple on both surfaces; the lamina is strongly undulated as in the case of the male parent, crenate, and crimson with buff edges. The effect of the pollen has been to reduce the width of all the segments, while the colour is also that of the male parent with exception of the crimson of the lamina and the purple lines on the tube. The pollen parent then has more effect than that of supplying the colour as is usually ascribed to it. A First-class Certificate was awarded it.

Lælia Latona.

In general appearance this reminds one of Lælio-Cattleya Phœbe, a matter that need not create surprise seeing that Lælia ciunabarina is one of the parents in both cases. The hybrid under notice was raised from the last named as the seed parent, fecundated with the pollen of Lælia purpurata. The pseudo-bulbs are fusiform, moderate in length and stoutness, and covered with grey sheaths. The leaves are lanceolate-oblong, and leathery. The sepals are oblong-linear, and bright or clear yellow. The petals on the contrary are oblanceolate-oblong, twice as broad, and suffused or veined with buff on an orange-yellow ground. The lip is narrow and tubular, yellow at the base and bright purple upwards both internally and externally. The sides of the lamina are strongly undulated, almost closing the mouth of the tube, a peculiarity derived from the male parent; the tip of the lamina is yellow and the base of the tube internally is lined with purple on a pale yellow ground. A First-class Certificate was awarded it when shown by Messrs. J. Veitch & Sons, Chelsea, at the Drill Hall on the 3rd inst.

Cattleya Philo albiflora.

The sepals of this hybrid are linear-oblong, the petals lanceolate, and all are white. The lip is also white with exception of some purple lines in the tube, a large, pale yellow, diverging blotch in the throat, and a purple band across the middle of the lamina. Cattleya Philo as well as the variety under notice was obtained from C. Mossiæ crossed with C. iricolor, and the difference between the two may be ascertained by reference to C. Philo, p. 553. An Award of Merit was accorded it when shown by Messrs. J. Veitch & Sons.

Eriopsis biloba.

In general aspect this Orchid is very pretty. It has ovoid, elongated, and somewhat curved pseudo-bulbs about 3 in. long. The scape arising from the base of it, attains a height of 2 ft. to 2½ ft., bearing a raceme of bloom at the top. The flowers are moderate in size, with oblong yellow sepals, suffused with orange-brown at the edges. The petals are narrower and much darker in colour, especially at the edges. The lip is pale buff yellow, densely and finely speckled all over and lined with purple; the middle lobe is very small, bifid and pale yellow, with a few purple blotches at the base. A Botanical Certificate was awarded it when shown at the Drill Hall on the 3rd inst. by Messrs. Charlesworth, Shuttleworth & Co., Heaton, Bradford, and Park Road, Clapham.

Pleurothallis Colibri.

Several of the small-flowered species of Pleurothallis are extremely interesting as well as pretty in a collection of Orchids, notwithstanding their small size. The space they occupy is comparatively nothing, as they can be suspended from the roof in large numbers out of the way of the stronger growing subjects. The flowers of the species above named just

overtop the leaves sufficiently to show themselves off. The sepals are deep purple, spreading, and fringed with long white papillæ, which give them a singular appearance. We noted it at Falkland Park, South Norwood Hill.

Stanhopea Insignis.

This the typical form of the genus is more seldom seen in cultivation than several of the others. It recently flowered with Messrs. Charlesworth, Shuttleworth & Co., Heaton, Bradford, and Clapham. The flowers are of great size with spreading sepals of a pale yellow, beautifully spotted and marked with purple. The petals are very much smaller as in other species, closely reflexed over the sepals, and more prominently marked or even blotched with purple. The lip is a singular looking organ owing to the greatly inflated base or hypochil; other parts of it are also massive, nearly white, and finely spotted with purple. The column is broadly winged, and very striking in this respect even when compared with others. The flowers do not last long in perfection, but are agreeably fragrant, and therefore not objectionable in that respect like S. tigrina and several others.

WHAT TO DO IN THE GARDEN.

Cyanophyllum magnificum.—Fine foliaged plants of this class often suffer greatly during the winter months owing to bad light, fog, and other unfavourable conditions. In such cases, if the plants have lost many of their leaves, the tops may be taken off and rooted afresh. This will cause the development of the side buds on the old plants, and these in their turn when firm enough may be taken off and rooted.

Pandanus and Pine-apple.—The best variegated suckers of the former should be secured in preference to the green ones whenever they make their appearance. The smaller suckers give even better results than the larger and coarser growing ones, because they keep for a longer time in a useful and suitable size for table and other decorative purposes. This applies to the crown of the fruit of the variegated Pine-apple, which grows slowly, and should other suckers be produced from the base of the fruits, as sometimes happens, they may be taken advantage of for propagating purposes.

Achimenes.—Give these a favourable position with regard to light, and when the soil gets filled with roots give weak applications of liquid manure. A little guano in the water would answer the same purpose. In all cases see that they do not suffer for want of water, particularly those in baskets.

Fuchsias.—Plants intended to be in full bloom in August should be allowed to come on very gradually in a cool and well ventilated house. Stopping may be resorted to where any shoots are running away too vigorously so as to spoil the general appearance of the plant. When grown in pyramidal fashion it may be necessary sometimes to tie down a long shoot to fill a vacant space. Plants intended to be in flower by June should not be stopped after this. Give copious supplies of water, and in the afternoons of fine days a copious syringing is very much liked by Fuchsias.

Annuals for Conservatory Work.—Give close attention to such things as Schizanthus, which were sown in autumn and are now rapidly advancing towards the flowering stage. Single Petunias, Ten-week Stocks, Brachycome iberidifolia, and Torenias should be potted on as they require it, keeping them near the glass to encourage a dwarf sturdy growth. Rhodanthes, Acrocliniums, Mignonette, and others of that class should be thinned out to the required distance apart, as nothing suffers more from overcrowding in the young state.

Sub-Tropical Plants.—Rapid growing stuff should be potted on if they are likely to get pot bound, as there is little chance of sufficiently settled weather to have them planted out of doors for some time to come. This would apply to Ricinus, Eucalyptus, Hemp and Maize, all of which have been raised from seeds. The same would apply to Grevillea robusta, Chamæpeuce diacantha and C. cassabonæ, and Acacia lophantha.

Orchard House.—All trees in pots will now require good supplies of water, and stimulants of some kind, more particularly if they have set a good crop of fruit. Top dressings of some rich material will also prove very beneficial. Use the garden engine freely to keep down insect pests, and should greenfly have made a footing, fumigate the house on calm evenings of one or two successive nights.

Melons.—Where the crop is only yet about half grown, plenty of moisture both at the root and in the atmosphere will have to be kept up; where it is approaching maturity, a drier condition must prevail. To avoid the necessity of much water at this stage, a good watering should be given a week or more prior to ripening, after which a mulching of some light material may be given to prevent evaporation.

Calceolarias and Pansies for Bedding.—All the hardier kinds of Calceolarias, such as Golden Gem, Floribunda, and others of the same type, may now be placed in their summer quarters if they have been previously well hardened off. The planting of Violas and Pansies should be completed at once, so that they may get thoroughly established while there is yet moisture in the soil. Young plants that were struck in autumn give the most satisfactory results, and should therefore be employed in the most prominent positions in preference to old plants.

Sea Kale.—The season for this excellent vegetable is now over, and the manure used in forcing the plants as well as the pots covering them should be removed. Any sprouts still fit for use may be cut and kept in a cool place until required for use. The sprouts that are afterwards produced may be reduced to one or three, according as there is space to develop good crowns for next year's use. Some of the more decayed portions of the dung may be dug in to assist the plants in making a good growth.

Cauliflower, Cabbages, &c.—A sowing of early and late Cauliflower, such as Early London and Veitch's Autumn Giant, may now be made for autumn and early winter use. Some of the Cabbages may also be sown for winter use. Early Ulm, Vertus, and other Savoys for late planting, may be sown at the same time. Sowings of Ne Plus Ultra and Canadian Wonder Dwarf Beans should be made for a succession. Where much salading is required, make a sowing every fortnight of Radishes, Mustard and Cress, in quantities according to requirements, in order to have a succession in good condition.

SOCIETIES.

Royal Botanic Society.—The first of a series of six lectures on popular botanical subjects was given in the museum in the Gardens on the 6th inst. The lecturer (Professor Marshall Ward, F.R.S.) took as his subject "Seeds and Seedlings," but dealt chiefly with the various contrivances by which the seeds of many plants are enabled to distribute themselves over very large areas; some winged or provided with hair-like processes in which the wind acts as a transporting agent; others, again, whose distribution depends upon their attaching themselves to animals or birds; and, lastly, where the plant itself does the work, bursting the nut or fruit and throwing the seeds to a considerable distance, as in the Sandbox Tree, Squirting Cucumber, Balsams, etc. Among those plants taking particular care of their offspring, he mentioned the Mangrove Tree, which, living as it does upon the extreme edge between land and sea, and therefore more exposed to accident than most other plants, retains its seeds upon the branches until the first root has grown as long as a candle below the seed; then, when at last it falls into the soft mud, it is quite ready to start into growth on its own account.

Sevenoaks Gardeners and Amateurs' Society.—A well-attended meeting of this society was held on the 3rd inst., the chair being taken by Mr. Wolfe. Mr. Searing was awarded a Cultural Certificate for Oncidium sphacelatum carrying two very good racemes of its yellow and chestnut brown flowers, whilst votes of thanks were passed to Messrs. Baker and Searing for Polyanthuses and Auriculas. Subsequently Mr. Searing opened a discussion on Amateur Gardening, and the judging of cottage gardens, which elicited the general opinion that rules should be laid down by societies which offer prizes for the best kept gardens or allotments, as to what the judges would consider when judging; as there was a tendency amongst competitors to crop their gardens with a lot of things which cottagers rarely consume, simply because judges in that district give points for everything they find growing in the gardens; consequently those who happen to have the greatest variety won, and those who might have a much better garden from a cottager's point of view, got nothing.

QUESTIONS AND ANSWERS.

**** Correspondents are requested, in order to avoid delay, to address all communications to "The Editor" or "The Publisher," and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa London."*

Cucumbers diseased.—*C. P.*: It is impossible to tell with precision what is the matter with your Cucumbers without seeing a specimen; but we suspect they are attacked by a fungus known as Glæosporium læticolor, which penetrates into the interior, and ramifying there soon makes its appearance upon the surface, at first as isolated sunk spots, which increase in size till they may cover the whole of the surface of the fruit. No fungicide will destroy it in the interior of the fruit, so that diseased specimens should be picked off and burnt. The atmosphere of the house should be kept drier in order to check the ravages of the fungus. There are however several fungi which attack Cucumbers, and a badly affected specimen might be sent for microscopical examination.

Alpine Auricula.—*F. Bland*: The points of a good Alpine Auricula are that the eye should be large, circular, well defined where it meets the ground or body colour, into which it should not run in streaks, nor be angled. The ground colour should be of some rich dark hue, and should gradually become paler towards the margin, that is, the body colour and the edge should be of different hues blending one into the other, and not in distinct zones. The eye may be white, yellow, or of some intermediate shade, but clear, bright yellow is most esteemed.

Table Decorations.—*Ignoramus*: The subject is ably dealt with in Miss Hassard's *Floral Decorations*, (Macmillan); and Burbidge's *Domestic Floriculture* (Blackwood). There is no separate work on the subject.

Forced Strawberries.—*J. White*: The plants are valueless for forcing another year. You must have fresh ones every season. If you could plant out the hundred which have not done very well, they would in all probability give you an autumn crop.

Names of Plants.—*F. T., Lanark*: Primula verticillata.—*Miss Walsh*: 1, Doronicum plantagineum; 2, Doronicum caucasicum; 3, Geum rivale; 4, Cardamine pratensis flore pleno; 5, Phlox subulata; 6, Saxifraga cuneifolia; 7, Saxifraga Hostii; 8, Saxifraga cœspitosa var.—*W. J. D.*: Oxalis Ortgiesii.—*Wm. Dalgarno*: Odontoglossum pulchellum.—*G.E.G.* 1, Orobus vernus; 2, Vinca minor; 3, Pyrus Aucuparia.—*Cupar Fife*: Dendrobium chlorops.—*Alpha*: Cymbidium Lowianum

Peach Leaves Injured.—*G. P.*: We could not find the insect you refer to, but whatever it may be, it is certainly not the cause of the serious injury to the leaves. They are in a poor, flimsy condition, wanting in substance and vigour through being kept in a too moist and close atmosphere. They have been scalded by being caught by bright sunshine while wet; the moisture has acted as lenses and killed the tissues of the parts acted upon, which eventually wither up and drop out. Not even the rapacious Otiorhynchus could damage them to the extent yours have been injured, and the remedy is to give more air, and earlier in the morning, and to keep the atmosphere dried.

Vine Losing its Bunches.—*J. R.*: The most reasonable explanation would appear to be that the Vine is in a poor condition at the roots—in fact starved. The shoots made up to a certain point were made upon the reserve material stored up in the rods the previous year, and after growth commenced vigorously the roots should have come into healthy vigorous action to carry on the work. This yours do not seem to have done—hence the want of power to develop the bunches any further.

Moss on Surface of the Soil.—*J. W.*: The soil must be in a bad condition or the moss would not grow in the way it does. See to the drainage at once, then scrape off the moss and top dress with fresh soil. You do not say if the Azaleas are in pots, but in any case the remedy is the same—give good drainage and renew the soil or as much of it as possible.

Melons Dying.—*Omega*: It is impossible to say with certainty from the piece you sent, because it was thoroughly dried up. Melons are liable both to insect and fungoid enemies, and the appearance of the plant might suggest either; or it might arise from altogether another cause. A small, almost transparent mite often destroys the young stems and leaves, but if the latter are healthy, then the matter proceeds from the roots. A fungus named Glæosporium læticolor often destroys the plants after they have attained full size. It attacks the roots and the collar of the plant just where it enters the soil. If this is the case, the only remedy is to clear out the soil and sow again in fresh material obtained from another source.

Communications Received.—I. F.—W. D.—R. B.—T. F.—H. G. C.—Boundary Chemical Co., Lim.—W. I.—J. W.—J. L. & S.—R. D.—J. S.—W. E.—J. W.—N. S.—W. P. R.—W. C.—X. F. O.

TRADE CATALOGUES RECEIVED.

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Asparagus.....bun.	2 0	5 0	Lettuces ...per dozen	1 6	2 0
Beans, French, per lb.	2 0	2 6	Musbrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	6 0	Small salading, punnet	0 4	
Celery.....per bundle	2 6		Seakale ...per basket	1 6	2 0
Cucumbers .....each	0 6	1 0	Spinach, per strike...	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	1 6	2 6
Herbs .....per bunch	0 2	0 6	Turnips ..... per bun.	0 6	

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Azalea .....per doz.	18 0	42 0	Ivy Geraniums, per doz.	6 0	9 0
—Mollis.....per doz.	24 0	36 0			
Cyperus .....per doz.	4 0	12 0	Lily of the Valley, doz. pots	12 0	18 0
Cineraria ...per ooz.	4 0	8 0			
Deutzia.. per doz ...	6 0	9 0	Lilium Harrisii, doz.	15 0	30 0
Dracæna term., doz.	24 0	36 0	Lobelia, ...per doz.	4 0	8 0
Dracæna viridis, doz.	9 0	18 0	Marguerites, per doz.	6 0	12 0
Echeveria Pyramidalis.....	9 0	18 0	Mignonette, per doz.	5 0	10 0
			Palms in variety, each	2 6	10 6
Erica Willmoriana per doz...	12 0	18 0	Palms, Specimen ...	15 0	63 0
			Pelargoniums, per doz.	9 0	18 0
— various, per doz.	9 0	24 0	—scarlet .....per doz.	4 0	6 0
Evergreens, invar. doz	6 0	24 0	Primula Sinensis per doz.	4 0	6 0
Ferns, invar.. per doz.	4 0	18 0			
Ferns, small, per 100	8 0	12 0	Spiræas.....per doz.	8 0	12 0
Foliage Plants, doz.	12 0	60 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

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			Mignonette... 12 bun.	3 0	6 0
Arum Lilies, 12 blms.	2 0	4 0	Narciss. var., Scilly, doz. bunches	2 0	4 0
Bouvardias, per bun.	0 6	1 0			
Bluebells, doz. bchs.	0 9	1 6	Pelargoniums, 12 sps.	0 9	1 0
Carnations, 12 blooms	1 0	3 0	— scarlet.....12 bchs.	4 0	6 0
Cowslips, doz. bchs.	1 0	1 6	Primroses, doz. bchs.	0 6	1 0
Daffodils, double, doz. bunches	2 0	4 0	Primula, double, bun.	0 9	1 0
			Pansies, doz. bchs...	1 0	2 0
—Single, doz. bchs.	1 6	6 0	Polyanthus, doz. bchs.	2 0	4 0
Eucharis ...per doz.	2 6	4 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Freezia .....doz. bun.	2 0	4 0			
Gardenias 12 blooms	1 6	4 0	Roses, yellow, dozen	2 0	6 0
Heliotropes, 12 sprays	0 6	1 0	— Red..... doz. blms.	2 0	4 0
Hyacinths, 12 bunches	3 0	4 0	— Saffrano...per doz.	1 6	2 6
Jonquils, doz. bunches	1 0	2 0	— Tea ..... per dozen	1 0	3 0
Lilac, French, per bunch	4 0	5 0	Spiræas...doz. bnchs	6 0	8 0
			Tuberoses, per doz	0 6	1 6
Lilium Harrisii, doz. blooms	2 6	4 0	Tulip, doz. bchs	2 0	6 0
			Violets Dark, French, doz. bunches	1 0	1 6
Liliums var., doz. blms.	1 6	3 0			
Lily of the Valley, doz. bunches	6 0	10 0	—English, doz. bchs.	1 0	1 6
			Wallflowers, doz. bunches	3 0	4 0
Maidenhair Fern, 12 bs.	4 0	8 0			

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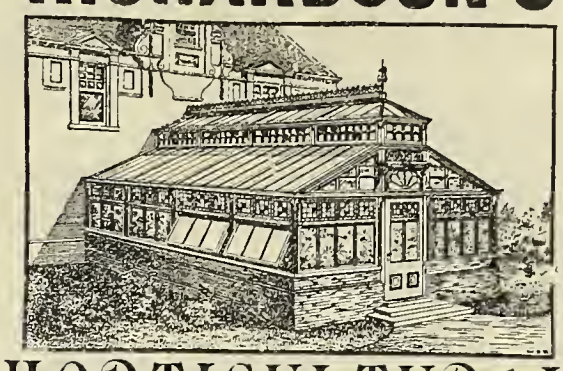

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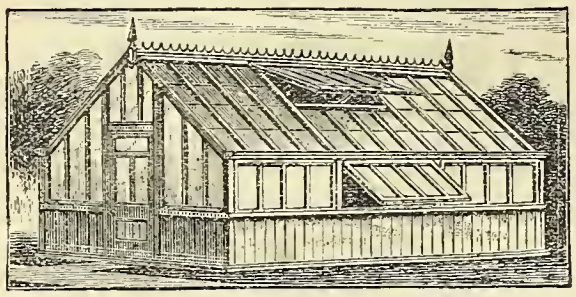

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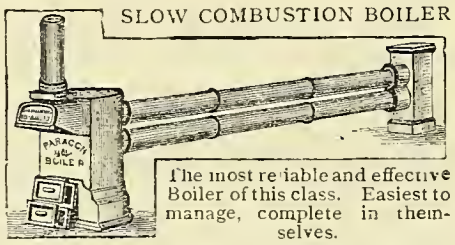

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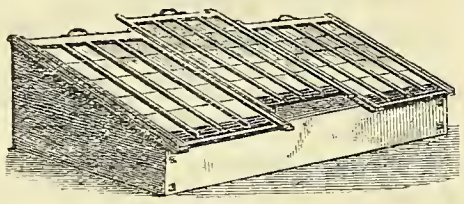

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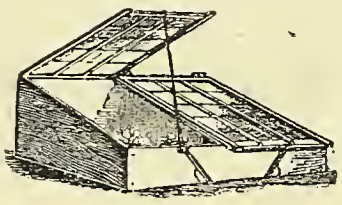

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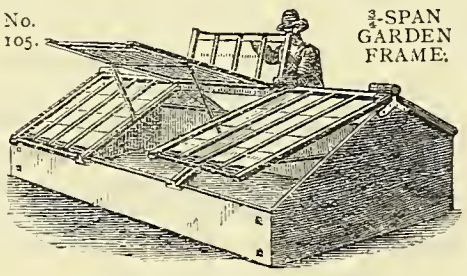

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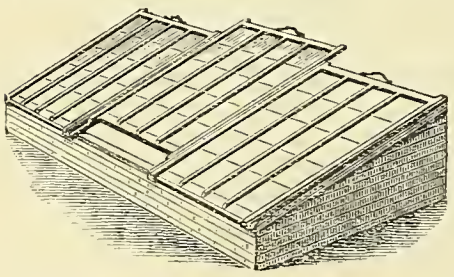

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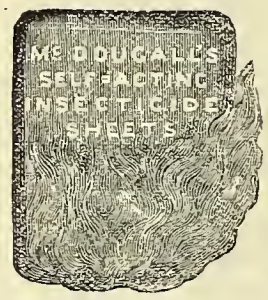

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McDougalls' Liquid Insecticide.—For *Use under Glass*
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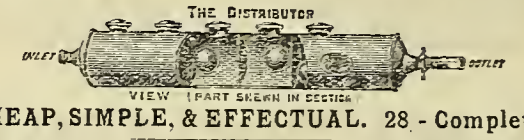

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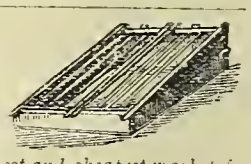

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With Supplementary Chapter on the Yellow Ground.
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Its History, Properties, and Management;
WITH
A DESCRIPTIVE LIST OF THE BEST VARIETIES IN CULTIVATION
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ONCIDIUM MACRANTHUM

As has never been seen at any Exhibition before.

SPECIALTIES OF THE FIRM

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Odontoglossum Crispum (Alexandræ), Imported, Semi-established, and Established Plants, with Flower-spikes, the very Finest Type obtainable. Prices on application. Thousands to select from.

Oncidiums, Cattleyas, Cypripediums, Masdevallias, &c.

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Red, White, Scarlet, Rose, and Mixed.

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Many First class Certificates have been awarded plants selected from this fine strain by the Royal Horticultural and Royal Botanic Societies.

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Guarantees to supply Begonias, First-class Quality, at one third the usual price, as follows:—

12 good single mixed, 3s.; 12 extra good to colour, 6s.
12 very finest, equal to named varieties at 5s. each, 12s.
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I could give a large number of Testimonials, but the following I think will be sufficient to prove the excellence of my Begonias.

HOGG HOUSE, BUXTED, UCKFIELD.
August 26th, 1891.

DEAR SIR,

You will be glad to learn that the Begonias I had from you in the summer have turned out remarkably well. The pinks and terra-cotta are specially fine, some of the blooms measuring near 6 inches across. The flowers are of fine form, and good substance in the petals, plants dwarf in habit, and free flowering, foliage robust. I shall have much pleasure in recommending them to my friends.

Yours truly, H. C. PRINSEP,
Gardener to Viscountess Portman.

To Mr. H. J. JONES,
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GRAND YORKSHIRE GALA,

JUNE 15th, 16th, & 17th, 1892.

£600 OFFERED IN PRIZES.

£270 for Orchids, Stove and Greenhouse Plants, &c. £100 for Pelargoniums, &c. £150 for Roses, Cut Flowers, &c. £80 for Fruits, &c.

SIX GOLD AND SILVER MEDALS.

Entries close on Wednesday, June 8th. Apply for Schedules to CHAS. W. SIMMONS, 13, New Street, York.

SUPERB STRAINS OF FLORISTS' FLOWERS.

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And the two Sterling Novelties of 1891,

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SINGLES, both selected to colour, and mixed. An excellent strain. First-rate flowering Tubers, started in pots and ready

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DOUBLE BEGONIAS, mixed, and to colour. In pots ready for delivery now.

A Few Only Left for Early Orders.

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And many other useful Families for Summer Bedding. All fully described.

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READERS of THE GARDENING WORLD will greatly oblige the Publisher by mentioning this Paper when writing to Advertisers.

For Index to Contents see page 601.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, May 24.—Sale of Orchids, at Protheroe & Morris' Rooms.

WEDNESDAY, May 25.—Royal Horticultural Society's Summer Show in the Temple Gardens (2 days). Sale of Palms and other plants at Protheroe & Morris' Rooms.

FRIDAY, May 27.—Great International Flower Show at Earl's Court (2 days). Sale of Orchids at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, MAY 21st, 1892.

HORTICULTURAL BUILDING EXPANSION.—The very original as well as interesting advertisement from Mr. William Cooper, the well-known Horticultural Builder, which appeared in our last issue, has doubtless attracted very wide notice. We draw attention to it now not for the purpose of puffing Mr. Cooper, who does not require it, but rather because his statements serve to show us, in the most matter of fact way, in how much the taste for gardening is expanding in all directions. The large grower of plants, or the high-class gardener, either of whom has glass-houses by the acre under his control, may smile upon the amateur's or working man's little greenhouse or frame, but none the less every little erection of this kind signifies an increase of horticultural work and of garden taste.

Our horticulture is not all composed of big places, although those of course presumably exhibit to us gardening in its highest aspects. The amateur with his small accommodation cannot rival the big grower with his houses of Grapes, Peaches, Tomatos, or of plants, but to him all the same his little house or houses contain that which is almost priceless, and perhaps in

his estimation unexcelled. He at least worships his products, his gardening is of the most enthusiastic order; it is with him a matter of soul, whilst to the extensive grower his extensive products are but matters of fact. What an impulse to the erection of small greenhouses also has the culture of Tomatos given? All who can like to grow their own fruits if possible, and although not one tithe of those who consume Tomatos can do so, at least the cultivators of these now popular fruits may be counted by thousands, for they soon find out the art of Tomato cultivation to be no enshrouded secret.

With many amateurs a few Roses for bottonhole decoration, with others Carnations, with myriads a few Chrysanthemums, are fancies which have strongly operated to make the trade of manufacturers like Mr. Cooper an active one, and long may that activity continue. When everything needful in a greenhouse or frame can be had cheaply to order, and is put together with a minimum of trouble, what wonder that these buildings increase.

Bedding Out.—How many gardeners are there just now who are busily engaged in the somewhat laborious as well as worrying duty of filling the beds and the borders of their gardens with the ordinary summer bedding plants The work seems to be now, as it has been for the last 40 years, as much a part and parcel of garden work as is the sowing of Peas or the planting of Potatos; and yet there can be no doubt but that to an appreciable degree it is as much a product of taste or of fashion, whilst the other work alluded to is of absolute necessity.

We may have bright, beautiful gardens, without bedding-out at all, but then we cannot with any degree of certainty secure anything like the same effects or permanent masses of bloom from ordinary hardy plants, such as tender plants give. Indeed whatsoever may be the objection to the bedding-out system they rather relate to style than to the plants employed, for it would be as uncalled for that we should deprive our gardens of the great wealth of bloom and beauty they afford, simply because of any prejudice entertained towards the bedding-out system of flower gardening. So far as the public are concerned we have ample evidence that summer bedding displays are with them just as popular as ever. That fact may be discerned in any of our public parks and gardens, where the public most do congregate, and where the bedding masses become for the time their National Galleries and Royal Academies, offering, in the floral pictures on turf delineated by the gardeners, attractions as potent as are those on the canvas of the artist.

It may not be good taste, but there it is in any case, and gardeners have to cater for it. Even still the carpet or mosaic beds are of the most popular, although no form of flower gardening could be more remote from natural gardening than are these combinations. Well, our gardeners must do their best with a troublesome duty. Probably most of them, even in the few months of summer which follow, find in the pleasure given ample reward.

Furnishing.—In all resorts of the wealthy, and of fashion, those who cater for the foliage and floral displays, now held to be indispensable adjuncts to festive or social gatherings as well as to the ordinary surroundings of town life, are also very busy. Those whose lives are of a somewhat prosaic nature, and almost entirely of the country, have very little conception of the extent and importance of the furnishing trade, or of the way in which it has developed during the past twenty years. The requirements of the wealthy have long outgrown all ordinary satisfying, and great occasions are only grappled with by high-class furnishers, who themselves plant or decorative artists, are also aided by staffs who have become artists also through long experience.

Then it is only in populous places, the metropolis for instance, where there is to be found that wondrous abundance of decorative plants, the which are so essential for high-class furnishing. The contractor can have all his needs satisfied from the plant market any morning. There is hardly anything which is not to his hand and in profusion, also of such remarkable excellence. It is doubtful whether any city in the world is better supplied with plants of all sorts or with better quality than is London. With the aid of these resources the contracting designer can perform wonders. He may in a few hours convert the barest or ugliest of places into fairy bowers, scenes of beauty and of enchantment, the which extort enthusiastic admiration. Then, in a more common place way, the furnisher too, is just now busy filling the window or other boxes with which so many town mansions and houses are annually decorated. Here again the market is ransacked to furnish its wealth of plants in variety, and usually in colours that are in complete harmony.

The better conservatories, halls, balconies, porticoes, vases, and other receptacles for plants are refurnished, too, just now, so that for a time, if all too short, our town gardeners are hard at work on these forms of bedding out. Not mere bedding stuff, but fine, well-flowered, handsome plants are in this way swallowed up by hundreds of thousands, even perhaps by millions, during the season, hence it is made very clear that town furnishing presents a most important, and we trust a lucrative department in horticulture.

Our Fruit Prospects.—The reports which we published last week, kindly furnished by gardeners from diverse parts of the kingdom, showed but too plainly how generally harmful to the fruit bloom were the severe frosts and intense cold winds of the past month. We have had little to complain of in respect of weather since May set in, and the Apple bloom, as well as the later Pear, Plum, and Cherry bloom, with also the Currants and Strawberries, have had trifling troubles to encounter. We shall probably get a fine crop of Apples, and of some other fruits, but Plums and Pears have been very materially harmed, especially in low or specially exposed gardens or orchards. None the less we do not doubt but that there will be in all gardens more or less crops of these fruits, for it almost invariably happens in the end that things are not so bad after all as they first seemed to be.

But the reports to which we refer showed very conclusively how difficult the culture of hardy fruits has become. Even wall trees where sheltered by coverings at night have had a troublous time, and the fruits materially thinned, and if they with the artificial protection secured thus suffer, how can the open or exposed trees hope to escape? We now find that trees that bloom in April, do so under conditions which make the chances of fruitfulness dead against the grower. It is one of those difficulties which no amount of fruit cultural teaching or of fruit exhibiting can overcome.

It would be folly to attempt to minimise the dangers which are incidental to hardy fruit culture, especially that spring after spring shows that these dangers in no way decline. Probably they strengthen as the years roll on. It must soon become with us a serious question as to how these troubles arising from low spring temperatures may be avoided or at least combatted.

Gardeners' Orphan Fund.—It will doubtless be gratifying to many of our readers who are supporters of this fund to know that the dinner on Tuesday night was an unqualified success, the subscription list amounting to a little over £1000. A report of the proceedings will be found on p. 598.

The Temple Flower Show.—The Fruit, Floral, and Orchid Committees of the Royal Horticultural Society will assemble at the Inner Temple Gardens, on Wednesday, May 25th, at 11 o'clock precisely. At 12.30 the exhibition will be formally opened by the president of the society, Sir Trevor Lawrence, Bart., M.P., and will close the following day (Thursday), at 8 p.m.

Presentation to a Gardener.—On Friday evening of last week, Mr. Cameron, gardener, Forglen House, N. B., was waited upon by a few of his friends, and presented with a handsome marble clock, and silver watch and chain. The clock bore the following inscription:—"Presented to Mr. Robert Cameron, gardener, by a few of his friends, as a mark of their respect, on his leaving the employment of the Abercromby family, at Forglen, after a service of thirty years. May, 1892." Mrs. Cameron was also presented with a beautiful tea service, and Miss Cameron with a silver brooch. Mr. Marr, gardener, Hatton Castle, made the presentations. Mr. Cameron feelingly acknowledged the gifts.

Royal Institution of Great Britain.—A course of three lectures, on "Some Modern Discoveries in Agricultural and Forest Botany," will be delivered at meetings of this institution to be held on May 28th and June 4th and 11th, by Prof H. Marshall Ward, Sc.D., F.R.S., F.L.S., Professor of Botany at the Royal Indian Engineering College.

Gardenias.—Mr. Whitton, Glamis Castle Gardens, Forfar, recently sent to a meeting of the Dundee Gardeners Association two young plants of Gardenia, full of flower and buds. The following cultural direction accompanied the plants:—"The cuttings, pretty large ones, were put in small pots on the 27th July last year, potted into flowering pots (5-in.) 10th September, wintered from November to April in a moderately cool temperature, average 50° Fahr. at night. The success of the batch induces me to repeat the experiment annually."

Mr. R. Whitehurst, for seven years gardener to the late Canon Fielden, at Honingham, Norfolk, has been engaged to succeed Mr. Little as gardener at Monks Orchard, Kent.

A New Park for Hanley.—The first sod of a new park, extending to upwards of a hundred acres, which has been acquired at a cost of £42,000, was cut on Monday afternoon by the Mayor of Hanley, Mr. Huntbich, amid public rejoicings. Five thousand pounds, to form the nucleus of a fund for laying out the park, was left by the late Mr. George Meakin.

A Colonial Seed Catalogue.—English horticulturists are for the most part familiar with the beautifully printed and artistically got up catalogues now issued by our leading seed firms, and many a time and again have these trade productions claimed our admiration for their exceeding good taste and the general fidelity to nature of their illustrations, but even we, who see most things in this way that are issued, were surprised the other day to find a colonial firm treading closely on the heels of our home producers. We had placed before us the seed catalogue for the present year of Messrs. Anderson & Co., of Pitt Street, Sydney, New South Wales, and which for several reasons has interested us much. It consists of some 200 quarto pages, and from the first page to the last bears a strong family likeness to the best of our home published catalogues, and singularly enough in perhaps nothing more than the nature of the articles offered. Looking through the various lists we cannot help being struck with the singularly meagre number of what may be termed especially local subjects that are enumerated. We don't grow Snake or Soja Beans, Pop Corn, Sugar Corn, Celestial Pepper, Rosella, or Water Melons, Okra, or Pak Choi, but, with these exceptions among vegetables, the public fancy in New South Wales would appear to be very decidedly English.

SEEDLING ORCHIDS.

The raising of seedlings, watching the young plants developing into size and vigour, and finally the flowering stage, all constitute a most interesting occupation to plant growers of any class who are really in love with their charge. In no class of hot-house plants is the operation slower, more tedious, and requires more careful supervision than in the case of Orchids. The seeds and embryo are so minute and require a considerable time as a rule before they show any signs of life at all, and a year often elapses before they can be said to be within measurable distance of getting established. Even then the individuals are subject to great mortality, damping off through too much wet, too much drought, and to be eaten wholesale by miserable and mischievous slugs which have not the slightest remorse in devouring the precious morsels at a single meal.

The cultivator and hybridist has therefore to be unusually vigilant in order to bring even a tithe of the seedlings to the flowering stage. Cypripediums, Cattleyas, Dendrobiums, Lælias, and a few others are favourite subjects with the hybridists, doubtless because they are useful and showy subjects in themselves, and sooner reach the flowering stage than any other of the kinds above mentioned. At Dibdin House, Hanger Hill, Ealing, the residence of F. G. Tautz, Esq., the greatest amount of attention is given to Cypripediums, while a few seedling Cattleyas and others may also be seen. Two houses are literally filled to overflowering with them, and as they continue to increase in size more house room must be found for them presently. We believe some new houses are to be built for them in the near future.

The seedlings exist in all stages, from the tiny and hardly observable seedlings on the sphagnum covering the pots of larger plants to those that have reached the flowering stage, or close upon it. Not many years have elapsed since Mr. J. C. Cowley, the gardener, commence to hybridise, yet he already has thousands of seedlings. One of the Cypripediums flowered in the early part of this year, and has been named C. Cowleyanum in compliment to the raiser. It is the result of a cross between C. Curtisii and C. niveum, the former being the seed parent. The leaves are intermediate between the parents, but show the vigour of the C. Curtisii. The upper sepal is white with about fifteen crimson-purple lines, and spotted and tinted with purple between the lines. The petals are ovate-oblong, spotted with purple-crimson and tinted with claret at the base, which gives them a handsome appearance. The lip is rosy-purple. Altogether it is a fine thing, and should a tithe of the seedlings now coming on approach anywhere near this for quality, the hybridist may consider himself exceedingly fortunate.

A considerable proportion of the Cypripediums are already in an advanced state, and fresh surprises presumably are at hand, to reward the constant care and attention which has been bestowed upon them. After the plants reach a size fit to occupy a 60-size pot, or even a considerably smaller one, they may be reckoned tolerably safe as far as slugs and vermin of that kind are concerned. Thumb pots, which constitute the smallest size for seedlings generally of all subjects other than Orchids, are considered large for the latter, and it has become necessary to fabricate a set specially for seedling Orchids. These are termed thimbles, and they are well named, for they are scarcely larger than the instrument of that name.

Now some special treatment is necessary with such diminutive utensils, otherwise the compost would get dried up in an hour's time during bright sunshine, and the seedlings would perish. One plan adopted is to stand the thimbles thickly together on a bed of ashes or a layer of sphagnum, preferably the latter, with the object of preserving the moisture. This in itself is a source of danger, because it affords lodgments to slugs, which sally out during the night to commit their depredations. Some growers collect the thimbles together in boxes, so as to keep them together, to facilitate watering by means of a rosed watering pot, and to preserve the moisture about them. Mr. Cowley arranges or closely packs these miniature pots in large pans, packing sphagnum about them to retain the moisture. When one plant only is grown in a pot the usual plan is to place it in the centre, but Mr. Cowley, who has tried that plan, believes that the plantlets do better when inserted at the side of the pot and in contact with it. In the case of cuttings of various subjects, it is well known to propagators that they root better round the sides of pots than in the centre.

PLANTS AS FOOD PRODUCERS.

I read with great interest the remarks which fell from Mr. A. Moore respecting the sustaining capacity of plants as foods for humanity, as well as for animals, published at page 582. When lecturing on plant products during the past winter, especially respecting fruits and vegetables, I did, when favourable opportunity offered, refer to their great value as sustaining foods, and urged their wide consumption. In taking that course, apart from certain social or moral aspects, I hold that I was acting as a consistent horticulturalist, because it is very important, whilst spreading information of a cultural kind, we should also do all that we can to popularise plant products and make them to be widely consumed.

What use is it to increase fruit culture, or of Tomatos, Mushrooms, Salads, Potatos, or anything else, unless we also urge their greater consumption, so that the wider cultivation might not be a failure. There can hardly be stronger evidence of the dietetic value of plant products as foods than is found as referred to by Mr. Moore, in their capacity to create juicy beefsteaks, indeed the bison, elephant, horse, and ox, all of the strongest and hardiest of animals, are herbiverous, and what it is possible for vegetable foods to produce in their case it is equally possible to produce in human beings. Of course man is not always so placed that he can have ready access to vegetables and fruits, and therefore he must adapt himself to a more composite diet. All the same, what with our canning and preserving of fruits and vegetables, it is now found possible to do much in dieting humanity the which not so long ago was impossible.

I may be perhaps regarded as singular; that, however, I care nothing about. I do hold that as gardeners we should not only do our best to popularise culture, but also products, for it is by the wider consumption of plant products that we hope to see gardening flourish, even though it may be that much of the profit should go to our horticultural friends in other countries of the world.—*A. D.*

TEA-SCENTED AND OTHER ROSES.

After Flowering.

It is when plants have furnished the bulk of their beauty for a certain term, that they generally receive more unkind and neglectful treatment than at any other period. This is exceedingly bad policy, and one which has a most disastrous effect upon them. In the natural order of things, all life is in its full vigour at the time a reproduction of species is in active process; consequently when a Rose has gone out of flower—and it is, or would be provided the blooms were allowed to remain upon the plant, about to perfect its seed—is naturally a most critical time of its existence. Although this fact is so self-evident to all who will observe and endeavour to treat their plants upon nature's lines as far as possible, strange to say, there are very few plants which receive proper attention after flowering. Among these we may reckon the Rose, especially the forced Hybrid Perpetuals and climbing Tea-scented and Noisette varieties. As these classes only produce one really good crop of flowers during the season under glass, they are naturally less looked after than those of the more perpetual flowering varieties; especially by those cultivators (?) who do not realise the great importance and bearing a judicious treatment of them at this time has upon their future well doing and usefulness. Such varieties as Maréchal Neil, William Allen Richardson, Gloire de Dijon, etc., etc., will now be out of flower in all greenhouses, whether forced or allowed to come on naturally, and it is in the hope of securing them a more rational treatment that I venture to give these few remarks. As soon as these Roses have finished their main crop of flowers, they are either actively at work producing more long and vigorous shoots for next season's use, or are just upon the point of so doing. It is very necessary that these be thoroughly and efficiently ripened before winter weather sets in, and there is consequently great benefit derived from securing as early a growth as possible; besides, such early shoots, providing they break from towards the base of the plant, are generally the strongest and most prominent of all the dormant eyes, and will form better growth in every way than those which break later on, and which were probably checked somewhat by the neglectful treatment I am anxious to warn my readers against.

The two chief forms of this neglect are, an insufficient and irregular water supply and too early and free ventilation. Under these conditions, mildew and many other ills are apt to attack the plants with far greater severity than when a little care is taken of them for a short time longer. Plants that are cultivated in pots, are too often removed to another house—and sometimes even stood out of doors direct—as soon as their present beauty is past. A little thought will show how great a check they must receive from such complete changes. If they must be removed from their position, at least give them as nearly the same treatment elsewhere as possibly can be; and above all, continue their water supply and the frequent use of the syringe. It is at this time when the application of liquid manure is so beneficial, and I would also warn against giving this too strong. Although Roses like a rich soil, and when in full health and growth will take a large amount of liquid manure, there is nothing more injurous to them than an overdose of the same. This kills the young roots at their tips, and affects the whole constitution of the plant very quickly. It is also unwise to apply liquid manure when the plant is dry at the roots. Under such circumstances it will be much better to afford them a first watering without any stimulating medium, and apply the manurial help in the second application.

Where plants are turned out in a border in the greenhouse or conservatory, they will need a most thorough watering once or twice a month during the growing period, according to the nature of the soil, its quantity, and the position in connection with flues or hot-water pipes. It is useless, and in fact, harmful, to give such plants little driblets of water that will only moisten the surface soil and prove very deceiving to the inexperienced as to whether the plant be dry or not. Unless sufficient water be afforded to reach the main and feeding roots, little benefit can accrue from such help. In places where liquid manure in a natural form is not easily obtainable, I would recommend a very slight sprinkling of guano or of Standen's manure; the stimulating and feeding properties of these will be carried down to the roots at each time of watering. Standen's manure is preferable to guano as being slower in action and not so likely to prove injurious through too free an application; it also has full and reliable directions for use upon each box or tin, and is very useful to the amateur.

Towards the end of the summer, all the light and air possible must be given to the plants, as upon this depends in a great measure the efficient maturation of their growth, and consequent freedom in flowering during the following spring. All of these remarks apply to all forced Roses, whether in pots or turned out into borders; but they are more especially intended for the strong growing climbing varieties. —*Experience.*

PACKING PLANTS FOR SHIPMENT.

Writing about how to pack plants I find more difficult than to do the actual work of packing; but, as I have been called upon to give a paper on this subject I will give you what I have found to be the most convenient and safest way to pack plants during the cold weather.

In packing Palms, such as Arecas or Kentias, always commence on the outside and work towards the centre. By doing this you will have more room to work and will not be so liable to break the plant. After seeing that the plant is clean and free from scale, you may commence by tying the pinnæ to the centre rib of the leaf, starting at the bottom and working upwards until the leaves are all tied up. When all the leaves are tied up as described, then tie all the leaves together. If the stems are strong it is best to tie two or three together, commencing in the centre; by doing this you will equalize the strain, which otherwise would damage a leaf if not spoil the

plant. You now have the plant tied up, the next thing to do is to stake it, which is in most cases a very important matter. For this I prefer a bamboo, as they are light and strong. Press the stake into the soil, keeping it as near upright as possible, then secure plant and stake, tying both together. Wrap the plant all over in paper, tie securely; next put on a cover of cotton batting, tying it on, then put on the final covering of strong paper, tie securely, and the plant is finished. If the plant is going a long distance, and is likely to be two or three days on the journey, it is best for the packer to use his own judgment and put on extra paper for the final covering. You will find it is cheaper in the end, and what is more to the point, it gives greater satisfaction to the buyer to receive his plants in good condition than for them to be partly frozen.

This way of packing will serve in all cases of Palms such as Areca, Cocos, Rhapis, Seaforthia, Kentia, Ptychosperma, and Oreodoxa. Other Palms to be packed in a different way are Latanias and all Palms with broad or palmate leaves. On account of their leaves it is not safe to tie them up as you would an Areca. Commence by tying the stems so that the leaves are flat; secure all leaves in this way and then stake your plant; in doing this you must use two good stakes, tying an extra piece of stick across the top of the stakes to give the required width; secure all stakes, pass a few ties around stakes and plant, and cover as recommended for the Arecas. This packing with two stakes can be done with success for Palms such as Latanias, Ceroxylon, Corypha, Livistona, and Phœnicophorium.

In packing stove plants such as Cyanophyllum or Spærogyne great care must at all times be exercised, for by bending the leaf a little too much it will break off, and the plant is ruined—except for the propagating house. In packing a Cyanophyllum measure the height of the plant and cut the stakes accordingly. Use two stakes with a cross piece, stake your plant so that the leaves are flat; before tying up the leaves place between each pair of leaves a piece of oil paper to prevent one leaf touching or rubbing against the other, tie up each pair of leaves separately, cover with tissue paper, then cotton batting, and last, but not least, put on the covering of strong paper. Anthuriums and Caladiums can be packed in this manner, but as their leaves cannot with safety be turned up it is best to draw them all into the centre, still keeping them flat, and pack as you would a Cyanophyllum.

The plant I have had most trouble with, and which requires the most care in packing, is Bertolonia Van Houtteii, on account of its short and tender stems; but to do away with all difficulty I have found it best to use four stakes and let the plant remain as near in its natural growing position as possible. After securing the stakes wrap up the whole plant in either oil or tissue paper, cover well with cotton batting and finish with a sheet of paper. As the Bertolonia is one of the tenderest stove plants we have, great care must be taken in packing to guard against frost.

In packing Orchids great care and good judgment is essential. Take, for instance, a plant of Odontoglossum crispum with a spike of flowers varying from twelve to twenty full blooms; to look at such a plant would be enough for most people and, as for packing it, why, it would be simply out of the question. How to pack such a plant is learned by experience and practice only. No one can learn by simply watching an experienced man pack one. It is only after failure that success is achieved. To pack an Odontoglossum in flower get a light, strong stake, measure and cut it about 2 in. longer than the flower spike, wrap the stake in tissue paper and put it as near the centre of the plant as possible, securing firmly. After you have secured the stakes and cut some tissue paper into strips of about 1 in. wide, commence binding the flower spike to the stake. Now is the time to see whether a man can pack an Orchid in flower or not. If he is new at packing such a plant he will undoubtedly break off several of the flowers before he is through, but if, as the saying is, "he has been there before," he will bind up the whole flower spike without breaking a petal. Having gotten the flower spike securely fastened to the stake the rest is simple and easy. Get four more stakes, paper them, and stick one in each corner of the basket or pot. If in a basket and the stakes are not firm it is well to tie them to the basket and so prevent any chance of a stake getting loose and the flowers being broken. Next cut four sticks to fasten to the top of the stakes. In doing this see that none of the flowers touch the stakes; if they are likely to touch cut the sticks longer and spread out the stakes, thus giving the flowers all the room necessary. Tie the flower stake at the top so that no movement is possible. After satisfying yourself that the stakes are fast wrap the plant up in tissue paper, then cotton batting and strong paper.—*Arthur T. Caparn, in "The American Florist."*

DUNEDIN, STREATHAM HILL.

The villa residences along the main road at Streatham Hill have large gardens both in front and behind, and in the front gardens especially trees are largely planted, and give a fine effect to the whole particularly at this time of the year, when the varied tints of spring foliage are just showing themselves again in all their beauty. Now more than at any other time till autumn the trees have an individuality of their own till the fully-matured foliage assumes more nearly a uniform greenness. Amongst these villas is Dunedin, the residence of N. N. Sherwood, Esq., who has a considerable extent of garden ground behind the house, under the care of Mr. Jones.

The cool Orchid house is now very gay with Miltonia vexillaria in considerable numbers and variety. All the occupants of this house are in fine condition, and many of them are in bloom, but the Miltonias constitute the leading feature on account of their numbers. Some have rosy-purple flowers uniformly all over with exception of the golden-yellow disc with three red lines radiating from it. Others are paler, and some plants have the lip spotted all over with deep red markings. The plants are all in excellent vigour. Odontoglossum crispum is also flowering in some quantity. In some cases the flowers are heavily suffused with rose, and some are pure white with broadly ovate, imbricated, and toothed petals, and elliptic sepals that are correspondingly wide. The spikes of O. Pescatorei are branched. Some variety may be noted amongst the flowers of O. triumphans, but the blotches are in most cases of a rich dark hue. O. luteo-purpureum sceptrum is very distinct and pretty, although the flowers are never so large as those of the type also flowering here. Some beautifully marked forms of O. crispum Andersonianum stand out prominently amongst the other kinds, on account of their delicate and ever-changing tints. The younger flowers are darkest in colour as far as the yellow is concerned. Two very fine pieces with large pseudo-bulbs and well marked flowers bloomed recently. Others now flowering are O. Rossii majus, O. luteo-purpureum radiatum, and O. polyxanthum with its curiously concave, chocolate-brown lip margined with white. Masdevallia Harryana and M. Veitchi serve to give variety to the whole.

The Cattleya house includes a variety of subjects, amongst which Cypripedium Lawrencianum was notable for the size of its flowers. Dendrobium Cambridgeanum flowers on the young wood while the leaves are still quite fresh, so that the effect of the blooms is considerably enhanced by the foliage, which is of a rich, dark green hue. Near by is a fine piece of D. thyrsiflorum, the orange-yellow lip of which contrasts finely with the white sepals and petals. Cattleya Mossiæ, C. Skinneri, C. citrina, and Lælia purpurata are now in season and represent this popular class of Orchids. C. citrina is grown on a block and is as fragrant as ever. Here also may be noted Odontoglossum citrosmum and O. hastilabium, the latter having branching spikes. Trichopilia suavis is also in bloom, as well as the fascinating C. bellatulum.

A stove forming a compartment at the end of the Cattleya house contains some grand samples of Eucharis grandiflora, of which about twenty-seven spikes of bloom from a pot were obtained about Christmas. Suspended from the roof in baskets are some specimens of Nepenthes Mastersiana and N. Rafflesiana well furnished with last year's pitchers. The side shelves are occupied with Aralias, Crotons, Pandanus, etc. Orchids may also be noted here, particularly Phalænopsis, including P. grandiflora with large blooms. Dendrobium Dearei, D. Stratiotes, and Vanilla aromatica are also doing well, and all in bloom, the latter being trained along the roof.

Close by is another stove occupied with a varied assortment of Ferns, Caladiums, Anthuriums, and Gloxinias, the latter being in bloom. Melons are grown upon the roof in summer. Aërides odoratum finds a place here. Behind this is a cool house containing Miltonia vexillaria, Cœlogynes, and Cypripediums, where in fact they are grown until they come into bloom. Another low house is occupied with double forms of Chinese Primulas. Calceolarias in considerable quantity and variety are now flowering in frames. Another cool house is occupied with Azaleas, Lilium Harrisi, and Tomatos along the front. The stems of the Lilies are 4 ft. high, and bear five to six flowers on each stem. The occupants of the cool fernery planted out on tufa rockwork, are now commencing to grow again. Cibotium spectabilis. Davallia platyphylla, Nephrolepis exaltata, and fine foliaged Begonias are still in good form after the winter. The tufa is covered with Ficus repens.

BORDER CARNATIONS.*

When, some years ago, I first commenced to take an active interest in the cultivation of the Carnation, I was sanguine that I should be able to produce from the open border blooms which should rival, if not surpass, those cultivated under glass. My anticipation was, of course, as you must all know, a mere piece of presumption, a seedling from enthusiasm crossed by ignorance or want of experience. I do not, however, now regret that my aim was somewhat loftier than I could hope to realise, as it taught me, at any rate, to be dissatisfied with anything but the best, and encouraged me to seek that best by all means in my power. I feel it as a compliment, altogether beyond my deserts, that I have been asked to-night to open the discussion upon this subject, and I feel that I cannot do better than give, in as simple words as I can, the result of my own experience.

The first and most important fact that I learnt, and one that has subsequently been confirmed by many disappointing experiences, is that all Carnations are not suitable for open air cultivation. This is one of the points upon which I hope to hear some remarks this evening; I state it as a conclusion to which my own experience has led me. Do not understand me to call in question the hardiness of the ordinary Carnation (of course I am not speaking of the Malmaison type). No doubt all Carnations will live, and all will bloom more or less without shelter of any sort. But one variety will give eight or ten good blooms in the open border where another will give but one or two, and those very inferior to what the same variety would produce when cultivated under glass. The first thing to be decided, therefore, is what varieties should be grown. It is impossible, or rather I should say it would be useless, to give names, for I have found Carnations singularly sensitive to the influences of soil and climate, and that varieties which will do well in one garden will by no means necessarily thrive in another, even though it be but a few miles distant. For instance, I have several neighbours at Hayes, one in particular some two and a half miles from me, in whose garden the old Clove Carnation flourishes magnificently, whereas, with me at Hayes, they all, year after year, perish miserably from spot, until I am almost forced to confess that I cannot grow them.

They should not be "Bursters."

The first essential, to my mind, in a border Carnation is that it should not be what we call familiarly "a burster." All Carnations will at times, and in certain seasons, show a tendency to this weakness, as we know only too well; but certain varieties with short, round, flat-headed buds always must burst their calyx, the very form of the flower bud necessitates it, and such varieties should never be planted in the open border, for the weather, the bees, and the earwigs will spoil every bud before it is well open. There are certain characteristics required for all border varieties. They must be of vigorous habit and free flowering, preferably of dwarf rather than tall growth, and they should be inclined to make hard and wiry rather than "sappy" grass. There is no doubt that this matter of the nature and character of the growth is of much importance, and that there are many varieties apparently of extremely vigorous type which will not stand great vicissitudes of weather in the winter. About four years ago I raised two or three varieties of apparently very vigorous habit, with which I was much pleased. They

* A paper read by Martin R. Smith, Esq., at the last monthly conversazione of the Horticultural Club, May 3rd 1892.

had the foliage of the Clove if not almost of the Malmaison—that is, succulent and sappy. They did famously the first year or two, but the winter before last killed every one of them. I tried to recover them from friends to whom I had given them; but they were all gone—finished off by the same winter.

Again, border Carnations should be of erect habit—that is, should hold their flowers up to look you in the face. Half the effect of flowers in the open border is lost when they have a pendulous habit, and present to the spectator only the back of the bloom. It is also tedious to have to stoop and turn up every flower that you may wish to examine. As I have said, my experience is that Carnations are very sensitive to peculiarities of soil and climate, and for this reason I have always counselled friends who are starting Carnations in the open to commence with varieties which thrive in their own vicinity, and to extend their stock gradually by experiment.

DON'T WANT CODDLING.

One peculiarity Carnations have, and I fancy it is the same with all flowers, and that is the commoner the type the more freely and vigorously do they flourish in the open border. There is herein a temptation to gardeners to be satisfied with such flowers in the open, and to grow their finer varieties exclusively under glass. This is the very thing I have always set my face against, for I believe absolutely in the unlimited capabilities of the Carnation to adapt itself with time and cultivation to all circumstances. I think, indeed, that up to a few years ago we had got altogether into a wrong groove, and by growing Carnations almost exclusively under glass were running a serious risk of developing for ourselves a delicate class of flowers. Fortunately, however, good gardeners found out their mistake in time, and returned, with sound reason, to the hardier treatment which was given to these flowers by our forefathers. Everyone now repudiates the idea that the ordinary Carnation requires coddling, but harm has been done, and we do possess beautiful and highly valued varieties now which can only show their best when protected from the weather. Perhaps the most effective display of these flowers in the open border is made by masses of self Carnations, and I should be inclined to say that at present, as a class, they are freer, more vigorous, and better adapted to the open border than the majority of the flakes, fancies, and bizarres now in cultivation. I should like to hear the opinion of others upon this point.

FRESH VIRGIN LOAM THE BEST FOR THEM.

With regard to the border, my experience is that nothing is so suitable to the growth of the Carnation as fresh virgin loam, not too heavy, and certainly not too light. Nothing in the shape of manures, or artfully and ingeniously devised composts, will produce the same rich vigorous growth and the same wealth of bloom as fresh loam. The latter and a liberal addition of thoroughly well-decayed manure, say from old hotbeds, is all that is required. You may add road scrapings, bones, charcoal, lime rubbish, sand, what you please almost, and they may do good—at any rate, they can do no harm, if the foundation of your border is sweet fresh top spit. My own system is to remake my Carnation border every September as soon as the layers are ready for removal. When we are satisfied that this is the case we put on the whole strength of our staff and set to work. By the side of the border are cartloads of fresh soil and well-decayed manure, some crushed bones, and lime rubbish. The layers are lifted for some 20 ft., the portion of the border from which they were taken is well trenched, and the surface raised with the fresh loam, manure, and other materials. The whole is then trodden fairly firm, and the layers are at once planted, the number and position of each variety having been previously decided on, the same process being continued until the work is completed. I adopt this system as I am compelled by want of space to use the same border year after year for my plants, and I find that if I am stingy with my fresh loam I get a correspondingly inferior result. Had I room I should prefer to occupy fresh ground every year for my flowers, and thus be able to prepare the ground at my leisure.

I have frequently advocated this liberal use of fresh loam, and am constantly assured that though it may be good it is not necessary, that the expense is too great, or that the material cannot be obtained, and am confronted with the fact that many growers, notably my friend Mr. Rowan, produce their beautiful blooms without the annual renewing and remaking of the borders which I have recommended. I can only reply that skill and experience will do wonders, but that fresh loam is to the majority of mankind more easily obtainable than either one or the other, and will produce the same result. Fresh loam, like charity, covers a multitude of sins—sins of omission and commission, sins of ignorance and of carelessness. I look upon the matter of pure sweet fresh soil as the great secret of successful growing of the border Carnation. You all, doubtless, knew it perfectly well, as you all knew the other great secret, which is early autumn planting; but thousands of people who grow Carnations do not know these simple facts, and hundreds of gardeners who ought to know them do not act upon them. This early autumn planting is, perhaps, more important than anything. Plants established in their flowering quarters before the cold season sets in will, as a rule, laugh at any weather. Losses, no doubt, there must always be from maggot, wireworm, and other causes, and I find it necessary to keep a reserve of layers in 60 size pots, from which I fill the vacancies in the borders at the first moment after the middle of February when we are favoured with open weather. My experience is that the sooner this is done after the middle of February the better. I generally remove at the same time any plants that look sickly, for Carnations are like pigs, it is very little use to attempt to doctor them: when once they get ill you may as well kill them.

SUPERIOR QUALITY OF HOUSE-GROWN FLOWERS.

As I have acknowledged, the Carnation grown out of doors cannot compete in beauty of bloom with those grown under glass, and for this simple reason we cannot give to the plants in our borders the protection overhead afforded to those in pots. They are at the mercy of heavy rain storms, of bees, of earwigs, and of slugs. I am sure last year I had many hundreds of blooms decay by rain before the buds were half open. You may do something towards keeping down earwigs, and ought to be a match for the slugs; but the bees, especially the bumble bees, are too much for anyone. Thrips, too, is a very serious trouble out of doors, and my plants suffer much from it. It cannot be treated by fumigation as in a house, and syringing with any composition you may like to mention I have found a very inefficient remedy. It must be allowed, then, that blooms from border Carnations cannot compete with those grown under glass, but only because it is impossible to protect them at the critical moment of the opening of the buds. Apart from this, I believe that they will produce blooms fully equal to those raised in a house.

THE YELLOW GROUNDS.

Before concludlng I should like to say a few words, and to ask for the experience of others about yellow ground varieties out of doors. I find that at Hayes that they are distinctly, as a class, less vigorous and free than the ordinary Carnation. At times I get lovely blooms, but the plants are as a rule poorer and weaker than their neighbours in the same border The best doer, so far, with me is certainly William Threlfall; but it is not a variety that I care much for, as the flowers with me are generally rather thin and poor. Our old friend, Pride of Fenshurst, certainly gives me the best yellow blooms; Germania is a comparative failure; Benary's Madame Van Houtte promises to do well with me, and Agnes Chambers last year proved both vigorous and free. I confess, however, that either I do not understand the yellow grounds, or that my soil and climate do not suit them. Do what I will I cannot get them to thrive as a class. Here and there I get a good and vigorous plant, but as a rule they can be unfailingly picked cut from their nsighbours by their less satisfactory appearance. However, I am encouraged by a fancy that the varieties I have had for some time are improving, and my hope and expectation is that they are acclimatising themselves. My garden lies rather high, and the only soil that I can get within reasonable distance is rather too light and hot.

It is a great pleasure to me to see the daily increasing interest which is attaching to the cultivation of the Carnation. I have in my own vicinity at Hayes ample evidence of the fact, for many of my neighbours appear almost as keen about them as I am myself. We have already scores of lovely varieties well suited for border cultivation, and I look with confidence to a considerable increase both in the number and beauty of such varieties during the next few years. To this end I exhort all my friends and neighbours to raise seedlings. Apart from the fact that there is nothing so lovely in this world in the way of flowers (to my eyes at least) as a bed of well-grown seedling Carnations, with its wealth of bloom of every shade and variety of colour; it is also certain that a patient and intelligent perseverance in this most delightful pursuit will be rewarded sooner or later by the production of varieties greatly in advance of those we now possess, more vigorous, freer flowering, still more exquisite in form and colour, and thoroughly well able to withstand all the rigours of our most detestable climate.

SOME DELIGHTS OF GARDENING.

WHEN the gardener knows his flowers widely, he will even begin to see that colours have their special odours, that there is an analogy between all purple flowers, all blue flowers, that we must not expect a red flower to smell like a white one. He will find that textures have also their influence; at least that flowers of a certain texture have some similarity of odour, and that also certain textures incline to certain colours. The strongest similarity of odour is between all white flowers of a thick smooth texture—the white Lilies, the Jasmine, the Tuberose.

They are not alike, but their dissimilarity is a matter of degree, not of kind. It would seem to amount almost to a difference of kind; to me, at least, the white Lilies are exquisite out of doors, the Jasmine is so heavy as to be unpleasant, and the Tuberose is horrible and deadly. Sumachs smell like Raspberries, which they resemble in colour.

To study a garden is to feel that the study is without limit. It is an education in itself. To make a garden is to be born again; to find one's self suddenly become a person without prejudices (in regard to this thing at least); to find that one has begun to build a great temple, in which the flowers are the building stones, and each must count for its real merits, irrespective of tradition. A Rose shall be a Rose, but not the queen of flowers, unless it builds better into the general scheme than any other flower.

You will not despise the lowly Mignonette which may cover your bare ground with tender green and subtle fragrance and make a fine groundwork for a showier thing to spring up above and be seen against it. You will find the blatant Dahlia or the magnificent Peony as full of sentiment as the Lily of the Valley. It will depend on its placing how much you will value it above the flower you have always loved most; for somewhere, you will find, you must have this telling note of colour to make your harmony complete.

The wise gardener conceives his garden in relation to his soil, his capabilities and his climate, and his taste will be hemmed in and at last modelled by these considerations. He will have the garden that he finds possible, not that which he conceives apart from all limitations, and it will be none the less beautiful. We learn to love most the flowers that grow willingly in our own bit of earth.—*Harper's Bazar.*

FRUITING OF STEPHANOTIS, &c.

I READ the short description of Dalkeith Gardens by your correspondent "X. W." in your issue of May 7th with much interest, as some eighteen years ago I was fairly well acquainted with the gardens there. Your correspondent mentions the fruiting of the Stephanotis, and I thought it might be of some interest to say that a few years ago we gathered a fruit off a magnificent plant here, and I think all the seeds germinated, but they were thrown away with the exception of two plants, which are now flowering and promise to be as floriferous as their parent. Adiantum Farleyense also does remarkably well here; it grows quite as freely as the common Maiden-hair Fern without any special treatment, but I think there must be something in some loams which is suitable to their requirements that is absent in others, as I have known some cases where these beautiful Ferns were treated with the greatest care and plants were got from different sources, but after the first year or so they almost invariably died out. I have heard of Mr. Dunn before now as a most courteous gentleman and I could wish that more gardeners inherited the same qualities. It does not infrequently happen now-a-days that when a gardener, wishing to see some place of note, has overcome sundry difficulties before he can possibly be ushered into the presence of the awe-inspiring head gardener, and is at last face to face with that personage, he is not unfrequently met with the curt and sometimes (all the circumstances being taken into consideration) freezing reply, "Oh, just tell my foreman to take you through." Common courtesy as between brother workers demands better treatment than this.—*J. N., Beldale.*

FLORICULTURE.

The Royal National Tulip Show.

The annual exhibition of the above is announced to take place at Manchester on June 8th, and that date, late as it may appear to us in the South, is, I should think, quite early enough for the northern growers. The place of the show is not yet announced, but that will appear in the schedule of prizes in course of preparation. An appeal is made by Mr. James W. Bentley, the hon. secretary, Stakehill, Castleton, Manchester, for subscribers, in order that the prize schedule may not suffer for lack of means. The committee of the show have to deplore so many losses of cultivators by death, and there is urgent need for some young growers to step in and take their places. It would be a great pity if a flower possessing such a fascinating vegetable physiology and of so much historic interest as the Tulip, should die out for lack of cultivators. It has almost ceased to be grown in the South; a few can be found in the neighbourhood of Oxford. Warwickshire furnishes a small quota of growers; the main of the flowers are, however, cultivated in Cheshire, Derbyshire, and Lancashire. Time was when an exhibition of Tulips was held in London. Will a revival of the flower ever come in the South? To lose the florists' Tulip would be a decided loss to Floriculture.—*R. D.*

CHRYSANTHEMUMS.

"Cut-back *v.* Non-cut-back."

At a recent meeting of the Dundee Horticultural Association the subject of cut-back and not cut-back Chrysanthemums formed the subject of two separate papers. Mr. John Machar, Corona Gardens, West Ferry, in opening the first-mentioned part of the subject, as it related to the production of large blooms, as well as for decoration, said that to produce and bring about an effective display of Chrysanthemums in the conservatory with a minimum amount of trouble it was absolutely necessary to adopt the cut-back system. By its means they were enabled to produce plants of a convenient height. He then proceeded to give the more practical details of culture, recommending the cuttings of all the Japanese varieties should be rooted from the middle of December to the middle of January, and that about the first week in February the main batch of incurved varieties should be put in. General directions were given as to the soil most suitable for potting, along with the general treatment received by the young plants. Plenty of air was necessary, so as to encourage sturdy growth and firm foliage. This he considered the secret of success. Sprinkling the plants overhead with water, especially at night, was, he considered, detrimental to all good growth. Plants before being cut back must be established in 5 in. pots, and from 12 in. to 24 in. high, with a fine sturdy growth and firm leaves down to the soil. The stem might be cut down to within 4 in. or 6 in. of the pot, provided sufficient foliage were left for the plant to perform its functions. He recommended to begin cutting down the late varieties about the middle of April, and continue the operation, according to varieties, up to the last week in May. None should be cut down later than the first week in June.

Mr. Wm. Kennedy, Ardarroch Gardens, Dundee, followed with his paper on the non-cut-back system. He said the aim of those who favoured the cutting back of Chrysanthemums was principally to reduce their rather objectionable growth, and he pointed out the evils arising from this system of culture. He preferred rather to delay rooting the cuttings until April and May. It was suggested by way of reducing the height of the Chrysanthemum to raise them from seed yearly, selecting only the most dwarfed of the crop. This repeated for a few years would, he thought, give us the height of plants required without having to transgress the laws of growth, which the cutting-back system demanded. A very interesting and instructive discussion followed on the various points brought forward by the readers, who at the close were heartily thanked for their papers.

Chrysanthemums for Exhibition.

Will some good Chrysanthemum grower kindly tell me when the under-mentioned Chrysanthemums should make their first or June break, so as to bring the crown bud of each variety out at the proper time:—Japonais, Madame Baco, Grandiflorum, Mrs. Wheeler, J. Delaux, Mrs. J. Laing, Baron de Prailly, Comte de Germiny, Mrs. F. Jameson.—*W. S.*

With the exception of Mrs. Falconer Jameson all the above are what would be termed ordinarily managed varieties, needing nothing special to produce exhibition blooms at the usual time—from the first to the middle of November. If the cuttings were inserted any time during December, the plants grown strongly on since then, restricted to one stem, some of them will be showing their first bud, others will quickly follow. Where a difficulty is experienced in obtaining the first natural break of the plant at the correct time it is generally owing to some mismanagement in the cultivation of the plants, the cuttings inserted two months after the best time, or the plants have been huddled together in a too warm house which induces an unnatural growth; small wonder then if we hear complaints that the buds do not show at the correct moment to ensure good blooms. The best method of obtaining the finest blooms of Mrs. F. Jameson is to place two plants in one 9 in. pot or three in a 10 in. one, restrict the growth to one stem each and thus seucre one bloom only on each plant. The finest blooms of this variety are obtained by "taking" that bud which forms at the first break, this variety is later than the majority in showing the first bud. Although this may appear to be much too early to "take" flower buds it is not so, this variety requires a very long time to develop from that stage.—*E. Molyneux.*

A HEAVY SET OF PEACHES.

Much anxiety was felt for the fruit crops during the trying month of April, and even in the first half of May. Even yet it may be somewhat difficult to guage the extent of the Apple crop, for late as was the blossom in expanding it did not escape the relatively severe frosts in the first week of this month which killed the pistil in all the open flowers, causing it to become black to the very base of the ovary. The effects were very deceptive, because, although all the centre of the flowers was dead, the petals expanded as if nothing had happened, and the stamens were in many cases only partially injured. All these flowers must, however, eventually drop whether the others do so or not, and then will the extent of the disaster be more fully seen.

Peaches on the open wall were in full bloom at a much earlier period, and, although frosty nights prevailed, both the atmosphere and the trees were in a very dry condition, so that, with a little protection, a considerable amount of frost could be warded off. Wherever we have examined the Peach walls since then we have noted a good set of fruit, but nowhere yet have we noted such a crop of young fruits as that to be seen in the gardens of the Royal Horticultural Society at Chiswick. The trees were protected by means of light shading material hung from the top of the walls on what threatened to be frosty nights. The trees now show no evidence of a severe spring, but, on the contrary, would suggest that there had been a fine autumn succeeded by a propitious and favourable spring. In some establishments the effect of the sunless and rainy autumn is more evident upon the trees under glass than those on the open wall, the wood being green and badly ripened.

There are two Peach walls at Chiswick, both, as a matter of course, having a southern aspect. Part of the older planted wall is covered with obliquely trained trees, having single stems and short ascending branches on each side. These were originally planted thus closely together because trees were numerous, and to cover the wall quickly. The rest on this wall are planted relatively closely together, compared with the old system of planting fan-shaped trees at long distances, and waiting for years to have the wall covered. The branches are trained in the usual ascending fashion, but the trees can hardly be termed fan-shaped, as they are too near at the base to allow of the plan in its strict form to be followed.

A large number of varieties are planted on this wall, there being few duplicates, so that should they mature only a tithe of the fruit set upon them (and there is a reasonable prospect that they will), a good opportunity will be afforded of comparing the relative merits of the different varieties. It will in fact constitute a trial of Peaches and Nectarines. As far as an unusually heavy set is concerned the following may be placed in the front rank, namely, Dr. Hogg, Early Louise, Prince of Wales, Late Admirable, Acton Scott, and Early Rivers on the obliquely trained single-stemmed trees; while amongst trees trained in the usual style are Frogmore Golden, Late Admirable, Stirling Castle, French Mignonne, Violette Hâtive, Stump the World, Goshawk, and Early Beatrice. If any might be mentioned specially for their crops they are, Goshawk, Dymond, and Dr Hogg, but a second tree of the first named is not so well set.

A number might be placed in a second rank, as they are not so heavily set as those above mentioned; they, nevertheless, bear far too many fruits for the trees to bring to perfection, so that even here a considerable amount of thinning will have to be done later on even after making some allowance for dropping. In the second rank there may be placed Vanguard, Gregory's Late, Early Alfred, Bellegarde, Waterloo, Malta, New Dark Newington, and duplicate trees of Early Beatrice and Goshawk. Still lighter but fairly respectable crops are borne by Salway, Red Magdalen, Radcliffe, Crawford's Early, Alexander, Exquisite, and Teton de Venus.

On the same old wall, but chiefly towards one end of it, is a collection of Nectarines, although not nearly so extensive as in the case of Peaches. All have a single main stem obliquely trained, and a heavy crop is being developed by Elruge, Scarlet, Victoria, and Cricket. A more moderate but still too heavy crop is carried by Violet Hâtive, Hardwicke Elruge, and Red Roman. To the third place may be relegated Grosse Violet Hâtive, White, and Duc de Telkers.

Another wall was planted about three years ago, and if anything the crop is heavier and perhaps more nearly uniform than in the other case, where many of the trees are older. The trees were planted about 8 ft. apart all along the wall, and the branches on each side of an upright stem are trained in an ascending direction. There is not sufficient room to train them in the true fan-shaped style; but as the object was to have the walls covered as soon as possible the object has certainly been attained, for there is hardly a vacant space, and not sufficient room to train a Rose or a Tomato trained to a single stem.

The trees can hardly be expected to live so long as those that are allowed greater space for extension, but the wall is profitably occupied, and a few crops in their lifetime like that now on the trees would pay those who should undertake to grow them as a commercial speculation. Granted a favourable season to ripen the crops, the producer could afford to sell them at a low rate and still leave a considerable margin for profit. The question of close planting in the case of Peaches might therefore occupy the attention of those who have wall space at command; for, seeing that healthy young trees can be obtained cheaply enough, good walls should not be encumbered and wasted with unhealthy old specimens that bring no return, especially seeing that a profitable return can be obtained and the walls covered two or three years after planting.

PHALÆNOPSIS SCHILLERIANA.

On the opposite page we give an illustration of a fine plant of P. Schilleriana (prepared from a photograph), which was grown in the collection of G. Singer, Esq., Coundon Court, near Coventry. The plant was grown in a basket, the latter being merely stood in a pot for temporary purposes. It carried eight leaves of fine dimensions, the longest one being 18½ in. by 4½ in. wide. There were two branching flower stems about 32 in. high, carrying in the aggregate 84 flowers. Those who know the plant (and there are few Orchid growers who do not) can well understand the fine effect such a specimen would have either on the table of a dwelling house or in the Orchid house amongst others enjoying the same temperature. After P. Schilleriana and other species of this type get to large dimensions, the mistake is sometimes made of putting them, baskets and all, into others of larger size, and then heavily mossing them over with sphagnum, completely covering the roots clinging to to the sides of the first basket. The effect, instead of being beneficial and encouraging further growth, has a disastrous effect, for the plants after that date

commence to dwindle, until they frequently die outright. The removal of the old and decayed material in the baskets, even to the washing out of any old material which may be left, and then filling in with fresh compost, often proves better than putting the plants into baskets of larger size.

THE GOOSEBERRY.

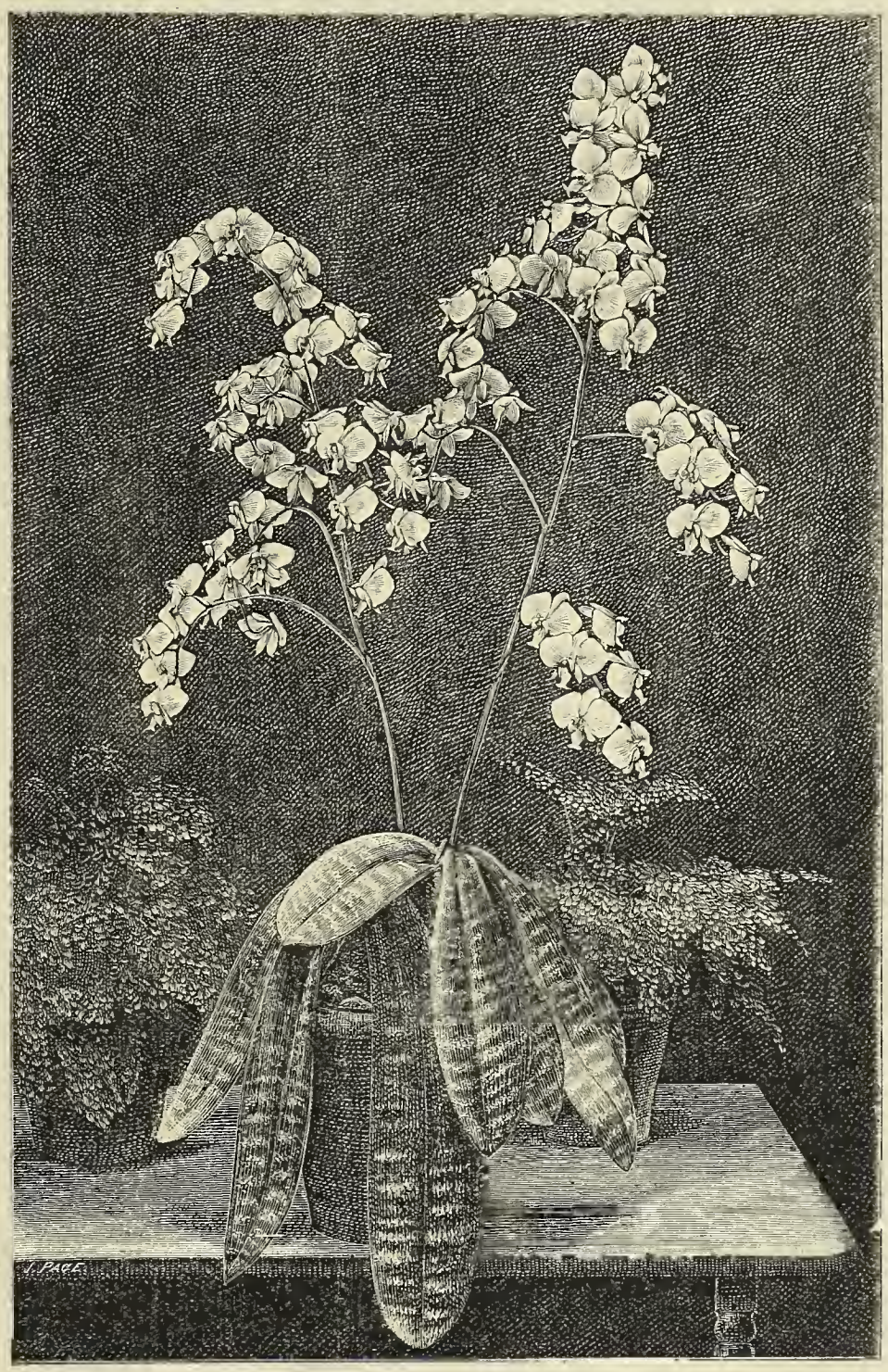
THE Gooseberry is one of our most popular fruits, and it would be difficult to find a garden that does not include a few trees. It is the Ribes Grossularia of the botanists, and therefore it belongs to the same genus as the Currant, which is also a Ribes. Ribes appears to be an Arabic name signifying currant, and it represents a genus of hardy deciduous shrubs comprising about sixty species. One of the best known members of the tribe is R. sanguineum, the ordinary flowering Currant of English gardens—a North American plant very widely cultivated for the abundance of rosy-red flowers, just now to be seen in fine bloom; there are some good examples of this handsome shrub at Ealing Broadway station of the Great Western Railway. It will be observed it throws racemes of flowers quite outside the foliage all over the plant, and they are thus displayed to the best advantage. There are several varieties of it—one named atrosanguineum, is much deeper in colour than the type, while some are paler. Another, named albida, is white, faintly touched with rose. R. sanguineum fruits, but they are of a greyish-black colour, and quite useless for oranamental or eating purposes. The flowers of the Red, White and Black Currants are of a dull yellowish green, without any pretence to beauty, and much hidden by the foliage, but they produce luscious high-coloured, and handsome fruit, highly serviceable to man, which are borne in great abundance. The specific name of the Gooseberry, Grossularia, is no doubt from Grossular, having reference to the green colour of the fruit in an unripe state. The common name, Gooseberry, appears to be derived from two Flemish words, meaning "Cross-berry," given, it is supposed, on account of the triple spine which not unfrequently presents to view on the green fruit the form of a cross.

The Gooseberry is a native of several parts of Europe, and abounds in the valleys and in copse woods in a wild state, where it produces a small, green, hairy berry. In the South of Europe the fruit of the Gooseberry is small, tasteless, and neglected, and it is said its flavour in the warmer parts of England is very inferior to the fruit grown in Scotland. The Gooseberries grown in Edinburgh are declared, on good authority, never to equal in flavour those grown at Dundee, Aberdeen, or Inverness.

The culture of the Gooseberry appears to have been first attended to at the time of the Reformation, as a poet who lived in the time of Henry VIII. alludes to it. It was cultivated about the same time in Holland and Germany, but it is during the last hundred years progress has been made with it.

The Gooseberry is no respecter of persons, for it ripens delightfully in every part of the country, and it bears as abundantly in the garden of the poor man as in that of the rich. In one particular it is said never to change—namely, it never forgets its prickles; but it is stated in a recent issue of the *Gardeners' Chronicle* that Gooseberry trees have been obtained that are destitute of spines.

The botanist divides the Gooseberries into two types—one the hairy fruits, the other the hairless; the former is known as Ribes Grossularia, the latter as R. Grossularia crispa. The hairy kinds are said to be the best for preserving, while the smooth sorts, or those which are nearly smooth, are preferred for vinegar, and for that domestic old English beverage Gooseberry wine. They are reputed to be the best for tarts and pies.



PHALÆNOPSIS SCHILLERIANA.

(From a Photograph of a Plant grown by G. Singer, Esq.)

Gooseberries vary also in colour and size. There are red, green, yellow, and white Gooseberries, and seed taken from any one of them will produce all, so there is reason to believe all have come from a common stock. The yellow Gooseberries are considered to be both the richest and most vinous in flavour; the green varieties, especially when large, are the least meritorious. Our popular Gooseberries, Warrington, Lancashire Lad, Whitesmith, Yellow Rough, and a few others are small or only medium size, but all are of very fine flavour.

BIG GOOSEBERRIES AND GOOSEBERRY SHOWS.

Lancashire, Cheshire, Warwickshire, and other counties have long been famous for their Gooseberries, for they are grown to a large size for exhibition purposes. Thus a good number of Gooseberry shows are held at that time of the year when the fruit are ripe. The growers of these Gooseberries, the arts of growing, and the shows themselves, furnish illustrations of character alike original and entertaining. The men who devote their energies to the work are almost exclusively of the same race as those who, towards the middle of the eighteenth century, began to render South Lancashire so noted for its "naturalists in humble life"; and who, while occupied as hand-loom weavers, earned so much fame as cultivators of various kinds of choice flowers, such as the Auricula, Tulip, etc. Their number has, unhappily, diminished under the influence of the employment of steam power, the introduction of which induced a change no less great in the social condition of the Lancashire operatives than in the complexion of their manufactures. There are plenty living, nevertheless, who inherit the taste and enthusiasm of the patriarchs of two or three generations ago, and as far as the scope permits, the old spirit is as keen as ever. The prime object with these cottage and allotment cultivators is not refined flavour, nor yet a plentiful crop. The prizes go to the biggest and heaviest individual berries. To secure triumph it is enough that a single fruit outweighs all rivals. Upon this one great end the grower sets his whole heart; to the attainment of this he devotes all his thoughts and energies; he foregoes no labour, and cheerfully sacrifices personal comforts. Mr. Leo Grindon, to whom I am largely indebted for this information, mentions a well authenticated story of a Middleton silk weaver, who, a thunderstorm impending, lay awake as if for his life, and with the first patter of the rain against his window panes, rushed to the rescue with his bed-quilt, and covered up his beloved Gooseberries that the rain should not injure them.

PROCEDURE AT A GOOSEBERRY SHOW.

This is worth mentioning. The show is generally held at a country inn. A chairman is appointed; he takes his place at the head of the table, and, scales in hand, calls for the heaviest red, or the heaviest yellow, as required by the programme. A berry is then produced, weighed with an accuracy of minuteness that would have been rapture to old Shylock, and the weight carefully noted in writing by a secretary. This process is repeated until everything brought for competition has been tested, the berry which lies quietly in the scale until defeated by a heavier one taking honours when all is over. Mr. Grindon mentions a show held at Harborne, near Birmingham, where 450 berries were weighed, and of these 95 took prizes. It is a rule that all berries be shown with the stem at one end, and the "snuff," as it is termed, at the other. These are cut away from all berries which take prizes; they are thus ineligible to compete at further exhibitions. The entire performance occupies from three to four hours.

A "Gooseberry Growers' Register" is published annually, giving an account of all the Gooseberry shows held, the weights of the berries, and the

names of the variety and the exhibitor. The weights to which some of the fruits are grown are truly astonishing. Weights up to 37 penny-weights are recorded; beyond this maximum no grower has succeeded in going. The last-named prodigious weight was attained by one of the celebrated red variety called "London." It is a variety that ripens quickly, and does not hang long, it being an especial favourite with wasps and birds. It has held its own for something like a quarter of a century against all comers.—*R. D.*

GARDENERS' ORPHAN FUND.

ANNUAL DINNER.

THE fourth annual dinner in connection with this Fund took place in the Whitehall Rooms, Hotel Metropole, on Tuesday evening, under the presidency of Sir James Whitehead, Bart. The guests numbered over one hundred, among whom were Sir Trevor Lawrence, Bart., M.P., Alderman and Colonel Davies, Mr. Alderman Samuel, Major Roper-Parkington, the Rev. S. M. A. Walrond, Mr. H. J. Veitch, Mr. Sherwood, Mr. H. R. Williams, Mr. H. Gilzean Reid, J.P., Mr. G. B. Woodruff, Mr. W. H. Willans, Dr. Masters, Mr. P. Crowley, Mr. D. Morris, Mr. A. Moss, Mr. Nutting, Mr. John Laing, Mr. A. W. G. Weeks, Mr. Henry Williams, Mr. W. G. Baker, Mr. Lynch White, Mr. John Wills, Mr. S. M. Segar, Mr. J. A. Ewen, Mr. Deputy Halse, Mr. G. Hogarth, Mr. Manning, Mr. H. Bull, Chevalier Sperati, Mr. T. L. H. Collins, Mr. Cutbush, Mr. Herbst, Mr. P. Kay, Mr. W. Poupart, Mr. F. Q. Lane, Mr. Walker, Mr. F. Sander, Mr. H. Turner, and Mr. Iceton.

The usual loyal toasts having been duly honoured, the Chairman, in proposing the toast of "Continued Prosperity to the Gardeners' Orphan Fund," said:—

It may be within the knowledge of some of you, that when I had the honour of serving my fellow-citizens at the Mansion House, in the year 1888-9, I started a fund with a view to the promotion of fruit culture in this country. I am happy to know that the effort I then made has been attended with very considerable and successful results, and I attribute to that the fact that I am in the chair here this evening. I feel very deeply the honour which the horticulturists of this country have shown me in inviting me to take the chair on this occasion. It is, I can assure you, a very sincere pleasure to me to be here to-night to make an appeal on behalf of the orphans of gardeners of this country. I am aware, that while they are supposed to receive, and I believe in many cases do receive, a very fair remuneration for their services, yet it cannot be said that they are a very highly paid class; and thus it comes to pass that from time to time many of them are taken away prematurely, and their children are thrown more or less upon the charitable feelings of this country. I am glad to known that in many instances the services which have been rendered by the fathers have not been unrecognized by those who have employed them; but in the main we have to deal with this fact, that the children of a man who occupies more or less of a labouring position, although in the case of a gardener it is associated with science, cannot expect that his children will be supported by those who have employed him. Recognising this, the horticulturists of this country have established this fund, and we may reasonably ask ourselves to-night, what has been the operation and what the object of the fund? It is, if I understand it aright, to make allowances not exceeding 5s. per week in aid of the maintenance of the orphans of gardeners until they are fourteen years of age. The help given is no doubt very small, yet I have reason to believe that it is a real boon to those in whose behalf it is given; and I believe that nothing can exceed the gratitude which the widows and other relatives of the poor children show towards the benefactors who are connected with this fund. (Cheers.)

I am of opinion, from the enquiries I have made, and all I have read in regard to this institution, that it is one of the most useful that has ever been founded; and I believe it is not too much to say that, except for this fund, a very large number of children would have no resource but the workhouse, with all its demoralizing effects on the young. But there is another reason why I should appeal to-night on behalf of this fund: and it is this, that it is one of the most economically worked funds for the benefit of any particular class which has ever been established in this country. (Hear, hear.) With the exception of from £40 to £50 a year paid in the way of clerical work, all the administration of this fund is purely voluntary; and speaking from my own experience of the honorary secretary, Mr. Barron, I have no hesitation in saying that he performs his duties with great judgment, zeal, and efficiency, and that he shows an enthusiasm for the cause which has had a great deal to do with its success. There is, also, another reason which commends this fund to my good opinion, and that is, that nearly every penny which comes to the support of this fund goes direct to the poor children for whom it is intended. I do not know in the whole of my experience, which is not inconsiderable, of any instance where a charitable institution has made more rapid and more useful progress. But I go farther and say that I am happy to learn from those who ought to know that if the subscriptions from this dinner together with the amounts which come in from other sources leaves a substantial balance, the sustentation list connected with this society will be considerably increased at the next election. (Hear, hear.)

Another gratifying circumstance in connection with this fund is to my mind the fact that it is very largely supported by the class for whose benefit it has been instituted. It very often happens in institutions of this kind that there is not that full appreciation on the part of those for whom the fund is established; but the gardeners in this case are the most active supporters of this fund, and I observe in going over the reports for the last four years that the subscriptions of the gardeners themselves are year by year increasing. There are scores of subscriptions of five shillings a year and upwards, yet the aggregate of the subscriptions exceed the value of the donations. I must say that that is very creditable indeed to the gardeners as a body in behalf of whose children we are assembled here to-night; and venture to say to this audience that men who help themselves to the extent the gardeners of this country are now doing deserve the assistance of those who are rich and well to do.

I have the greatest confidence in the management of this fund. I have hardly ever met with any institution more ably and more economically managed, and therefore I have the greatest confidence in appealing to you who are here to-night to generously aid a most deserving and well-managed charity, and to show your appreciation of those industrious men who manifest such a laudable effort to do their duty to the children of those who have been associated with them in their duties. With this I have the privilege of associating the name of Mr. Harry J. Veitch. Mr. Veitch, as many of you know, is the treasurer of the Gardeners' Royal Benevolent Institution. He is an eminent horticulturist of world-wide fame; but more than that, he is a generous contributor to all charities, institutions, and good works, not only connected with the gardening world, but also with benevolent objects outside the sphere of his own profession. (Cheers.)

Mr. Veitch, in responding, said:—Sir James Whitehead, Aldermen, and gentlemen: I thank you for the very great honour which you have done me in coupling my name with the toast of "Continued Prosperity to the Gardeners' Orphan Fund," and I thank you particularly, Sir James, for your reference to any humble efforts of mine in connection with institutions of this kind. I must confess that after the very able way in which the toast was proposed, I felt that there were others who might have been able to speak to you in much greater detail than I can. Be that as it may, after considering the matter for a few momeuts, I felt that it would be to me a pleasure to respond to this toast, and by that means to show the very deep interest I have in regard to the Orphan Fund. I am the more glad to say this because I am the treasurer of another fund, and I know that it has been felt by some that there is a kind of rivalry between the two institutions. If any one has a feeling of that kind I would ask him to dismiss it at once. There must be no clashing between the two funds. The Gardeners' Orphan Fund has been formed for the benefit of orphan children, whilst the Benevolent Institution is entirely for the purpose of benefitting those unable from one cause or another to put aside for their old age. There is more than room enough for both institutions. There is, however, one kind of rivalry which does, and ought to, exist between the two institutions, and that is in the desire to do all the good that can possibly be done. I think that both institutions are bound to thrive; and speaking more particularly of the Gardeners' Orphan Fund, I believe that if there is one institution more than another which demands our liberality and sympathy it is the Orphan Fund.

Mr. H. Gilzean Reid, in proposing the health of the Chairman, referred to the important municipal work which Sir James had done in his ward; also to the efforts he had made towards the improvement of the Volunteer Service during his mayoralty, and to his labours on behalf of the extension of fruit culture in this country.

Sir James, in replying, said: As a result of the movement for the extension of fruit culture in this country, to which reference had been made, I am glad to say that there were now 27,000 acres more fruit trees in this country than before the movement was started. If this movement tends to promote the welfare of the community by increasing the home fruit supply, and thus lessening the amount of fruit imported, I shall feel that for the efforts I have made I have been amply repaid. And if I have been able to serve this Orphan Fund in any way it will be a gratification to me to have given my services to an institution which I be-believe has before it a great extension of usefulness.

Other toasts followed, including "Success to Horticulture," proposed by Sir Trevor Lawrence, and responded to by Mr. H. R. Williams and Mr. John Laing; "Kindred Institutions," proposed by Mr. A. G. W. Weeks, and acknowledged by Mr. Sherwood and "The Visitors," given by Mr. R. Dean, and responded to by Mr. Alderman Samuel. During the evening subscriptions were announced to the amount of a little over £1,000, including £100 from the Chairman.

CHARMING SPRING FLOWERING PLANTS.

LAST week I gave the names of a few of these, selecting some generally recognised as popular favourites. My attention is further called to them by the receipt of a letter from Mr. William Ingram, of Belvoir Castle Gardens, asking me to go down to Belvoir in order to see what can be done with spring flowers in an untoward season like the present. I can quite understand what the sunny slopes of Belvoir look like just now—so supremely beautiful as to defy description. One of the plants Mr. Ingram uses largely, and with the most charming effects, is the Aubretia. They are largely used as what one might term the groundwork of many of his most delightful floral illustrations, and the plants grow so freely and blossom so generously that they may be said to "heap up their flowers in happy plenteousness." A little moisture, coolness, and shade appear to exactly suit

AUBRETIAS.

As a matter of course where Aubretias are grown upon rockwork, as is frequently the case where they are fully exposed to the sun and get but little moisture, the growth is spare and the flowers small and lacking colour; but when cultivated as Mr. Ingram cultivates them, the change is astonishing. The moral is — Aubretias will repay good cultivation. How are they propagated? is a question often put. My reply is, "By seeds and by means of division." The seeds can be sown in pots, pans, or shallow boxes at this season of the year, and when large enough pricked off into other pots or boxes, preparatory to being placed in the open ground. In this way good plants can be had by the autumn if well attended to. By dividing the plants—that is stripping off the long shoots back to the roots and planting them out in a light sandy soil trodden firmly about them—Aubretias can be increased. I am inclined to think this is best done during showery weather in July and August, or later in the year; but in my experience these cuttings strike best when taken as early as possible after flowering. The deepest coloured varieties are Deltoidea, Græca, and Violacea; all of which produce large and fine flowers. The best rose-coloured variety is undoubtedly Leichtlini, at present a little scarce, but becoming more plentiful.

THE WOOD ANEMONE.

The double form of Anemone nemorosa, the common Wood Anemone, which has flowered so plentifully in woods and coppices of late, is well worthy a place

in the garden. If any one will walk through a wood where these sylvan Anemones are found in plenty, he will perceive they vary somewhat in colour, many being tinged with pink deepening to rosy lilac. Then some have sported to double forms, the white and the rose coloured, and it is these which are well worthy of cultivation in pots and in the border. I prefer them in pots, because the foliage dies down quickly on plants in the open border, and there is danger of the bulbs being dug up or injured. I winter my plants plunged in cocoa fibre up to their rims, and when they are just coming into flower they are brought into my cold greenhouse, and after they have gone out of bloom they are returned to the cocoa fibre beds. In autumn it is sometimes necessary to repot, or if not repotted, they are top-dressed, a process from which they derive considerable benefit. By means of division of the roots, any variety can be increased.

Then there is the chaste Snowdrop Anemone, A. sylvestris, which produces its solitary pure white flowers, which, when the plants are well grown, are as large as a crown piece when fully opened. It is a shade-loving plant, doing best in somewhat cool and moist spots, and it is well adapted for the half wild garden. A delightful subject; it should be much more grown than it is. And who can say too much in praise of that gem among

THE FORGET-ME-NOTS,

Mysosotis dissitiflora. It is just now in full bloom, studded freely with pale turquoise blue flowers. For bunching and bouquets we have no more beautiful Forget-me-not. It grows well, and blooms with remarkable freedom. Sometimes when wet and frost follow each other in rapid succession, it is apt to be injured during the winter months. Like the Aubretias it does well at Belvoir, and coupled with the Aubretia, they make Mr. Ingram's favourite blue flowers. It is best to raise the Myosotis annually from seeds, as young, vigorous seedling plants do remarkably well, much better than old ones which are divided. A large-flowered form of this delightful Forget-me-not, named Perfection, is a very fine subject for pot culture at this season of the year.—*R. D.*

GARDENING MISCELLANY.

ACACIA GRANDIS.

THIS by botanists is usually considered a variety of A. pulchella, but for gardening purposes is sufficiently distinct and certainly at all times highly ornamental, but particularly in the spring months when in bloom. The bulk of the Acacias under cultivation, and it may be said of Acacias generally, have no true leaves or merely the petioles of them flattened laterally with the whole of the lamina reduced. That under notice is one of the few which have retained the blade of their leaves. The latter in this case are bipinnate, but consist only of a pair of pinnæ, bearing each about 8 or 10 pairs of linear-lanceolate leaflets of small size. The internodes of the stem are very short, so that the leaves are crowded together and closely cover the much branched stems. The plant ultimately attains a height of 6 ft., but being of slow growth it can be accommodated in houses of limited dimensions for many years before it occupies too much space. We noted a small plant recently in one of the conservatories at Falkland Park, South Norwood Hill, and which was only about 18 in. high or less, and well furnished with bloom. The latter consists of gobular heads of yellow flowers arising from the axils of the leaves.

DENTARIA PINNATA.

THE flowers of the species of Dentaria closely resemble those of Cardamine, or even of Hesperis, but the affinity is more with the former. They are popularly known under the name of Toothwort, but although several of the species are very old introductions, they are very much neglected at the present day. D. pinnata grows about a foot in height, bearing a short raceme of pale lilac, almost white, flowers. The leaves very much resemble those of the Elder, but on a smaller scale. The species here noted was introduced from Switzerland as early as 1683, but does not seem to have had any great run of popularity at any time. As an early-flowering and uncommon Crucifer it well deserves a corner in the garden.

CHIONODOXA LUCILIÆ TMOLUSSI.

THE Glory of the Snow, as it is popularly called, is now well known to be a very variable plant, and several very distinct forms have turned up and are more or less cultivated in gardens. That under notice has narrower segments, furnished with a greater amount of white on the lower half, while the blue on the upper portion is well defined. Although the flowers are not so large as those of the type yet they are very pretty and may get larger as the bulbs increase in size under cultivation in good soil. There is a patch of it in Messrs. Barr & Son's Nursery, Long Ditton.

CORYDALIS LEDEBOURIANA.

THE species of Corydalis are ornamental on account of their foliage as well as their flowers, and this one is noticeable on account of the deeply glaucous hue of the leaves, which are ternate with obovate or oval and broad segments. The flowers are produced in racemes terminating the spreading flower stems, and are pink with a dark purple blotch at the apex of the petals. It is a native of the Altai Mountains and was introduced as recently as 1879, but is as yet by no means common. The tuberous and perennial rootstock should be planted in a situation where it will be kept comparatively dry during the winter.

A SPORTIVE AURICULA.

THE original wild form of Primula Auricula had yellow flowers, but relatively few yellow varieties are grown by those who pride themselves in having the finer forms in their gardens. The great amount of cross breeding and selection that has gone on for many years has given the Auricula a variable and unsettled character, but apparently not to the same extent as occurs in several other florist flowers. There is a variety of Auricula in Messrs. Barr & Sons' Nursery, Long Ditton, and which has flowers of very variable character. The normal form seems to have purple flowers, but there are other individuals which have clear pale yellow flowers, while some of them on the contrary are variously striped with purple and yellow. The one or the other colour predominates on different plants and in different flowers on the same or different plants. In the sandy soil at Long Ditton there seems to be a tendency on the part of the flowers to revert wholesale to the original yellow colour. On the whole the variety is a great curiosity.

HENBANE SOLD AS CELERY SEEDS!

A WEST-END correspondent of the *Times* writes:—"Last Friday night my wife and I began our dinner with some clear soup which the cook, as we afterwards ascertained, had flavoured with Celery seeds bought in a bottle from a greengrocer. About ten minutes afterwards I began to feel quite dizzy, and could hardly swallow the food I was eating, which tasted as if it was nothing but dust and ashes. At the same time, my wife became so faint that she asked me to help her up to her room at once. This I did with some difficulty, having to hold on to the bannister with one hand while I supported her with the other. At the same time, also, our sight became blurred, our mouths and throats parched, and we both began to feel cold. I tried in vain to get warm by sitting over the drawing-room fire, but only felt intensely drowsy. I then rang for the parlourmaid to ask her to send for the doctor; and it then appeared that both she and the cook had tasted the soup and been seized with the same symptoms as in the cases of my wife and myself. When Dr. Martin, of Somers Place, arrived shortly afterwards I had great difficulty not only in getting up to receive him, but in making him understand what had happened, so indistinct was my articulation. However, from the dilation of our eyes, the parched condition of our tongues, and the state of our pulse my wife's having gone up to 140) he, of course, saw that we had been badly poisoned, and prescribed drastic remedies, which saved us probably from very serious consequences; for even the next day our sight was still defective, and my wife's hands were slightly paralysed. The bottle of Celery seed was then taken by Dr. Martin to Messrs. Hogg, of Southwick Street, who carefully analysed it and discovered that it was not Celery seed at all, but pure Henbane. Two other bottles were procured from the same greengrocer as before and analysed, with the result that one turned out to be pure Henbane and the other Henbane and Celery seed mixed. This deadly poison, which is being sold every day for household purposes, is obtained from a firm of seedsmen and herbalists, who, I believe, procure it from France wholesale and make it up into the bottles which they sell to the greengrocers. Henbane is about 50 per cent. cheaper than real Celery seeds."

SOCIETIES.

Royal Horticultural, *May 17th.*—The meeting on Tuesday last was a very small one, exhibitors evidently keeping back their plants in anticipation of the more important exhibitions next week. Amongst Orchids were some Cattleyas, including C. Schroderæ rosea and C. S. Leyswoodiensis, exhibited by J. W. Temple, Esq. (gardener, Mr. E. Bristow), Leyswood, Groombridge, Tunbridge Wells. The last-named variety was notable for having a purple band surrounding the orange blotch, while the rest of the lip was white. A scape of Cypripedium Caudatum was shown by Mr. J. Douglas, gardener to Mrs. Whitbourn, Great Gearies, Ilford. One of two flowers borne by it was inverted. Cut flowers of two varieties of Dendrobium superbiens were shown by Mr. H. A. Burberry, The Gardens, Highbury. Two varieties of Lælia majalis were shown by Reginald Young, Esq., Fringilla, 3, Linnet Lane, Liverpool. A plant of the sweetly-scented Cattleya iricolor was shown by Baron Schroder (gardener, Mr. Ballantine), The Dell, Egham. A small group of Orchids was exhibited by Messrs. J. Veitch & Sons, Chelsea, including Dendrobium lineale, from New Guinea, also Cypripedium Evenor and Masdevallia Cundata-Estradæ, both hybrids. A collection of cut flowers of Orchids, consisting chiefly of Cattleya Mendelii in great variety, as well as C. Lawrenceana and Maxillaria Sanderiana, was shown by R. B. White, Esq. (gardener, Mr. J. Brown), Arddarroch, Gareloch Head, Dumbartonshire. Dendrobium Leeanum atropurpureum was exhibited by F. Wigan, Esq. (grower, Mr. W. H. Young), Clare Lawn, East Sheen. A species of Sarcopodium was shown by C. J. Lucas, Esq., Warnham Court, Horsham. Some Orchid flowers were also shown by Rev. E. Handley, Bath; A. W. Wells, Esq., Claregate, Birmingham; and by J. Charlton Parr, Esq., Grappenhall Heyes, Warrington. A flowering plant of Vanda teres alba was shown by the Right Hon. Lord Rothschild (gardener, Mr. E. Hill), Tring Park, Tring. Some flowering trees and shrubs were shown by Messrs. J. Veitch & Sons, Chelsea, including two forms of Double Cherry, Wistaria sinensis alba, and the spiny branched Orange (Citrus trifoliata). The firm also had some baskets of Pelargoniums and a broad-leaved Pandanus named P. pacificus. A group of Roses in pots was shown by Messrs. Wm Paul & Son, Waltham Cross. A stand of cut flowers of Mackaya bella and Cantua dependens was exhibited by the Right Hon. P. C. Glyn (gardener, Mr. J. Friend). Rook's Nest, Godstone. A fine bunch of flowers, in great variety, of Streptocarpus hybrids was shown by T. B. Haywood, Esq. (gardener, Mr. C. J. Salter), Woodhatch Lodge, Reigate, and which was much admired. A group of Calceolarias was shown by T. Nothard, Esq. (gardener, Mr. J. Slater), York House, Lower Sydenham. A collection of cut flowers of Himalayan and other Rhododendrons was brought up from the Royal Gardens, Kew; amongst them were R. Griffithianum, R. arboreum album, and some fine hybrids. A basket of the Polyantha Rose named Anna Maria de Montravel and some pots of Little Pet were shown by Messrs. Lane & Son, Berkhamstead. A small group of varieties of Anthurium Scherzerianum was shown by Messrs. J. Peed & Sons, Norwood Road, London, S.E. A pan of the dwarf Richardia albo-maculata nana was shown by Mr. H. Elliot, Stour Vale, Christchurch, Hants. Cyrtanthus Tuckii and C. augustifolius aurantiacus were exhibited by Mr. James O'Brien, Harrow-on-the-Hill. At a meeting of the Fruit Committee a Cultural Commendation was awarded to Mr. Geo. Wythes, gardener to the Duke of Northumberland, Syon House, Brentford, for a box of the brown Turkey Fig. A box of a seedling Tomato was shown by F. Richard, Esq. (gardener, Mr. F. Boote). Bure Homage, Christchurch. A seedling Melon was shown by R. Burrell, Esq. (gardener, Mr. A. Bishop), Westley Hall, Bury St. Edmunds. Four fruits of a Melon named Gunton Orange were exhibited by Mr. Wm. Allan (gardener to Lord Suffield), Gunton Park, Norwich.

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.

MASDEVALLIAS.—Although at present somewhat out of fashion, no collection of Orchids, however small, can be considered complete without a few of the best Masdevallias. Their brilliant colours combined with easy culture cannot fail in time to make them again popular. The species which find most favour with us are M. Veitchii grandiflora, M. ignea militaris, the best forms of the variable M. Harryana, the beautiful white M. tovarensis, and the quaint M. Chimræa. The latter should be grown in a basket on account of its having drooping spikes, some of which will find their way down through the compost. We find that this species and Tovarensis do best when wintered in the Cattleya house, Good, rough, fibrous peat and sphagnum moss suits them well, to which should be added bits of broken pots or some sharp silver sand. Ours are grown in a low, span-roofed house running east and west. The plants are placed along the north side, a situation that seems to suit them well; on the south side Odontoglossums and Oncidiums are grown.

THRIPS are very partial to the young foliage, and if allowed to get a hold disfigure and cripple the leaves and spikes. We find it necessary to dip them in tobacco water once a week during winter and early spring, but this must now be discontinued or the fast advancing spikes are liable to get damaged by the operation. At this stage a light fumigation would be better, taking care to remove those that have their flowers expanded.

ONCIDIUM TIGRINUM.—These after a six months' rest are starting into growth and will be potted forthwith, using two parts peat to one of moss. We pot them in as small pots as possible, pressing the compost very firm about them. The roots, being small, loose potting does not suit them. We grow these with the Odontoglossums, where they make larger bulbs every year. This is a grand Orchid, producing as it does its yellow and brown flowers during the dull days of autumn and winter. The only thing to do it well is to give it a thorough rest after flowering, and liberal treatment when growing.

ONCIDIUM MACRANTHUM, one of the best of the genus, and requiring cool treatment, is just now coming into bloom. This is grown at the coolest end close to the door. Although equally easy to grow as O. tigrinum the treatment required is totally different. We never rest these for any length of time, the only rest they get being when in full bloom, and even then the bulbs must not be allowed to shrivel or they will suffer. These require large pots and rather loose potting; as their roots are large and fleshy, the plant should be made secure by a neat stake.

Now that the weather is warmer, the syringe may be applied more frequently, and if done properly very little watering with the water-pot will be required in the cool houses except perhaps a few plants in the back row. We have discontinued fires in the cool divisions, but have everything in readiness should there being any indications of frost. The temperature mentioned in the last calendar should be maintained.—*C.*

Cattleya Mendelii Quorndon House var.

A WELL-FLOWERED piece of this variety, grown in a basket, was shown by W. E. B. Farnham, Esq. (gardener, Mr. Geo. Cook), Quorndon House, Loughborough, at the Drill Hall on the 3rd inst., and received a First-class Certificate. The pseudo-bulbs are fusiform, and stout. The sepals and large elliptic petals are white or faintly tinted with blush. The lip has a handsome appearance on account of the large, much undulated and crisped lamina, which is white with a pale yellow blotch in the throat, and a little purple lower down the tube. Three flowering stems carried in the aggregate seven flowers of large size and all fully expanded.

Cœlogyne tomentosa.

IN general aspect this species resembles C. Massangeana, and like that the raceme is pendulous, but all parts of the plant are smaller. A piece of it is grown in a basket suspended from the roof in one of the Orchid houses at Dibdin House, Ealing. The sepals are oblong-lanceolate, while the petals are very much narrower, and all are of a pale terra-cotta colour. The lip has pale yellow lines on a deep brown ground internally and tinted with orange brown at the edges externally. The middle lobe is reflexed, yellow in the centre, and brown at the tip with five platas or lamellæ on the disc. The pseudo-bulbs and leaves are of moderate size, while the raceme is drooping, so that altogether the species is well suited for basket culture.

WHAT TO DO IN THE GARDEN.

Poinsettias.—Those who require a batch of plants for early use would do well to put some of the old stock into heat, and supply them with a moderate amount of moisture till they start into growth. As soon as the more forward shoots get long and firm enough they should be taken off with a heel of the old wood and struck.

Other Winter-flowering Plants.—Cuttings of Euphorbias, Eranthemums, Peristrophe, Thyrsacanthus, Sericographis, and others of that kind that show by the growth they are making that they are rooted, should be potted off before they get at all crowded or drawn. Pinch them to encourage a bushy habit as soon as they have taken to the fresh soil.

Gloxinias.—The earlier sown batches are now flowering freely, and to induce them to last longer they should be removed to a somewhat cooler house with a dry atmosphere. If slightly shaded from direct sunshine, so much the better. Arranged in a conservatory where they can be kept somewhat warmer than in a greenhouse, and in a groundwork of Maidenhair Fern, their delicate and pleasing colours are shown off to the best advantage.

Celosias and Balsams.—The seedlings are now growing freely, and must be looked after in the way of potting to keep them growing. Celosias enjoy bottom heat, and when Balsams are intended to be grown to large size, they must also enjoy the same advantage, keeping them close to the glass and ventilated to keep them short-jointed. If small plants of Celosias are wanted for late autumn and winter use, a sowing may be made now.

Primulas and Cinerarias.—Seeds of both these useful subjects should be sown for the main batch next winter and spring. Cover the seeds lightly and place the pans containing them on a moist bed of tan or coal ashes. As soon as the young seedlings are fairly above the soil, the pans should be placed near the glass, but not in direct sunshine, and they will thereby be prevented from getting drawn, or made liable to damping.

Solanums.—The old plants which did service last winter, and were cut down and started again, will now be ready to plant out of doors in a warm, sheltered bed to complete their growth, flower, and set fruit. In case we should have cold, frosty nights, it would be well to see that the plants are properly hardened off before being planted out.

Vineries.—White Grapes are greatly improved in colour and flavour by being exposed freely to light just when colouring naturally. This may be done by turning aside the leaves which shade them. Black Grapes would not colour properly if so treated. It is a mistake to keep the roots of Madresfield Court in a dry state to prevent cracking, until it becomes absolutely necessary to supply water, for it is then that the mischief is done, by the absorption of too much of this moisture; while if the skin of the berries has become hardened by the check given from want of a proper and continuous supply, it is unable to swell afterwards when water is given, and cracking is the result. Keep the atmosphere drier when the berries are colouring and swelling, but the roots moist.

Figs.—Succession houses, where the fruit is now swelling for ripening, should be kept somewhat drier and more airy. All plants in pots must, however, be kept well watered at the root, but not syringed overhead. A plentiful supply of moisture in the atmosphere can be kept up by the damping down of all paths and woodwork. This is necessary to prevent in a measure the development and increase of red spider.

Cabbages.—The last sowing for this season's use should be made in the first week of June, using only those kinds which are fairly hardy and which will be fit for use in autumn and early winter. The Hardy Green and the Rosette Coleworts should be included with some of Ellam's Early, and Enfield Market Cabbages.

Cottagers' Kale and Curled Kale.—These are often planted late from a mistaken notion that because they are intended for late use, they need not be sown or planted out till late in the season. This is a mistake, for they then have no time to attain anything like full size, nor can they supply that amount of useful produce which they otherwise would. If not planted in their permanent quarters, they should be seen to at once. If the soil is very dry on the top, shallow furrows should be taken out by means of the draw hoe, and the plants inserted in the moist earth. This would facilitate watering when that became necessary during a droughty period.

Asparagus.—Go round the beds every morning, and cut all the shoots that are fit for use, otherwise, in such dry weather as has prevailed for some time past, the stems will soon get hard and woody. A good watering, so as to thoroughly soak the beds, would be of great service, and accelerate growth where the daily supply is not equal to the demand. If the soil is sufficiently loose and friable, the shoots had best be pulled up between the two foremost fingers and the thumb, so as to avoid the injury often caused by the Asparagus knife.

Obituary.

WE regret to record the death of an ardent and highly-esteemed gardener in the person of MR. A. R. COX, of Elm Hall, Wavertree, Liverpool, who passed away on the 9th inst., after but a few days' illness from pneumonia, at the early age of 41 years, leaving a widow and five young children. The deceased was gardener to W. H. Watts, Esq., for a period of sixteen years, at Aigburth and Wavertree, and was most successful as an exhibitor, a most useful member of the committee of the Liverpool Horticultural Association, and highly esteemed by the gardeners of the locality, about 70 of whom were present at the funeral.

QUESTIONS AND ANSWERS.

*** *Correspondents are requested, in order to avoid delay, to address all communications to "THE EDITOR" or "THE PUBLISHER," and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa, London."*

ASPIDISTRA FLOWERS.—*Puzzled One*: The fleshy objects you mention as having appeared above ground in your pots of Aspidistra during the winter are the flowers. They are produced from the underground portion of the plant, and never rise above the surface of the soil. The plant belongs to the Lily family, but differs widely from the ordinary types in the number of parts of the floral organs, their fleshiness and peculiar structure. There seems no reason why the flowers should not develop fruit and seeds if they have been properly fertilized. They do not as a rule produce seeds, but no one seems to give them any attention. The stigma is a large and peculiarly shaped organ somewhat resembling an umbrella, which covers the greater part of the bell-shaped flower, all but concealing the stamens. If you could transfer some of the pollen from the stamens to the stigma the chances are that your plant will ripen seeds.

SHOW AND ALPINE AURICULAS.—*F. X. O.*: You would frequently find some details of the subject by reading the articles on Auriculas that appear under the heading of Floriculture. From the descriptions you furnish us with, it is evident that you have both show and Alpine varieties. A ring of meal round the eye of a flower, is evidence that it belongs to the show section. The Alpines also belong to the same species (Primula Auricula), and merely constitute a race or strain sufficiently distinct for exhibition purposes to be kept separate, and shown under a different section. There is no ring of meal round the eye. The stamens when seated at the mouth of the flower, as they should be in what florists reckon a good flower, constitute the thrum; around this is a ring covered with powder and termed the paste. This in turn is followed by some dark colour termed the ground or body colour. This by the florist would be termed a self. Then we have edged flowers, with a green, grey, or white edge according as the latter is without meal, or has a small quantity or a large quantity of powder. The Alpine varieties differ by having no meal or powder on the zone surrounding the thrum and by some termed the paste; and also by the body colour gradually fading into or blending with a paler and shaded margin. The paste may be white or yellow, the latter being most appreciated. The flowers may be as large as you can get them so long as they are of good substance, and they should be flat.

SCALE ON PEACH TREES.—*X. F. O.*: Seeing that the trees are now in full leaf and set with fruit, there is little that can be attempted with any degree of success for the eradication of the scale. If you had observed when the young scales commenced to ramble over the trees you might have destroyed them with a strong solution of soft soap or Gishurst Compound, applied with the syringe or garden engine. After the insects have settled down and the scale is being formed over them, they are more difficult to deal with; besides the foliage would afford shelter to a great many and prevent the insecticide from reaching the pest. The house should be thoroughly cleaned every winter, glass and woodwork alike, after which the trees should be taken in hand. Every branch and shoot should be cleaned separately, using a painter's half-worn brush or something improvised for the occasion, with which to rub off the scale, dipping the brush in a strong solution of soft soap or Gishurst Compound. Soft soap might be used at the rate of 1 lb. to 1½ gal. of water, to which a pint of tobacco juice is added. Some use paraffin in very bad cases, just keeping the brush moist while rubbing the scale. When the latter is loosened a good syringing with clear water should be given to wash off the oil and insects alike. Paraffin should be used with great care. Then paint the shoots with a strong solution of Gishurst Compound, a little flour of sulphur, and thickened to the consistency of paint with clay and soot, adding a little lime to make it pale in colour.

NAMES OF PLANTS.—*E. K.*; 1, Smilax aspera; 2, Boussingaultia baselloides; 3, Phyllocactus Ackermanni var.—*A. Nicho son*: Bignonia speciosa.—*A. M. D.*: Erica codonodes.—*Omega*: The Scarlet-fruited Thorn (Cratægus coccinea).—*W. G.*: 1, Dendrobium moschatum Calceolaria; 2, Dendrobium Bensoniæ.

SEEDLING VIOLA.—*W. Walker*: The flowers you send us are more like those of a fancy Pansy than a bedding Viola, judging from the blooms alone; but as a matter of course it is difficult in many cases now to say where the one ends exactly and where the other begins. If the plant is of a hardy and perennial character, and withal of a free flowering habit, it would be worth while propagating it for garden decoration. If the foliage shows it to be a bedding Viola, then the bloom is certainly very large for that type, but although a good substance there would be nothing unusual in its size for a fancy Pansy. The true bedding Violas are generally characterised by smaller leaves than the Pansies, and throw up numerous suckers or shoots from the rootstock, while Pansies are less inclined to do so. Its value would have to be determined by growing it for a season or two by planting it out under different conditions to see how it would answer for bedding purposes, that is for freedom and continuity of bloom.

ROCKERY.—*Old Subscriber*: We do not know of any book that will help you, and consider your best and cheapest plan would be to consult an experienced rockery builder. Without seeing the site no one can give you satisfactory advice. When stone cannot be got cheaply rockwork is usually made with rough brickwork and cement.

ONION SEED.—*Omega*: If the seed you sowed about the beginning of April was good, it will be good yet and you have only to exercise patience till it has time to come up. Onion seed takes a long time to germinate, and that is the reason why good cultivators sow early. The usual custom amongst gardeners is to sow in February or March according as they find the soil in suitable condition. The sowing should be made at least about the middle of March if you are to give the Onions the full advantage of the season. You could not expect the Onions to get to any size by sowing now, although they might be useful to draw for use in the young and green state. The bulbs would be small, unless a particularly favourable season, and a good, rich soil should urge them on. Onions are often transplanted, and if you lift them with a fork, so as to preserve the roots entire, and then water them till they get established, then you may expect them to do well.

GLASS CRACKING.—*Omega*: Glass is made to crack by the expansion and contraction of the woodwork. The greater the difference between the temperature of the outside air and that of the interior of the house, the greater the strain upon the glass, and the greater the amount cracked and broken. This can be noticed in all houses, more especially where forcing is carried on during the winter. If the glass is put in tightly so that there is no room for expansion, the glass gets so compressed or even twisted that it often gives way.

HARE'S-FOOT FERN.—*A. L. King*: The botanical name of this Fern is Davallia canariensis. We should not overpot it, although from what you say it evidently wants a shift. A pot two inches wider would afford room for a considerable amount of fresh soil, but if the rhizomes, or feet as you call them, are numerous and cramped in the pot, then it might be advisable to give a shift of three inches. The ball of soil can frequently be reduced a little so that it is unnecessary to give much of a shift. The operation should be performed before the plant has started into fresh growth, or at least before the young fronds get so large that they would flag, until the roots get a fresh hold. The dead rhizomes or feet may be cut away as they are useless. Use a blunt pointed stick or label to ram down the fresh soil, as it should be made moderately firm against the roots. You can perform the operation now, provided the young fronds are not too far advanced, using ordinary soil such as is used for Ferns. Good fibrous loam with about a third of peat and plenty of sand will answer the purpose. We should not keep water in the saucers as it makes the soil sour; and less water will be required for some time after potting till the roots get plentiful in the fresh soil, after which water should be given every day in bright weather, more especially if your window is kept open during the day.

COMMUNICATIONS RECEIVED.—A. J. R.—H. E. M.—K. & S.—J. W.—J. J.—W. K.—T. Arnold (next week).—A. L. K.—T. S.—S. W.—O.—G. B.—X.—S. M.

TRADE CATALOGUES RECEIVED.

DICKSONS, LIMITED, Chester.—Bedding and Border Plants, &c.

KNIGHT, CLARK & CO., Westham Nursery, Langney, Eastbourne.—New and Choice Plants.

LONDON SEED TRADE.

May 16th, 1892.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a small demand for Agricultural seeds. Stocks of all Clovers are small: values steady. Mustard and Rape continue scarce, and realise full prices.

COVENT GARDEN MARKET.

May 18th.

FRUIT.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.		s. d.	s. d.
Apples... per ½-sieve	1 0	5 0	Strawberries per lb.	2 0	4 0
Canadian and Nova Scotian Apples per barrel	12 0	20 0	New Grapes per lb.	2 6	4 0
Tasmanian Apples per case...	8 0	15 0	Pine apples. —St. Michael's, each	2 6	6 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Asparagus.....bun.	2 0	5 0	Lettuces ...per dozen	1 6	2 0
Beans, French, per lb.	2 0	2 6	Mushrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	6 0	Small salading, punnet	0 4	
Celery.....per bundle	2 6		Seakale ...per basket	1 6	2 0
Cucumbers .....each	0 6	1 0	Spinach, per strike...	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	1 6	2 6
Herbs .....per bunch	0 2	0 6	Turnips ... ..per bun.	0 6	

POTATOES.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, per doz.	6 0	9 0	Genista .....per doz.	6 0	10 0
Azalea .....per doz.	18 0	42 0	Heliotrope, per doz.	4 0	0 0
—Mollis.....per doz.	24 0	36 0	Ivy Geraniums, per doz.	6 0	9 0
Cyperus .....per doz.	4 0	12 0	Lily of the Valley, doz. pots	12 0	18 0
Cineraria ...per doz.	4 0	8 0	Lilium Harrisii, doz.	15 0	30 0
Deutzia.. per doz ...	6 0	9 0	Lobelia, ...per doz.	4 0	8 0
Dracæua term., doz.	24 0	36 0	Marguerites, per doz.	6 0	12 0
Dracæna viridis, doz.	9 0	18 0	Mignonette, per doz.	5 0	10 0
Echeveria Pyramidalis	9 0	18 0	Musk, ...per doz.	3 0	6 0
Erica various per doz.	9 0	24 0	Palms in variety, each	2 6	10 6
Evergreens, invar. doz	6 0	24 0	Palms, Specimen ...	15 0	63 0
Ferns, invar., per doz.	4 0	18 0	Pelargoniums, per doz.	9 0	18 0
Ferns, small, per 100	8 0	12 0	—scarlet .....per doz.	4 0	6 0
Foliage Plants, doz.	12 0	60 0	Spiræas.....per doz.	8 0	12 0
Fuchsia, ...per doz	6 0	12 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Anemone various, doz. bun.	2 0	4 0	Moss Roses, (French) doz. blooms	2 0	4 0
Arum Lilies, 12 blms.	2 0	4 0	Narciss, double, doz blooms	0 6	0 9
Bouvardias, per bun.	0 6	1 0	Narciss, var., doz. bunches	2 0	4 0
Bluebells, doz. bchs.	0 9	1 6	Pelargoniums, 12 sps.	0 9	1 0
Carnations, 12 blooms	1 0	3 0	— scarlet.....12 bchs.	4 0	6 0
Cowslips, doz. bchs.	1 0	1 6	Primroses, doz. bchs.	0 6	1 0
Daffodils, double, doz. bunches	2 0	4 0	Primula, double, bun.	0 9	1 0
—Single, doz. bchs.	1 6	6 0	Pansies, doz. bchs ...	1 0	2 0
Eucharis ...per doz.	2 6	4 0	Polyanthus, doz. bchs.	2 0	4 0
Gardenias 12 blooms	1 6	4 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Heliotropes, 12 sprays	0 6	1 0	Roses, yellow, dozen	2 0	6 0
Jonquils, doz. bnches	1 0	2 0	— Red..... doz. blms.	2 0	4 0
Lilac, French, per bunch	4 0	5 0	— Saffrano...per doz.	1 6	2 6
Lilium Harrisii, doz. blooms	2 6	4 0	— Tea ..... per dozen	1 0	3 0
Liliums var., doz. blms.	1 6	3 0	Spiræas...doz. bnchs	4 0	6 0
Lily of the Valley, doz. bunches	6 0	12 0	Tuberoses, per doz	0 6	1 6
Maidenhair Fern, 12 bs.	4 0	8 0	Tulip, doz. bchs	2 0	6 0
Marguerites, 12 bun.	2 0	4 0	Violets Dark, French, doz. bunches	1 0	1 6
Mignonette... 12 bun.	3 0	6 0	—English, doz. bchs.	1 0	1 6
Myosotis or Forget-me-not, doz. bnchs.	2 0	4 0	Wallflowers, doz. bunches	3 0	4 0

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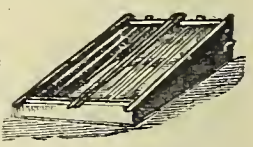

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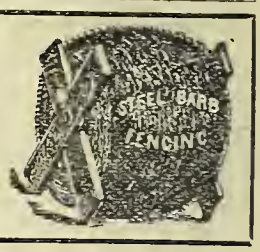

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Guarantees to supply Begonias, First-class Quality, at one third the usual price, as follows:—

12 good single mixed, 3s.; 12 extra good to colour, 6s.
12 very finest, equal to named varieties at 5s. each, 12s.
12 mixed double, 6s.; 12 very fine to colour, 12s.
12 extra fine double, 18s.

I could give a large number of Testimonials, but the following I think will be sufficient to prove the excellence of my Begonias.

HOGG HOUSE, BUXTED, UCKFIELD.
August 26th, 1891.

DEAR SIR,

You will be glad to learn that the Begonias I had from you in the summer have turned out remarkably well. The pinks and terra-cotta are specially fine, some of the blooms measuring near 6 inches across. The flowers are of fine form, and good substance in the petals, plants dwarf in habit, and free flowering, foliage robust. I shall have much pleasure in recommending them to my friends.

Yours truly, H. C. PRINSEP,
Gardener to Viscountess Portman.

To Mr. H. J. JONES.
Ryecroft Nursery, Hither Green, S.E.

SUPERB STRAINS OF FLORISTS' FLOWERS.

Primulas, single and double, Cinerarias, Calceolarias, Gloxinias, and all others for present sowing; all saved from the finest strains in existence.

Per packet, 1/6, 2/6, 3/6, & 5/- each

DICKSONS (LIMITED). Seed Merchants, Nurserymen, &c. CHESTER

DAHLIAS A SPECIALITY.

MY First Prize Crystal Palace Collection, the choicest in Europe, and includes only the very best in Show, Fancy, Pompones, Cactus, and Single. Price from 5s. per dozen, carriage paid. Catalogue on application.

G. HUMPHRIES, Nurseryman,
CHIPPENHAM.

No More Worms in Plant Pots.

The **Patent Invincible Crock** keeps out Worms and all Vermin; saves time, expense, and annoyance; fits any pot; lasts many years. Mr. J. Gilbert, Gardener to Lord Willoughby Eresby writes: "Dear Sir—Please send me 200 Invincible Crocks. Last year I had a few given me for trial. I used them in Chrysanthemum pots which were plunged to the rim in soil. Your simple invention was most efficacious in keeping the pots free of worms and all traces of vermin. When better known it must command an extensive sale."

30, 1s.; 100, 3s.; 1,000, 25s. free.

A. PORTER, Stone House, Maidstone.

WILLIAM POTTEN

Begs to offer the following in well-grown Healthy Plants from single pots,

POST FREE.

12	Choice Distinct Zonal Geraniums, Pearson's and others		2/6
25	"	"	4/-
12	"	Gold and Bronze	2/6
12	"	Ivyleaf, to include Souvenier de Chas. Turner	2/-
25	"	Coleus	3/-
25	"	Fuchsias	3/-
12	"	Double Geraniums	2/6
25	"	"	4/
	Annuals in good variety, strong pricked off plants, per 100		2/9

My stock of Bedding Plants this season is unusually fine, and cannot be surpassed for quality and variety.

Catalogues post free.

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GOLD MEDAL STRAIN

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Per Packet, 1/6, 2/6, 3/6, and 5/-.

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Victoria and Paradise Nurseries,
UPPER HOLLOWAY, LONDON, N.

MR. DODWELL'S GRAND CARNATIONS.

The Finest Grown.

Mr. Dodwell's Specialities.

Bizarres, Flakes, Picotees, Selfs, Fancies, & Yellow Grounds, 10/6 per doz.

THE COTTAGE,
STANLEY RD., OXFORD.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, May 31.—Royal Western Horticultural Society's Show at Plymouth (2 days). Sale of "Logs" collection of Orchids at Messrs. Protheroe & Morris' Rooms.

FRIDAY, June 3.—Sale of Orchids at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, MAY 28th, 1892.

THE GARDENERS' ORPHAN FUND.—The almost gigantic success, if we may so express it, which attended upon the recent Gardeners' Orphan Fund dinner has fully justified the committee in the course they took on the initiative of Sir James Whitehead, Bart., and which led to some adverse criticism on their putting aside the usual subscribers' dinner, and replacing it by one of the charity type, as charity dinners are known in London. Whatsoever may be the general or individual opinion with reference to public dinners, at least there can be no question as to the fact that they do wonderfully help to bring in large accessions to the funds of charitable organisations.

Probably the most sanguine advocate of the change we have referred to did not for one moment look for such a splendid pecuniary result as we were last week enabled to announce, and which has taken the gardening community by surprise. We should indeed regret to learn that one gardener or other ordinary subscriber had thought his small subscription of five or ten shillings annually might now be dispensed with. The fact is the committee felt that a much greater annual income than it had hitherto enjoyed was much needed, to enable them to do full and complete justice to all demands made upon the fund. It is all very well that out of some twenty candidates an-

nually nominated, some ten or twelve can be elected, but it is not enough so long as the rest, being all duly worthy, are left out in the cold.

We should like to see the fund so prosperous, that every worthy claim for the benefits may be met in due course, as then there would be no heart-burnings or disappointments; hence it becomes very important that such great efforts as were made at the dinner should not merely be annual but even should be supplemented by continued and enlarged aid from the gardening fraternity. The fund now maintains fifty children, but some few years yet must elapse before many of these cease to receive its benefits ere the number can be very largely increased, and there is evidently much to be done yet, and we hope it will be done well and generously.

The Rhododendron Bloom.—What a truly magnificent body of colour in almost countless shades Rhododendrons are just now about to give in our gardens. It is the good quality of this grand shrub to be very liberal with its bloom. Just as happily it is very hardy, and also a capital evergreen. What the Rose is amongst Florists' flowers the Rhododendron is amongst hardy shrubs. It is of all shrubs that flower the most glorious. During the next month we shall have bloom in wondrous wealth, and if we may add to these plants those of their close ally, the Azalea, we get still further colours so beautiful as to excite our wonder and admiration.

The old Ponticum is a very accommodating plant because it thrives pretty well almost anywhere, and forms one of the finest cover producers nature can furnish. All the better forms, those of the hybrid types so called, are not quite so readily grown and will have a good share of peat or bog soil. There happily are many places where such soil is abundant; then it is but needful to plant and nature does the rest. In other places the soil is so perverse that it will not grow good Rhododendrons at all, and it has to be artificially made, so that good growth and bloom follow. Fortunately Rhododendrons and Azaleas well repay for any such outlay. They increase so freely that often their great development becomes as troublesome as in some other localities it is difficult to induce them to grow at all. When peat or bog soil cannot be obtained a fair equivalent is found in old vegetable soil, which seems to contain many of the elements in which these shrubs appear to delight.

We can have of both Azaleas and Rhododendrons in the open-ground varieties which cover a long season of flowering—from the beginning of March into July, although the few bloom early and the many late. Such shrubs as these, amongst many others, serve to show to us at this season how very great is the remove from gardening to natural conditions. Almost what the groups of Gorse are in floriferousness on a common, the Rhododendrons and Azaleas are in gardens. How much have we to be thankful for in these days and how great has been the flower gain to horticulture.

A Dry Spring.—The mouths of southerners have freely watered in spite of the prevailing drought when they have read of heavy falls of rain in the Midland and Northern counties, while in the South rain is so badly needed. There are conditions of soil and sometimes of temperature when rainfalls in the spring are harmful, but generally an abundance of moisture, if interspersed with fine working weather, is in the spring most desirable. We hear now almost universally southwards complaints as to the dryness of the soil and the great need for rain. Certainly there has been much of unpleasant weather during the past six months, but generally it may be said that it has been a very dry time, hence with much of very drying wind and some warm sunshine the earth has become parched and surface crops are suffering.

We have been unable to plant out, to sow, or to do a score of needful things, say the gardeners and farmers; the soil is too dry—too hard-baked—too ungenerous in its present condition, to render much of the ordinary cropping successful. Rain is being impatiently looked and hoped for, but it does not come. The sky is overcast with cloud—there is every appearance of a heavy and welcome downfall, but with the cloud speedily comes wind, and then all chance of getting rain disappears. That has been the Southern experience for months past.

It is not at all comforting to learn from the weather-wise, who happily are as often otherwise, that we shall get no settled warm weather or rain until the turn of the days. The weather prophet, that he may be somewhere in the run, usually defers the realisations of his prophecies until a rather remote period, as then there is greater reason to believe that prognostications may become true. We may well hope that the summer warmth and the needful rains may not be so long deferred. Our fruit trees and bushes, the Strawberries and Cabbages, the Corn, Pulse and Potatos are all much in need of a good soaking of rain, and we trust it will come too ere we are out of the present month.

Climbing Plants.—The paper on climbers, read at a recent meeting of the Royal Horticultural Society, contained nothing new, for the very obvious reason that a theme worn so threadbare in print affords little or nothing that is new. But then in gardening it is needful to be ever preaching the old themes, to be inculcating the same motives, and to be urging the same practices. We have such an abundance of climbers that it is not at all needful to have concern as to the selection of variety. There is so much that is suitable for all sorts of sites and positions. We have in them also that which is very accommodating to various forms of architecture and aspect, and indeed even of soil, so that all tastes as well as positions may be suited.

There can be no doubt but that climbers look best when employed to cover old, if not absolutely ruinous buildings. There does often seem to be something incongruous when trained on to prudish-looking newness; brickwork seems to need toning under the influences of the weather ere it is fit to receive dressings of hardy climbers. Still the toning in our ungenial climate soon comes. We have the noblest climbers in the world in our numerous varieties of Ivy, and few are so easily trained, few more serviceable. Next to Ivy comes the two popular forms of the Ampelopsis, and if these give neither flower or winter foliage, at least they present coloration in the autumn that is exceedingly beautiful. What a boon these two climbers have proved to be to town houses. How much of greenery and beauty have they brought into our streets; how much have they given almost of charm to town life.

What beauty, too, do our Clematises give to us. Even now the spring bloomers of the montana and lanuginosa types are in glorious bloom, and later will come all the Jackmanni section. Roses are popular, though troublesome climbers. What a wondrously beautiful, if deciduous, plant is the Wistaria, for by such title, and not by Glycine, will it be known to the crack of doom. The Honeysuckle and the Jasmines give such sweetness and charm; the Passiflo as, such pendulous growth laden in due season with flowers. Even our annual climbers are beautiful and not at all to be ignored. For even the Golden Canary Creeper, when it densely decorates some cottage porch, is far too striking not to command admiration.

The International Fruit Show.—At a meeting of the Provisional Committee, held on Monday afternoon, Sir James Whitehead, Bart., presiding, the following resolution was unanimously agreed to:—"That in view of the concentration of public interest in the coming general election and the consequent difficulty of making adequate arrangements for holding the exhibition this year, and also in consideration of the representations made by intending exhibitors, that sufficient notice has not been given for preparations, it is resolved that the International Fruit Show shall be held in the autumn of 1893."

Much as we should have rejoiced to have seen the proposed exhibition carried out this year, we believe the committee have taken a prudent step in deferring the show for another year. The uncertainty as to when the election will take place, and the partial failure of the fruit crops, to say nothing of other obstacles which need not now be discussed, rendered the postponement in every way desirable, if the committee were to avoid the risk of failure, through the circumstances indicated. It is proposed to take up the work again vigorously in the autumn, and with a clearer course open we do not doubt the ultimate success of the movement.

Mr. A. Allan, son of Mr. W. Allan, of Gunton Park, has been engaged as gardener at Hillingdon Court, Uxbridge.

Mr. T. Selwood has left Eaton Hall Gardens, Chester, and has been succeeded by Mr. N. F. Barnes, until lately foreman at Sandringham.

Mr. William Little, lately gardener to J. Cockburn, Esq., Glencorse House, Milton Bridge, Midlothian, has been engaged as gardener to P. W. Campbell, Esq., Muirton Bank, Perth.

Cattleya labiata is stated to have found a ready sale, "at florists' prices," at a recent auction in New York.

The Moseley Rose Show.—The promoters of this exhibition, which is to take place on July 19th and 20th, have arranged for a flower tent for the sale of surplus blooms and any others that may be contributed, in aid of the Birmingham Children's Hospital and the Gardeners' Orphan Fund.

The Director of Kew.—The Birthday Honours list includes the name of Mr. W. T. Thiselton Dyer, C.M.G., who is created a Companion of the Most Eminent Order of the Indian Empire.

The Dundee Chrysanthemum Society has just issued a schedule of prizes for an exhibition to be held on November 11th and 12th, copies of which can be obtained from Mr. W. P. Laird, 73, Nethergate, Dundee.

The Scottish Horticultural Association's schedule for their annual show, to be held in the Waverly Market on November the 17th and two following days, is also to hand. Copies can be obtained of the secretary, Mr. Robert Laird, 17, Frederick Street, Edinburgh.

Mr. W. Atlee Burpee, the famous seedsman of Philadelphia, recently joined the benedicts, and a few days previously was entertained at dinner by some of his bachelor friends, and presented by each with some sort of kitchen utensil! By the time the function was over it is said that he was overwhelmed with hardware.

The Pea Weevil, Sitona liniata, is reported to have destroyed whole fields of Peas in Essex this spring. Miss Eleanor A. Ormerod attributes the plague in part to the great warmth that we experienced for a short time about six weeks ago, which brought out the spring brood of weevils earlier than usual and in greater numbers.

Mr. Beevers, late gardener to F. C. Carr Gomm, Esq., Farnham Chase, Slough, has been engaged to succeed Mr. Maher (who is retiring after 33 years' service) as gardener to H. E. Allhausen, Esq., Stoke Court, Stoke Poges, Slough. Mr. Reid, late gardener at Pimdrift, Maidenhead, succeeds Mr. Beevers.

The National Chrysanthemum Society's Schedule for the current year comes to hand in an improved form, and should prove of more general interest to the members than heretofore. Without adding materially to its bulk the matter has been re-arranged, and in addition to the prize list rules, list of members, etc., it contains the papers read at the conference held on November 10th of last year; and a list of the plants certificated by the Society's floral committee during the past year. It also includes an announcement of a conference on October 12th, to consider the proposed uniform enlargement of show boards for Japanese blooms, and gives all needful particulars with reference to the competitions for the Society's new Holmes' memorial challenge cups.

Kelway's Medals for Herbaceous Plants.—We are asked to state that the Messrs. Kelway & Son, of Langport, offer medals for competition at the Royal Horticultural Society's meetings on June 7th and 21st, July 12th, and September 6th, for Pyrethrums, Pæonies, Delphiniums, Gaillardias, and Gladioli. Particulars of the several competitions can be obtained from the secretary to the society, or from the Messrs. Kelway.

Burning of an old Oak at Hampton Court.—Early on the 14th inst. an unusual spectacle was witnessed in the Home Park at Hampton Court, when a magnificent oak growing about twenty yards from the Long Water was discovered to be on fire. The Palace fire-brigade, under Superintendent Moorman, were quickly on the spot, and the alarm having been sent to Kingston and Surbiton, the steamers from those places arrived shortly afterwards, a copious supply of water, pumped from the Long Water, being poured on the burning oak. The tree is said to be 1,100 years old, and one of the eight largest oaks in England. It is 33 ft. in circumference, having an average diameter of 11 ft. The trunk is hollow for about 10 ft., and several of the larger branches above that are also in a decayed condition. It was in the hollow of the oak that the fire burned fiercest, and as the flames spread from branch to branch the effect was singular in the extreme. The fire was extinguished in a few hours, but not before the fine old tree had been almost completely destroyed. The cause of the fire is unknown.

Kew.—An incident as we *(Gardeners' Chronicle)* learn, occurred at Kew on Sunday, the 15th inst., which scarcely reflects credit on the Commander responsible for the discipline in the British Army. It appears that, no doubt from inadvertence, the Princess of Wales passed into the gardens with a dog, and on attempting to enter the Palm-house with it, was very properly prevented from so doing by one of the attendants. The circumstance fell under the notice of H.R.H. the Duke of Cambridge, who was one of the party, and who, if we are rightly informed, roundly scolded the official for doing what was his plain duty. The man in question did not know the Princess, but even if he had done so, he would have been amply justified in remonstrating. Dogs are not welcome visitors in the Royal Gardens in general, or the Palm-houses in particular, nor does the fact that they belong to a popular Princess make their company any more desirable.

The Royal National Tulip Society.—The annual exhibition is fixed for Wednesday, June 8th, and it will take place in the gardens of the Manchester Botanical Society, at Old Trafford. So far as can be learned there is the promise of an excellent show, one of the best which has been seen for years. The weather, hostile as it has proved to some things, appears to have benefited the Tulip, and the advance is generally favourable. It is satisfactory to know that the collection grown by the president, Mr. Samuel Barlow, at Stake Hill, is of such excellent promise and so forward, that he will be able to shape better as an exhibitor than for several years past when his flowers have been so backward. The usual schedule of prizes has been issued, and should the fates be propitious and an unusually good exhibition be held, it may have the effect, as we most devoutly hope it will, of leading to an increased interest being taken in the Tulip. We have witnessed times of depression in regard to its popularity, followed by times of revival, and it may be in store for us to witness another period of revived interest in a flower far too interesting to be allowed to fall into oblivion.

A Rose Society for America.—Steps are being taken by some of the leading growers of Roses in America to found a National Rose Society, which will have for its object the encouragement of the production of new Roses by offering valuable prizes, in addition to certificates of merit, to American growers of new varieties that show a distinct gain over existing sorts in the same classes.

Corydalis capnoides.—The leaves of this Corydalis are two or three times divided into wedge-shaped segments, and have a slender, glaucous appearance. The flowers are, to all intents and purposes, white, but close examination shows the petals to be tipped with a green and yellow blotch, while the inner ones are tipped with a yellow blotch. The plant is hardy and easily managed in any good garden soil, and should be planted in the front row on account of its dwarf habit. On the whole it closely resembles the well-known C. lutea, except in the flowers.

The Holmes' Memorial Challenge Cups.—We quote the following from a circular which has just been issued by Mr. W. Herbert Fowler, Claremont, Taunton, and Mr. Norman Davis, of Camberwell: "It has long been felt that in order to stamp the character of the National Chrysanthemum Society as more distinctly national, something beyond mere monetary prizes are desirable, in order to awaken additional interest in the society's work. The late secretary, Mr. William Holmes, inaugurated a new departure in this sense by organizing the Affiliated Societies' National Challenge Trophy, which has answered beyond the most sanguine expectations. In instituting the Holmes' Memorial Fund, it was the desire of the promoters that some portion of the money subscribed should commemorate Mr. Holmes' work in connection with the Society, in the form, if possible, of special prizes bearing his name. The trustees of the fund have devoted a certain portion of the amount they have received to this purpose, but it is inadequate to provide prizes of sufficient value to worthily commemorate Mr. Holmes' name and labours. A number of gentlemen have volunteered to subscribe with a view of augmenting the amount, and it is intended, with the sanction of the committee of the society, to provide two National Chrysanthemum Society's Holmes' Memorial Challenge Cups one for Incurved and one for Japanese blooms, full particulars of which will be found in the schedule of prizes for this year. The winners in the present year will be regarded as the champions for 1892, and will have their names engraved on the cups accordingly. That these memorial cups may be of considerable value and worthy of the society is highly desirable, and it is earnestly hoped that members having the future interests of the society at heart, will not allow this opportunity to pass without making every effort to insure the undertaking being distinctly successful. Promises have already been received to the amount of £45, and it is earnestly hoped the desired sum of £100 may be obtained. A meeting of the subscribers will be called at an early date to make final arrangements for the purchase of the memorial cups so that they may be ready for presentation to the society previous to the November show, at which the cups are offered for competition." Donations may be sent to either of the gentlemen named above.

FUCHSIAS SHOWING THE EFFECT OF A SPECIAL MANURE.

STIMULANTS FOR PLANTS IN POTS.

THE quantity of soil supplied, even where the pot is comparatively large, offers far too little space for the roots to spread, and the amount of soluble food material in the soil, even when the richest hot bed soil is employed, is far too small to induce the plant to develop. Various means are adopted to overcome this deficiency, but the means are insufficient. Pot plants are transplanted, they are put into fresh earth, richer in food materials, but the earth—even the best flower earth—is soon exhausted, and allows the

plant to starve. We are advisedly recommended to put a piece of lime in the soil, or to manure with horn shavings, or to mingle guano with the water used for watering; but these manurings are imperfect, they do not convey to the plant the most important food materials in a sufficiently regular and complete manner, they act only for a short period, and not always favourably.

Now I have conducted, during a series of years, moderately comprehensive experiments, with the object of discovering a nutritive salt that is to be adaptable, as far as possible, to the average manurial requirements of different pot cultivations, and that is, moreover, to contain as little as possible of those constituents which are only taken up by the plant in small quantities.

As the result of my labours I state that what has proved best in all experiments is a nutritive salt. Albert's Highly Concentrated Horticultural Manure containing 14 to 16 per cent. of phosphoric acid, 20 per cent. of potash, 17 per cent. of nitrogen.

I have used Albert's Highly Concentrated Horticultural Manure with Roses, Fuchsias, Pelargoniums, Castor Oil plant, Palms, Heliotrope, Camellias, Azaleas, Gloxinias, etc., and the result has in all cases been equally favourable. As an example, some photographs of our Fuchsia cultivation are introduced here, which are taken from a large series of comparative experiments. These are shown in table 12, and I will here give a short sketch of the way the experiments were conducted.

In spring, 1890, about 100 Fuchsia slips were planted in sand, and when they had developed roots, were put into small pots; on the 19th of April, 30 plants as nearly equally developed as possible were planted in flower pots, 6 in. high by 6½ in. diameter at the top, filled with hot-bed earth.

Each ten pots received equal amounts of Albert's Highly Concentrated Horticultural Manure as follows:—1st ten. None. 2nd ten. 2½ drams on 18th June; 2½ drams on 7th August; 2½ drams on 20th September. 3rd ten. 3¾ drams on 18th June; 3¾ drams on 7th August; 3¾ drams on 20th September. The plants were wintered in the greenhouse, in the beginning of April transplated into larger pots, about 6½ in. high by 8 in. diameter at the top, filled with hot-bed earth, and in summer, 1891, manured as follows:—1st ten. No artificial manure. 2nd ten. From April 25th to August 13th, 1 dram every 15 days, in all 8 drams. 3rd ten. From April 25th to August 13th, 1 dram every 10 days, in all 12 drams.

The result of the manuring was exceedingly favourable both in 1890 and in 1891. The plants manured signalised themselves, in comparison with the plants grown in the unmanured hot-bed earth, by their fresh green colour, by a very vigorous development, and by an uncommonly rich inflorescence. — *Paul Wagner, Ph.D., Director of the Agricultural Research Station, Darmstadt.*

NEW & RARE PLANTS.

THE undermentioned plants, flowers, and fruits were exhibited at the meeting of the Royal Horticultural Society on the 17th inst., and received awards according to merit. Orchids certificated at the same time are recorded under "Orchid Notes and Gleanings."

PANDANUS PACIFICUS.—Under this name we have a very distinct Pandanus coming from the South Sea Islands. The leaves are 18 in. long, 3 in. to 4 in. wide, and suddenly narrowed at the apex which runs out into a long, slender process; the edge is serrated throughout, including the slender point, and there are prickles on the midrib beneath. There are three main ribs, both surfaces are shining, but the upper one is darkest in hue. Suckers are produced in great abundance from the axils of the lowest leaves; so that on the whole the plant presents a dwarf and stocky appearauce, with much shorter leaves proportionately to its size than many of those already in cultivation.

WISTARIA SINENSIS ALBA.—The common mauve-blue Wistaria is now very gay wherever it is grown, but the white variety is comparatively an unknown plant. It would form a beautiful contrast with the common one. The flowers are pure white with exception of a small, pale yellow blotch at the base of the standard. The racemes appear to be longer and the flowers more distantly arranged, but as the specimens shown were not fully expanded, they might alter somewhat in character later on.

PELARGONIUM ARETE.—In this we have a rega lor decorative variety, a sport from Volonté Nationale. The petals are obovate, undulate, or wavy, white at the base and carmine upwards with a white edge. The leaves are reniform-orbicular and toothed. The variety is very floriferous. All the three were exhibited by Messrs. J. Veitch & Sons, Chelsea, the first two receiving First Class-certificates, and the Pelargoniums an Award of Merit.

ROSE LADY HENRY GROSVENOR.—The leaves of this hybrid Tea Rose are of a dark shining green. The flowers are of large size, flesh-coloured in the centre and almost white on the outside. The outer petals are broad, rounded and revolute at the edges. It was shown by Messrs. Wm. Paul & Sons, Waltham Cross, and received an Award of Merit.

MELON GUNTON ORANGE.—The fruits of this as exhibited are of remarkably small size, globular, golden-yellow, and slightly netted. The skin is moderately thick, and the scarlet flesh of considerable depth, rich, juicy, melting, and highly-flavoured. Four fruits were shown by Mr. Wm. Allan, gardener to Lord Suffield, Gunton Park, Norwich, when a First-class Certificate was awarded it.

FIG PINGO DE MEL.—The fruit of this Fig is about the size of that of Brown Turkey. The skin is green, comparatively thin, and the flesh white like that of White Marseilles. Fruits were shown by Mr. G. H. Sage, gardener to the Earl of Dysart, Ham House, and received a First-class Certificate.

STRAWBERRY EMPRESS OF INDIA.—This is said to be the result of a cross between British Queen and Countess, and has the British Queen flavour; the fruit is somewhat paler in colour than the last-named, but has the shape of that of Countess or Sir Charles Napier. A dish of fruits was shown by Mr. Wm. Allan, when a First-class Certificate was awarded.

At the summer show of the Royal Botanic Society on the 18th inst., the undermentioned awards were made to plants and flowers shown.

RHODODENDRON BALSAMINÆFLORUM ROSEUM.—The flowers of this double variety have a long, stout, flesh-coloured tube that is yellowish towards the base. The segments are closely arranged, but not crowded, and of a beautiful salmon-rose colour. A Floricultural Certificate was awarded it.

ADIANTUM CAPILLUS-VENERIS TENNE.—The leaves of this variety are moderate in size, very freely produced, and finely divided into narrowly wedged-shaped segments. The whole is of a bright green and very pleasing. A Botanical Certificate was awarded.

BEGONIA MARIE LOUISE.—The leaves of this variety are obliquely cordate, of a deep olive green in the centre with radiating pale veins and grey blotches; this is surrounded by a broad paler green band blotched with grey, and margined again with deep olive green and closely blotched with grey. The variegation is well marked. The variety is of the Rex type. A Floricultural Certificate was awarded it.

PANDANUS PACIFICUS.—A Botanical Certificate was awarded this. For description see preceding column.

PHYLLOCACTUS DELICATUS.—The branches or stems of this garden variety are long, flattened, and deeply crenate, bearing the flowers on their margins. The flowers have a long, scaly tube, and widely-spreading, soft pink segments, all of which are broad, and the outer ones spreading. The stamens are very nnmerous and creamy-white. A Floricultural Certificate was awarded it.

GLOXINIA AIDA.—The funnel-shaped flowers have a white throat densely spotted with purple; the segments have a broad, intensely red arching band, and a white edge. The leaves are elliptic and deep green with pale veins. Floricultural Certificate.

GLOXINIA HECTOR.—The leaves of this variety are very broad, short and dark green with pale veins. The flowers are of a deep scarlet shaded with crimson in the throat, and are narrowly edged with rose. Floricultural Certificate.

GLOXINIA CICELY.—The leaves of this sort are obovate and somewhat singular in that respect. The flowers are notable for the number of segments, which vary from six to seven, and are of a deep purple shaded with crimson and margined with white. The throat is creamy-yellow and densely as well as finely marked with purple. Floricultural Certificate.

STREPTOCARPUS TYRO.—The leaves of this Streptocarpus are broadly oblong, and moderate in number. From two to six flowers of a deep mauve-purple with three crimson-purple bands in the throat are borne on a scape.

STREPTOCARPUS MIGNON.—The paucity of leaves in this variety would suggest some affinity with the one-leaved S. Dunnii; like those of the latter they are oblong-lanceolate and of large size. The flowers are of a deep reddish-purple with three crimson bands in the throat and borne in cymes of two to six on a scape. Floricultural Certificate.

STREPTOCARPUS ARIEL.—On the other hand the leaves of this sort are narrow and numerous, as in the case of S. Rexii. The flowers are large and pale mauve with seven purple lines alternating with white ones in the throat. Floricultural Certificate. The above eleven plants were exhibited by Messrs. J. Veitch & Sons, Chelsea.

CYRTANTHUS TUCKII.—The leaves of this Cyrtanthus are linear, glaucous, and considerably shorter than the scape; the latter grows to a height of 18 in., bearing about seven flowers, and is produced from the side of the bulb. The flowers are tubular, somewhat contracted near the base, six toothed or shallowly lobed at the mouth and of a warm orange-scarlet. Some flowering bulbs were shown by Mr. James O'Brien, Harrow-on-the-Hill, and received a Botanical Certificate.

PETUNIA HOLBORN WHITE.—The flowers of this variety are large, fully double, pure white, beautifully undulated and crisped. This latter character more than the colour or the fact of its being double, constitutes the attractive feature of this variety. A plant was shown by Messrs. J. Carter & Co., High Holborn, and received a Floricultural Certificate.

PELARGONIUM ST. GATIEN.—The petals of this variety are orbicular, the three lower ones being rose-coloured with a central crimson blotch; the two upper petals are shaded with crimson, and have a large black blotch. It is a show variety, as the petals are large and flat. Floricultural Certificate.

PELARGONIUM VANITY.—In this we have a regal or decorative Pelargonium, as the petals are slightly undulated. The flowers are large and white, with a small red blotch on each of the three lower petals, and a large crimson blotch feathered at its base on each of the two upper petals. Both of the above Pelargoniums were exhibited by Mr. D. Phillips, gardener to R. W. Mann, Esq., Langley Broom, Slough, and were awarded Floricultural Certificates.

TREE PÆONY SAMARANG.—The flowers of this variety are single, or at most, semi-double, and for want of a better term we describe them as of a warm salmon-orange with a satiny gloss, and shaded with rose at the base. The petals are long, shallowly toothed at the apex, rather loosely arranged and showing the stamens in the centre.

SILENE VIRGINICA.—In its native country this is named the Fire Pink on account of the fiery red or brilliant scarlet colour of the flowers. The latter are borne on branching stems about a foot high. The petals are oblong and bifid, with a lateral tooth on each side, such as occurs in some of our European Silenes, as well as Lychnis. This, as well as the ast-named, was shown by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, and a Floricultural Certificate was awarded in each case.

DRACÆNA COULLINGI.—A Botanical Certificate was awarded this hybrid when shown by Messrs. B. S. Williams & Son, Upper Holloway. For description see p. 582.

CANNA PAUL BRUANT.—The plant shown was grown in a 32-size pot and was 18 in. to 20 in. high, furnished with oblong, glaucous leaves. The flowers were very large, bright scarlet, and borne in a short compact raceme.

CANNA COMTESSE DE L'ETOILE.—The stems of this are about 2 ft. high, grown under the same conditions as the last, bearing oblong, glaucous leaves. The flowers are large, clear yellow, spotted and marked with short scarlet stripes. Both wer shown by Messrs. Paul & Son, Cheshunt, and received Floricultural Certificates.

GLOXINIA LORD SALISBURY.—The funnel-shaped flowers of this Gloxinia are of a deep purple, heavily shaded with crimson-maroon, with a paler edge; the throat is pale and spotted with purple. It was shown by Messrs. J. Laing & Sons, Forest Hill, and received a Floricultural Certificate.

ROSE CRIMSON QUEEN.—The flowers of this hybrid perpetual are large, very compact, and of a deep crimson; some of the petals in the centre have

a red edge. All the petals are closely imbricated, and the outer ones revolute at their margins. The flowers are fragrant.

Rose Spenser.—This is also a hybrid perpetual and has very large, pale pink flowers of a darker tint in the centre. The outer petals are revolute at the margin, while the inner ones are more erect and somewhat wavy at the edges.

Rose Clio.—Only small plants of this hybrid perpetual were shown. The foliage is ample and of a rich green. The flowers are also of large size, pink, and almost white on the outer petals, which are revolute at the margins. All three were exhibited by Messrs. Wm. Paul & Son, and received Floricultural Certificates.

CALIFORNIAN FLOWERS.

The flowers of California are the pride of her population and the marvel of travellers visiting her boundaries. Shortly after the first rains the valleys, mesas, and downs, are adrift with blooms, while every hill stands knee-deep in a sea of colour. Many of these flowers are wonderfully soft or brilliant in hue, and of strange form and perfume. The glorious carnival is kept up until the hot midsummer sun fades the gorgeous mosaic into sober shades of purple, gold, and brown.

Before the era of the horticulturist, the great valleys of the State were magnificent flower fields of inconceivable luxuriance and diversity, surpassing every portrayal of brush or pen. In the sublime isolation of these uncultivated wilds, Nature expressed an abandonment of colour, odour, and ryhthmic sound. Not a few of the more fragile species of flowers have almost, if not altogether, vanished from the soil. Only the searching eye of the botanist may possibly discover a forlorn specimen taking refuge in the outspread arms of a canon remote from the plain.

However carelessly California guards her floral treasures, the flowers themselves bear no ill-will. At each recurring season they crowd every inch of mould the plough has left unturned. The slopes and laps of the hills hold multitudes of pretty nodding heads, to which one blithely nods in answer. Nay, even the sharp chins of bald boulders nourish a stubble glistening with the bloom of a kind of wild Dewplant, or grow a sweeping beard of mountain mimulus hung thick with golden trumpets.

In the cooler temperature of bosky canons, stream-nurtured flowers linger far into the summer, long after their sisters in the valley have perished from drought and heat. A semi-tropic sun will nip in the bud just as effectually as Jack Frost performs this ungracious act in colder climes. For this reason the rich green livery of a coast landscape retains its splendid ornaments of blossom and bud many fragrant days after the interior valleys have donned autumnal tints.

The Native Wild Flowers.

If California's public parks and home grounds display few of her native plants, the same thing cannot be said against European gardens. For years past English and German gardeners have successfully grown some of the finest of our wild flowers. Of these the favourites are the Eschscholtzia, Calochortus, and that wonderful shrub Poppy, the Romneya Coulteri. An English writer says of the latter: "I have just seen this glorious flower in Kew Gardens. With us it is one of the rarest and choicest of border plants."

The Romneya is a hardy perennial, which thrives amidst the unflinching rocks of sun-heated canons from Santa Barbara far southward into Lower California. It attains a height of five to ten feet, its glaucous, deeply divided leaves making an effective showing against the neutral grey of granite walls. In May the full hirsute buds expand their snowy, crinkled petals disclosing large central tufts of yellow stamens. The flowers often measure six or eight inches across, and usually remain in bloom several days.

This queen of the Poppy family is not easily managed in cultivation. The seeds take a year to germinate, and the young plants will not bear transplanting. A San Francisco florist, who had made a speciality of introducing species from the California flora into Europe, finds the surest method of propagating the Romneya is from root cuttings. He has, however, more demand for the seed, which is gathered in the vicinity of San Diego, and brings ten dollars per pound at wholesale.

The "California Poppy."

Of all the flower procession on the coast, the Eschscholtzia is by far the most widely known and admired. Its precedence was duly established by a recent act of the State Floral Society, which voted it the floral emblem of the State. No dissenting voic was raised but that of the botanist, whose habitual reliance on exact differentia made him mildly disputant: "The popular name of 'California Poppy' and the emblematic exultation given this flower, are both misleading to the public mind. The Eschscholtzia is not a true Poppy, though it is classed with the Papaveraceæ. The Romneya Coulteri and the Dendromecon Californica come nearer being Poppies than the Eschscholtzia, and are limited to the boundaries of this State and the upper portion of Lower California; whereas the 'California Poppy' extends into Arizona, New Mexico, Nevada, Oregon, and Washington."

Notwithstanding these technical objections, nearly every lover of the California flora unhesitatingly declares in favour of these flame-painted, satiny cups, which give a noonday glare to a landscape otherwise cool and reposeful. In June the orange Poppy plains are the glory of outdoor picturings, a joyful blaze of colour, which seems a condensation of all the veined gold in the earth underneath, and the focal point of all the sun rays overhead.

Nowhere is this Poppy so large in size and sumptuous in colour as upon the Island of Santa Catalina. It is the opinion of Professor Edward L. Greene that the several distinctively California species of the Eschscholtzia and Dendromecon have been brought over from the Channel Islands to the mainland. In fact, these Islands, according to the same authority, furnish the botanist singular instances of the individuality of insular floras. Professor Greene says: "That a small ridge of mountains rising out of the sea at only twenty-five miles distance from the mainland should present forty eight species of phanerogamic plants not to be found on the continent itself, is, to my understanding of the case, a fact entirely unique in phytogeography.

Though several varieties of the Eschscholtzia are easily cultivated in the Eastern States and in Europe, the flowers obtained in these countries are of inferior size and hue. The deterioration is also evident in the seeds taken from these aliens, even when planted in native soil. This degeneracy is more to be regretted when one learns, upon investigation, that many California florists have a trick of sending to Europe for their stock of Eschscholtzia seed. After the introduction there of certain of our wild flowers, florists in this State, especially those doing business in San Francisco, generally depend upon foreign importation for home supplies of the seeds of these plants. Owing to the cheapness of labour in the old country, a pound of seed can be sold there for a dime, and is afterwards retailed in the United States for ten cents an ounce. Thousands of packages of Eschscholtzia seed which are gathered in Europe are annually sold on this coast. In extenuation of this circumstance, a metropolitan florist will plead his inability to get a living price for home-grown seeds, which are presumably no better than the cheaper foreign seed.

In Germany and England, as is well known, seeds are picked and dried largely by women and children, who are content to receive a few pence for a day's labour; or, which is yet a matter of greater profit to the florist, the 'prentice hand, who costs him nothing, is yearly set to work among the pods, pericarps, and thistle-downs, of the seed harvest. It is only by devoting himself to such specialties as cannot be produced elsewhere that a California seed grower experiences financial success.

Mariposa Lilies.

The wide-spread appreciation of the Calochortus, familiarly termed the Mariposa Lily, or Butterfly Tulip, is shown by the immense number of these bulbs exported from California every year. A Ukiah man has gained the soubriquet of the "Calochortus Crank." He digs a hundred thousand bulbs each successive season, which he sells at a low figure to city florists, who in turn supply the general market. There are eight to ten species of the Calochortus commonly recognised, though a San Diego dealer in native seeds and bulbs has twenty-four varieties set down in his catalogue.

In Southern California, on vast projecting mountain fronts, difficult of ascent to the hardiest climber, there can be seen in later spring whole colonies of stately, straight-necked Lilies, lifting skyward their large, creamy chalices in the unspeakable solitude that exists upon all remote summits. These imperial flowers are the Calochortus Nuttallii, a noble variety of the genus, and true Parsees in their worship of the sun.

But assuredly the loveliest of all this Lilaceous group is the Celestial Tulip, which is the delight of children going a-Maying in coast canons. They call them Fairy Bells, and so they look, with their tiny, tuneless clappers concealed within the pearl-white, globular flowers, pendulous from tall slender stems. Be the day ever so breathless, these ethereal, hair-fringed bells cease not to vibrate as if stirred by invisible fingers.

In addition to the superb flowers already mentioned, there are various other native shrubs and plants of California whose commercial value is well established. A glance at the catalogue of European florists shows in the list ascribed to this State, the Scarlet Larkspur, elegant varieties of Dodecatheon, Brodiæa, Mimulus, Lobelia Cardinalis, Ceanothus, Phacelia, Azalia, Rhododendron, Clematis, Cercis, our pretty "cream cups," and "baby-blue-eyes," and a late acquision, the Lathyrus splendens, a vine, which heaps up vivid masses of deep rose and bright green in far desert precincts. Among the bulbs, one is pleased to note our beautiful Lilium Parryii, named after the distinguished Dr. C. C. Parry, on whom rests the honour of its introduction into Europe. This Lily grows abundantly back of the San Bernardino Mountains, where acres of swampy lands are lighted by its profusion of lemon-yellow, and the warm winds bear a surpassing fragrance from each bell.

Native Shrubs.

Among the native shrubs that ought to receive universal attention with nurserymen is the Lyonothamnus asplenifolius. Dr. Asa Grey called this genus after its discoverer, William S. Lyon, of Los Angeles. It is found upon Santa Catalina, Santa Cruz, and Santa Rosa Islands. It is very desirable for ornamental planting on account of its showy flowers and fern-like foliage.

In the past few years there has been an astonishing diversity of ornamental cacti collected by a scientific gentleman of San Diego. A majority of these "vegetable devil fish," as some one aptly terms this curious family, have found eastern and foreign markets, and yet others have gone to make up such noteworthy attractions in the State as the "Arizona Gardens," at Monterey, and in the Golden Gate Park of San Francisco, and the gorgeous parade of Cactus blossoms at Coronado. Take it all in all, California appears to have given the horticulturist a greater variety of plants than any other State in the Union, Florida excepted.

Through the agency of botanists and enterprising nurserymen on the Pacific Coast, there is, in the last ten years, a gratifying increase in the list of native plants offered to purchasers, but much of her flora is yet imperfectly classified, and there still remains a vast field for both the scientific and the commercial collector of floral beauties.

The First Florist in San Francisco.

In 1852, the first florist's establishment was opened in San Francisco, and soon did a flourishing business. Common varieties of Roses were auctioneered off at twenty and twenty-five cents each. Camellias without stems brought all the way from one to two dollars, and Cape Jasmine sold at wholesale for three dollars a dozen. In those days, wax imitations of Camellias cost the florist five dollars per dozen Now, the plenitude of the genuine blooms has entirely done away with what was once a paying industry to a few tireless women. The pioneer nurserymen in California found that the conditions of climate and soil necessitated the reconstruction of many of his previous methods of gardening. Past experience and florists' books were of little help in his new environments. The plants he had been accustomed to relegate to the hothouse, bloomed freely in the open air, and he was forced to fill his conservatories with unfamiliar exotics brought here at great expense and labour. Nevertheless, those were halcyon days for the San Francisco florist, and if he has continued in the business up to the present time, he is sure to be at odds with his destiny, the close competition of the Chinese, Japanese and Italians having changed the face of all this.—*From the Overland Monthly.*

FLORICULTURE.

An Amateur's Experience with Carnations.

Mr. Martin Smith's paper read at the Horticultural Club, which appears in your last issue, is most interesting to all lovers of the Carnation. I have taken a great interest in the growing of Carnations for some years, and have spared no trouble in procuring and propagating the best varieties that come under my observation, more particularly the yellows and yellow grounds, and also grow a number of seedlings from yellow ground parents, and have succeeded in raising a nice stock of my favourite colours, and find them as strong and as free as other varieties.

In 1887 I saved a grand lot of seeds, but since then till 1891 I have not been successful in consequence of the cold and wet summers. Last year I was more fortunate, having saved seeds from the pot plants. I have now a nice young stock of seedlings, all from yellow and yellow grounds looking, promising. I have for the last few years received seeds from Mr. Benary, of Erfurt, taken from his yellow grounds, and have some beautiful varieties which last season made a good show. I have now strong layers from them looking healthy and well.

We usually have about 100 plants potted on for the conservatory. We plant in the border a certain number of each variety, as we have stronger layers from those planted out than from pot plants; the whole are wintered in small pots in frames and turned out in March in the description of soil Mr. Martin Smith so well explains. We plant them in sets of eight, two rows of fours of the same variety. A wooden framework made of battens similar to the profiles used for military earth-works is placed over the beds, and when the plants are coming into bloom, we cover with tiffany. This is done solely to protect the blooms. They last much longer, and are of a purer colour if shaded from the glare of the midday sun. It is an inexpensive mode of protection, and well repays for the extra trouble.

Will Threlfall, mentioned in Mr. Martin Smith's paper, is one of the strongest growing Carnations I have ever seen, and easy to propagate from. The bloom is not to be compared with the beautiful Germania, which to my mind is the most charming Carnation in commerce, and I am pleased to say does well in our garden. The laterals, however, are not so prolific, consequently not so easy to multiply as Will Threlfall. Agnes Chambers, Terra Cotta, and many other yellow ground varieties raised by Mr. Douglas, do extremely well here planted out and in pots. I am afraid I am trespassing upon your space. As a lover of the Carnation I must thank Mr. Martin Smith, through your columns, for the impetus and assistance he has rendered to make the Carnation one of the most popular flowers, which, in my estimation, ranks No. 1 of all the beauties nature has bestowed upon us in the floral world.—*W. H. W., Monmouthshire, May 21st*, 1892.

Pansies, &c., at Bath.

Now being the best time to see Pansies at their best, and having a long-standing invitation from Mr. F. Hooper, of the Vine Nursery, Bath, I went to see him a short time since. Owing to the very dry weather we have lately experienced, I was very agreeably surprised to see such a grand show. The varieties Lord Roseberry and Mrs. Barlow being very conspicuous, the belting and blotches of each being beautifully defined, also a dark self named Fred Hooper, extra fine.

The white Pink, Her Majesty, also made a fine show; about 100 plants in a cold house and all in full bloom was a sight lovely to look upon. It is a very robust grower, the blooms very full and large, and sweetly scented. It is without a doubt the finest white self Pink.

A new yellow ground Picotee of Mr. Hooper's raising named Alice Brooks was carrying three grand blooms. It is very similar to Annie Douglas, being heavily edged and striped with bright rose on a good yellow ground, and the numerous petals are of very great substance. This will make one of the best yellow ground Picotees, as it not only possesses the above good qualities but has an excellent long pod.

Since my visit I have learnt that a group of Her Majesty and Alice Brooks were exhibited at the Bath Spring Show last week, and were very favourably received by lovers of these beautiful flowers.—*Brittle.*

CHICAGO EXHIBITION.

Horticultural Department.

Six acres have been set apart at the west end of the Midway Plaisance for a nursery exhibit, and planting has begun. Two hundred rare trees from Colorado have been installed. New Mexico will have a fine horticultural display. Flowers will be used instead of statuary for decorating the Illinois State Buildings, under the direction of the West Park Board of Commissioners.

Major Truman, of California, will probably be Chief of the Bureau of Viticulture. He has written extensively of the wine industry of the world, and has visited the leading vineyards here and in Europe. He has made it a study, and has exhibited here and abroad largely.

The Women's Dormitory Association Shares have been fixed at ten dollars each, and are being rapidly disposed of. A certain number have been allocated to each State. Black soil is being spread over the grounds of the Department, and beds and plots are beginning to make their appearance. Roses are now being planted.

The sixteen-acre wooded island is nearly covered with black soil, and the great Rose garden in the centre has been completed. A good deal has been done in flower garden work along the banks of the water basin, and the area for flowers inside and outside of the horticultural building is in shape. Much turfing has already been done. The propagating houses have been completed, and large numbers of plants are started in them.

A good sized American Linden tree has been planted by Geo. W. Childs on the wooded island—the first commemorative tree. He has donated from his fine collection a number of beautiful Palms for the Exposition, eventually to become the property of the City. The president of the Indian School at Arizona offers to loan a rare Date Palm 20 ft. high, which bore last year 200 lbs. of fruit. Some of the bunches weighed 18 lbs., with 1,100 dates in a bunch. Such a fine specimen will undoubtedly add greatly to the ornamentation of the grounds. Any number required of lawn mowers have been offered without charge for use in the grounds by an Indiana Company with an access of patriotism and disinterestedness.—*C. Macquarie, Chicago.*

GRAFTING IN MOSS.

I wish to direct the attention of the viticultural world to a new method of making stocks and scions unite, which was tried on a large scale for the first time by Mr. Martinaud this year, after a successful preliminary experiment. Mr. Martinaud is a clever nurseryman of Indre-et-Loire. Within the next few years, perhaps by next year, it is anticipated that this new style of grafting will have replaced all the others, or at least so writes Mr. F. Larvaron, professor of agriculture in the department of Vienne, in the *Cosmos* of May 15th, 1892.

The stocks and grafts are cut at the usual epoch of pruning, then grafted at once or preserved in sand by the ordinary methods until the time for grafting. The stock has two or three eyes, the graft only one; it is then rather short. The workman has cut or has had cut both the stocks and the grafts which are placed on a table within reach. Until now the operation has been as in the system commonly employed.

The difference begins here: when stocks and grafts have been united the latter are left without ligature, they keep their position by simple adherence. The grafts are tied together in bundles of twelve to fifteen with two bands of Raffia but not too tightly. Then the bottom of an ordinary box is covered with a layer of damp moss of eight to ten centimetres; the sides also are lined with moss according as the bundles are arranged. These bundles are put lengthwise, separated from each other by some bits of moss. When the box is filled (an ordinary box will easily hold 1,500 to 2,000 grafts) it is covered over with another layer of moss ·08 centimetres to ten in thickness. When the operation is concluded, the contents of the box will not be touched for at least a month except to water the moss from time to time. If it is winter the boxes are put into greenhouses or heated rooms, and the temperature kept uniformly low.

If the grafting is done after the cold weather, from March 15th to May 15th for example, the boxes are put into cellars, caves, or lofts, away from draughts of air. When there is sunshine the boxes may be put outside without uncovering them, putting them back in the evening. At the end of about a month, owing to the heat and humidity, the union is complete, the radicles begin to bud, the stem of the graft is already several centimetres in length, but the growths made in darkness are white and tender. You begin to uncover them in a dark corner, and are gradually brought to a brighter light to give consistency to the young tissues.

Then they are planted in the nursery, in warm, damp soil; the young graft begins to grow vigorously. The development of the leaves takes place rapidly, and within the year the new tissue forming the union ripens perfectly as also the young branch, and by the planting season you have fine grafts well joined and vigorous, which can be placed in position in all security.

As moss is a bad conductor of heat, there are but very slight variations of temperature in the box; the grafts have the same amount of heat and moisture in all their parts, they all unite well, and the unions are not only on one or two points of liber in contact, but along the entire length, therefore the grafts are more perfect and solid. Instead of returns of 25 to 80 per cent. we have cent. per cent.

Through the non-employment of ligatures, there is no need to purchase the various materials such as raffia, rags, sheets of lead, india-rubber rings, etc.; and the time of fixing them is saved. In one day a man can make and tie 400 grafts on an average. By suppressing the ligatures more than 1,000 can be made. Young grafted plants have nothing to fear from the inclemencies of weather, because they are not put into the soil until they are quite united and strong.

The actual cost price of 1,000 grafts is 150 francs (£6 sterling), calculating the waste. With the new system the cost price may be given, very roughly, as follows:—

	£	s.	d.
American slips	0	6	8
Grafts	0	0	10
One day's grafting by workmen	0	3	4
Box and moss	0	0	10
Work on boxes	0	0	10
Planting; dressing, weeding	0	8	4
Total	1	0	10

Thus everything reckoned at a maximum, 1,000 grafts will cost six or seven times less than by the usual methods, and will be infinitely superior in quality. Grafting in moss will then be a marvellous point in the annals of French viticulture.—*J. O. S.*

FORSYTHIA SUSPENSA.

Of the two known species of Forsythia, that which we are now in a position to illustrate is by far the best either for garden decoration or for forcing purposes. It is a native of China and Japan, and has been grown in this country under various names, including F. Fortunei and F. Sieboldi. The true name is given above, and refers to the drooping habit of the plant. If planted in the open border the stronger branches grow upright, but the branches which are very slender soon assume a drooping habit. When grown on a bank or large rockery the branches grow downwards, often assuming a great length. We have even seen it thriving well on the top of a brick wall, where the seeds had probably been carried by birds; all the branches and stems were then truly suspended, confirming the significance of the specific name. The flowers are of large size, clear, bright yellow, and produced in opposite clusters all along the previous year's wood, and when a bush is well furnished with young wood, the effect is very striking in April. The flowers are produced some time in advance of the foliage, and the question is whether in this case the effect is not better in the absence of foliage, for a bush is certainly very conspicuous even from a distance. The stems of F. viridissima are stouter, and more erect, while the flowers are smaller and not so freely produced. Our illustration of a small portion of a shoot of F. suspensa, natural size, will give an idea of the profuse flowering nature of the shrub. Propagation can readily be effected by means of cuttings of the ripened wood inserted in pots and placed in a cold frame or under a hand-light, or by layering or grafting on the common Privet; but cuttings root so readily that it is unnecessary to resort to other methods.

ORCHIDS AT CHELTENHAM.

Yes, sir, Orchids, nothing like Orchids and Chrysanthemums. There is an old saying that one might as well be out of the world as out of the fashion, and so it is with the gardener, who owing to old age, lack of love and interest for these lovely and fashionable flowers, for no matter how skilled he may be in the vegetable and other departments of the garden under his charge, if his love and interest for the above-named flowers is at all dull, he will be considered only a second-rate gardener at the present time; but how long this "mania" is going to last cannot be estimated, but certain it is for the time being it is becoming stronger every day.

Now in case there are any such gardeners as those referred to I would urge them to pay the Queen's Road Nurseries, Cheltenham, a visit at once, and I vouch for it they will come away with that once dull, dead interest, quickened (so far as the Orchids are concerned). The sight of Orchids here they will never forget, that is to say if they have an atom of sympathy for these aristocratic flowers. Thousands of fully-expanded flowers and as many more to open will be found in the numerous houses, and such gems as one rarely sees. Talk about superb varieties and forms of Lælia purpurata and Cattleya Mendelii, well, one does not know which to give the preference to. Mr. Cypher has long been noted for holding some of the best forms of Lælia purpurata in this country, and the same might be said of Cattleya Mendelii, such broad petals and sepals, with wonderful coloured lips and rich yellow throats, and not only one here and there, but simply scores; also some very fine varieties of C. Skinnerii were in flower. What a distinct and useful Cattleya this is, and what a beautiful colour. Of C. Mossæ there were a great many flowers open ranging from nearly white to rosy purple.

Then we passed to the Odontoglossum house. Here again was a sight even surpassing the Cattleya house for beauty, for in my opinion no other Orchids can approach the Odontoglossums for chasteness and beauty; they retain their foliage all the year round, which is of a rich dark colour (and no foliage can harmonize so well with flowers as their own), and this applies even more forcibly to Odontoglossums if such could be the case. In this house there were many hundreds of spikes fully opened, and as many more to open. All the best varieties are to be seen in this house, and of course "Alexandræ" predominated; but there were also some extraordinary fine plants of O. vexillarium, varying very widely in colour; but for myself I prefer the dark coloured forms. I also noticed some very fine spikes of O. Edwardii, and when seen in full vigour it certainly is a striking Orchid, but the colour is not so retiring as some others. There were also some well-flowered plants of Ada aurantica which brightened up the house immensely. These, together with a great many Lycaste Skinnerii, Oncidium concolor, etc., made a show which I shall not forget for a while.

Now we find ourselves in the Dendrobium house, which is "rather quiet" just now, as with the exception of a batch of Dendrobium Bensoniæ majus (which one could not pass without making the remark what a beautiful little Orchid, and what a free bloomer!) there is not much to notice. Then we passed to the Aërides and Saccolabium house. Here we find a splendid lot of vigorous plants, oh, yes, and some very fine Vandas, many of which were in bloom. Then we had a peep at the Cypripediums, many of which were in flower, such as caudatum, bellatulum, concolor, niveum, Stonei, Lawrencianum, some of the best forms of barbatum, and Argus. We also saw a nice plant of Lathamianum, and a host of other good things, while from the roof were hanging some Cœlogyne Massangeana in bloom. Personally I do not care for this Orchid, its colour is not striking enough.

I also noticed the beautiful Epidendrum O'Brienii. This is a charming plant, such a beautiful colour. Phalænopsis are doing well, and we shall hear of them later on.

I made no memoranda while looking through so cannot go into much detail from memory, but I believe, Mr. Editor, you like to hear how our country nurserymen are getting on from time to time, and that is my excuse for sending you these imperfect notes.—*T. Arnold, The Gardens, Cirencester House, Cirencester.*

Forsythia suspensa.

ASPEN HOUSE.

The garden at Aspen House, the residence of W. Y. Baker, Esq., is well stocked with fruit trees, and the houses chiefly with Orchids. At the time of our visit the principal house had been emptied for repairs and painting, so that the Orchids were crowded together in other houses, and therefore not under condition to be seen to best advantage. A goodly number of them were in bloom, particularly Cypripediums, of which about eighty species and varieties are grown. Those requiring a pretty high temperature are located in the house under ordinary circumstances devoted to Odontoglossums and other subjects requiring cool treatment. A water tank runs beneath the whole length of the stages, and which is shallow except that portion used for dipping water from. The stages themselves are constructed so as to hold a shallow bed of water, and this is covered with wooden staging on one side, while on the other bench inverted pots or small saucers are used for standing the pot plants upon. By this latter means every pot is isolated, so that crawling vermin cannot get at the plants; and the atmosphere is at the same time well supplied with the necessary moisture so beneficial to cool Orchids.

Mr. Wm. Woodley, the gardener, has only within a few years past taken to the culture of Orchids, although he has had charge of the place for the last sixty-five years. Several changes in the fashion for particular kinds of flowers have taken place within that time, but he feels as much or even more interest in them than in other flowering plants. Some two months ago he had a fine display of Cattleya Trianæ; now C. Mossiæ is in season. Some imported pieces of it now in bloom have very large flowers, particularly one with blush sepals and petals and a richly-coloured lamina. Dendrobium thyrsiflorum bears some fine racemes of bloom, and so has D. chrysotoxum. Phalænopsis grandiflora aurea and Oncidium Papilio might also be mentioned here.

The Cypripediums constitute the most prominent feature at present, and they are moreover conspicuous at all times of the year, for there are always some of them in bloom no matter what the season is. A fine piece of C. Druryi is now quite attractive, although only recently imported and now well established. Other standard sorts that are hardly ever absent from a collection are C. ciliolare, C. Lawrenceanum, C. Argus, C. hirsutissimum, and C. barbatum O'Brienii, sometimes called C. biflorum O'Brienii. The rich dark olive green venation shaded with brown on the upper sepal is very characteristic of C. politum.

A vinery close by is also closely crowded with the overflow from the compartments of the house under repair. Here some fine pieces of Odontoglossum citrosmum, grown in baskets suspended from the roof, are now in bloom. They are sweetly scented and show some variety, one having a clear rose lip being particularly noticeable. Several Cypripediums have also found their way here, and amongst them we noted a little batch of the new Cypripedium Chamberlainianum, about which so much has been said recently. The plants seem healthy, and will no doubt soon get nicely established. C. concolor is in bloom, and though not uncommon in collections is, nevertheless, a quaint little Orchid. The yellow flowers of Cattleya citrina contrast well with a batch of the scarlet spathed Anthurium Scherzerianum.

A lean-to house usually occupied with bedding plants is now filled with the Odontoglossums and other species of that class. A number of kinds that delight in a high temperature are also temporarily located here, including two pieces of Cymbidium Lowianum in bloom. The flowers are distinct on the two plants, and the lip of one is very richly coloured. The lamina of the lip is of a rich crimson-brown or reddish-maroon, while the throat or disc is white, and therefore shows well by contrast. Alongside of these are pieces of Dendrobium infundibulum and D. Jamesianum. The former has very long stems and is now flowering a second time upon the old stems. Several of the Odontoglossums are also in bloom, and a healthy and freely-flowering piece of Marechal Niel Rose occupies the back wall. The house is low and well lighted, while the plants as they are arranged on the shelves look well, and if kept cool and well shaded in summer would answer as an Orchid house. It would no doubt answer better in winter, when Orchids as well as other plants generally require all the light which our dull climate will supply.

THE HERBACEOUS BORDER.

Choice Plants in Flower.

TIARELLA CORDIFOLIA.—Although only 6 in. or 8 in. high, this plant becomes quite an attractive subject during May and the early part of June. The leaves are cordate, and of a light green, but usually more or less blotched with bronze, especially along the principal nerves, and form a compact tuft, from amongst which the scapes arise in considerable numbers. The flowers are of a creamy white with orange anthers, and become conspicuous on account of their numbers, the stamens being very prominent. It grows well in any moderately good garden soil, and if grown in the ordinary border should be kept well to the front on account of its dwarf habit.

ANEMONE ALPINA SULPHUREA.—The pale yellow flowers of this variety cannot be described as showy, yet they have a beauty of their own, and are sufficiently large to be conspicuous. The value of the plant is also enhanced by its hardiness and vigour; it needs only to be planted in the ordinary border, and where the soil is sufficiently retentive yet not clayey it maintains its position easily without any special care whatever. It may also be grown upon the rockery or in pots, but the finely cut foliage gets best developed in the open ground.

POLEMONIUM RICHARDSONI.—The proper name of this Rocky Mountain plant is P. humile, which differs chiefly from our native species (P. cæruleum) by its larger flowers, more acute segments to the corolla and its downy stems. The flowers of the plant under notice are large, bell-shaped, pale blue with a white eye, and are produced in great abundance, making quite a feature in the border where it is planted and allowed to grow into large sized clumps.

PÆONIA DECORA PALLASI.—The flowers of this herbaceous Pæony are single with five or six petals of large size and of a beautiful clear rose. The stems and foliage are of moderate growth, so that the plant on the whole is by no means bulky, but suitable for border culture and for cut flowers. When once established the fleshy roots should not be much disturbed. A top dressing of well decayed manure, lightly forked into the ground in winter, would greatly assist plants of this class.

MERTENSIA SIBIRICA.—The soft sky blue flowers of this species harmonise well with the glaucous hue of the foliage. At first, before they are fully expanded, they are of a purplish hue like most other Borageworts, but they soon change to the soft sky blue colour. The leaves are ovate and closely cover the stems which vary from 12 in. to 15 in. in height An entirely different plant, namely, Pulmonaria sac charata, is often grown under the name of M. sibirica, but the two are entirely different and not to be confounded.

GEUM CHILOENSE MINIATUM.—The ordinary scarlet forms of the species, both single and double, are well known, and the variety above named will no doubt be highly esteemed amongst cultivators of hardy plants when they come to know it. The flowers are of large size and distinctly orange instead of scarlet, and they have the recommendation of being produced all through the summer and autumn, provided the ground is moist enough to keep the plant growing. The leaves are interruptedly lyrate pinnatifid as in the type, so that altogether the plant is a very desirable one.

GERANIUM ACONITIFOLIUM.—One of the chief recommendations of this Geranium is its earliness to flower. A few others flower contemporaneously with it, but by the time the bulk of them are in bloom, this one is over. The flowers are pure white and produced in such abundance that the plant appears a mass of snowy whiteness. The plant usually grows 12 in. to 15 in. high, and the leaves are moderate in size and five to seven-lobed. Like the bulk of the kinds it is perfectly hardy and can take care of itself when once established.

SAXIFRAGA GRANULATA.—The flowers of this species are of large size compared with that of the plant. The stems are generally about 6 in. high, sometimes twice that height, bearing a truss of pure white flowers on the top. The leaves are reniform and trifid with rounded segments. There is a double form of this species that is also very pretty, and perhaps more durable when in bloom. The whole plant dies down early and should be planted where it will not be disturbed.

THE TEMPLE SHOW.

ONCE again has the Royal Horticultural Society to thank the trade for making a magnificent show in its behalf, in the Temple Gardens, and we trust this year with more successful pecuniary results than heretofore. The exhibition which was opened on Wednesday morning, as a display of lovely flowers and foliage is all that one could desire, but we cannot help expressing regret that so few amateurs should have favoured the society with their contributions. The trade have made the show, and a truly grand one it is. The Orchids are again the special feature, and a great and glorious show they make, exceeding in numbers and brilliancy anything seen before. In this department such distinguished amateurs as Baron Schroder and Sir Trevor Lawrence, Mr. Wigan, Mr. Jacomb, and Mr. Lucas contribute abundantly from their rich stores of Orchidic beauty, but the trade completely overwhelm them in numbers. Of extra special merit, next to the collections of Orchids, will be found three specimens of Dendrobium nobile, from Lord Portman's garden, at Buxtead Park, which are perfect marvels of cultivation, ranging from 5 ft. to 7 ft. through, and every bulb carrying a mass of blooms. These to Orchid growers will prove of rare interest as examples of what is called the cutting down system of treatment. Another specimen Orchid of rare interest to be seen in Baron Schroder's collection is a Cœlogyne Dayana, with twelve handsome drooping spikes, some of them 3 ft. 12 in. long, the most beautiful example of this species that we have ever seen.

Next in order of merit from a grower's point of view is a group of Clematises, from the famed nurseries of Messrs. R. Smith & Co., Worcester, a group of some two dozen plants, large in size and most magnificently bloomed. They occupy a fine position and will demand a large measure of praise from all who see them. Another most interesting contribution is made by Messrs. James Backhouse & Son, York, in the form of a miniature rockery planted with Alpines,—an exceedingly tasteful and attractive exhibit.

The Orchids which claim our attention first, occupy the whole of the central staging in the largest marquee, and nearly the whole of the centre of another long tent. In the first-named, Baron Schroder has a most beautiful display of Cattleyas, Dendrobes, rich and rare varieties of Odontoglossums, etc., and the wonderful specimen of Cœlogyne Dayana before alluded to. Next comes a smaller group, but a very bright one, from C. J. Lucas, Esq., Warnham Court. Sir Trevor Lawrence, Bart., M.P., contributes a larger collection which is specially rich in variety, and good types, and representing a considerable number of genera. From F. Wigan, Esq., Clare Lawn, East Sheen, comes a very attractive group of Cattleyas, Cypripediums, and Odontoglots, etc., conspicuous amongst which stands a flowering specimen of the handsome new Grammatophyllum Seegerianum. A group of Cattleyas, Odontoglossums, etc., from the collection of F. C. Jacomb, Esq., Cheam Park, also claims a large measure of admiration.

On the opposite side of the stage Messrs. B. S. Williams & Son, Holloway, have staged a large and brilliant group specially conspicuous in which are the fine Vandas and Lælia purpuratas. Messrs. F. Sander & Co., St. Albans, do not contribute so extensively as last year, but have a most striking collection nevertheless, made up largely of grand types and new varieties. Messrs. Charlesworth, Shuttleworth & Co., of Bradford and Clapham, also have an extensive group—a perfect mass of flowers, rich and rare, and including the very beautifully spotted Odontoglossum crispum Charlesworthii, and a number of plants of the showy Oncidium macranthum. In the long tent running parallel with the Thames Embankment, Messrs. Hugh Low & Co., Clapton, have a bank of Orchids some 90 ft. long, mainly Cattleyas and Dendrobes, among the latter being a number of plants of D. superbum giganteum which fills the air with its odour of Turkish Rhubarb. In the same tent also Mr. Cypher, of Cheltenham, has a splendid group of brilliantly flowered plants, and grand indeed are many of the forms of Lælia purpurata. Messrs. Heath & Son, of Cheltenham, and Messrs. Lewis & Co., of Southgate, also contribute largely and well.

Lining the sides of the principal marquee are a number of groups of rare interest and attractiveness. Messrs. E. D. Shuttleworth & Co., Peckham Rye, have a handsome group of Palms, Cycads, and other handsome foliaged plants, interspersed with Lilium Harrisii—a very affective group. Near by Messrs. William Paul & Son show Roses in pots, and as cut blooms, in a large and effectively arranged collection. Mr. T. S. Ware, Tottenham, follows on with a striking group of Tree Pæonies well bloomed and including some fine novelties. These are succeeded by a well balanced group of Stove and Greenhouse flowering and fine foliaged plants from Messrs. John Laing & Sons, Forest Hill. Then comes an arrangement that all will admire — a collection of forced hardy shrubs such as Azaleas, Spiræas, Hydrangeas, &c., set off with the variously coloured leafage of Japanese Acers, exhibited by Messrs. James Veitch & Sons. Messrs. Paul & Son have a very fine display of specimen Roses; and in the opposite corner is the superb group of Clematis from Messrs. R. Smith & Co., to which we have already referred. Messrs. W. Cutbush & Son, Highgate, follow on with a boldly effective arrangement of Rhododendrons and Azaleas, &c., all the more showy in contrast with the next contribution—a fine one of Roses in pots from Mr. W. Rumsey, Waltham Cross. Mr. Charles Turner, Slough, contributes a showy group of show and fancy Pelargoniums; Messrs. J. Peed & Sons, Streatham, a large bank of Anthuriums and Caladiums; and Mr. Phippen of Reading, a very striking arrangement of Lilium Harrisi and Spiræa astilboides, the latter forming the foreground to three semi-circular groups of the former, and the whole exceedingly well set up.

Returning to the long tent and turning to the right, a very fine bank of flowering Ericas is seen, from Messrs. Hugh, Low & Co., and opposite, Mr. A. Waterer, Knaphill, has a very showy lot of Ghent Azaleas. Near by Mr. H. B. May, Edmonton, has one of his extensive assortments of Ferns, beautifully grown little stuff, and well set up. Mr. H Cannell, of Swanley follows with a glorious group of Begonias, double and single, an excellent representation of the Swanley culture. On the opposite side, Messrs. Hugh, Low & Co., show from their Bushhill Park Nursery, a brilliant mass of well-flowered, decorative Pelargoniums; and alongside these Messrs John Laing & Sons maintain their high reputation for Begonias in worthy style, showing a grand lot. Mr. H. J. Jones, of Hither Green, Lewisham, also exhibits decorative Pelargoniums in the best market style.

In a second long tent leading to the main entrance gates are also a number of most interesting exhibits. Here Messrs. James Veitch & Sons show their best of Gloxinias and Streptocarpus, very beautiful groups of both. Mr. T. Gabriel, Streatham, has some well-done herbaceous Calceolarias, but with these Messrs. J. James & Son take the palm for dwarfness, floriferousness, and quality of the flowers. Messrs. Reid & Bornemann, Sydenham, show a very neat group of Pelargoniums, etc.; and Messrs. James Carter & Co., have an extensive display of beautiful single and double Petunias, Herbaceous Calceolarias, Mimulus, Gloxinias, and Cacti. Mr. T. S. Ware is also well to the front with Begonias; Messrs. Kelway & Son, Langport, with double and single Pæonies, Pyrethrums, brilliantly coloured Cannas, and Amaryllis; and Messrs. Barr & Son with cut Herbaceous plants. Messrs. Laing & Sons and Messrs. Cutbush & Son are also strongly represented in the herbaceous section. The Messrs. W. & J. Birkenhead of Sale, occupy their old position with a fine representative collection of Ferns.

In the fourth tent running alongside Crown Office Row are the wonderful examples of Dendrobium nobile before alluded to. Here also Messrs. T. Rivers & Son, Sawbridgeworth, have a very meritorious collection of fruit trees in pots; and Messrs. B. S. Williams & Son, a very excellent display of Clivias and forced Ghent Azaleas—a rich mass of colour. Messrs. Wallace & Co., of Colchester, have a fine group of Lilium eximeum giganteum grown from Japanese bulbs. Mr. Lucien Linden, of Brussels, exhibits some fine new foliaged plants; and Mr. Self Leonard, of Guilford, a beautiful assortment of Herbaceous and Alpine plants. Messrs. Dobbie & Co., Rothesay, have a lovely display of Violas, Pansies, and Sweet Peas—the admired of all. Mr. Pritchard, Southbourne, Christchurch, Hants, also shows a pretty lot of hardy herbaceous and alpine plants; and Mr. James Douglas, Great Gearies, contributes some of the fine old varieties of Florists Tulips. Of fruit Messrs. James Veitch & Sons, contribute some sixty dishes of Apples, singularly well preserved; and a small collection also comes from the Department of Agriculture, New South Wales. Mr. S. Mortimer, Rowledge Nurseries, Farnham, makes an excellent display with good varieties of Cucumbers of his own raising.

The Exhibition was opened at half-past twelve by the President, but the awards had not been made at the early hour we had to go to press, and must be given in our next.

GARDENING MISCELLANY.

COLEUS FOR EXHIBITION.

I SHOULD be glad of a little information on the subject of the culture of Coleuses for exhibition. Would some experienced reader tell me whether the plants should be exposed to bright sunshine at all times in order to heighten their colours, or is it best to give a slight shading during the middle of the day? Also, having regard to the colour, is it advantageous to syringe them in the evening when the sun has gone down? To what extent may stimulants be applied without affecting the colour? It is an easy matter to grow the plants to almost any size—I have had them in 12-in. pots 6 ft. high and 4 ft. through—but it is not so easy to get them so large as that and well coloured by the middle of July. This year we are restricted to 8-in. pots, and to get good plants they must be fed as much as possible so as not to affect the colour. Our plants are in a span-roofed house with a night temperature of from 65° to 70°.—*T. B.*

NEW ZEALAND WATER LILY.

FOR some time past, that is, since its introduction in 1879, Ranunculus Lyalli has been looked upon as a greenhouse plant; but it is now evident that under certain favourable conditions it may be grown in the open air all the year round. A plant is now flowering on the rockery at Kew. It is planted in a cool peaty bed which was made up for peat-loving plants some years ago. The position where the Ranunculus is planted is exposed to sunshine for a short time in the morning only, while all the afternoon it is shaded by some Weymouth Pines high upon the bank above, and sufficiently distant to prevent the roots of the trees from interfering with the plant. It was only a small specimen when placed here two years ago, and consequently did not flower last year; but now a fine stem has been thrown up bearing numerous flowers, of which the first has been expanded for more than a week. The petals are wedge-shaped, pure white, and much more numerous than in any of our native Buttercups. The leaves are also strikingly different, being peltate, orbicular, rather deeply concave above, and of a rich dark green. In its native country the plant throws up stems 2 ft. to 4 ft. high, with leaves occasionally 1¼ ft. in diameter, and when such is the case the foliage must simulate that of a Nelumbium except in colour. We can hardly expect the plant to attain such huge dimensions in this country, but specimens of moderate size would be very handsome. With regard to its hardiness it may be stated that the plant in bloom has been in its present position for the past two winters.

COMBRETUM PURPUREUM.

ABOUT 120 species of Combretum are known to science, but of these only a small number have been introduced to cultivation, and none of them are very common. That under notice is, perhaps, the most popular and oftenest flowered, although that does not frequently happen. In all probability they are not allowed to attain sufficient size to flower freely, as they are climbers in many cases and require age and size to bloom. At all events there is no difficulty in flowering C. purpureum when allowed to attain anything like its natural dimensions. The flowers are of moderate or even small size, but their numbers and rich red colour make up for any deficiency in this respect. They are borne in branching or panicled racemes, and are so arranged that they all turn to one side of the raceme, facing one way. The petals are much assisted in producing an effect by the long, projecting stamens which are of the same hue. There is nothing particularly striking about the foliage, but its dark green hue serves to show off the rich hue of the flowers. A plant trained along the roof of a stove in the gardens of E. M. Nelson, Esq., Hanger Hill House, Ealing, has been flowering for some time past.

TROPÆOLUM MRS. CLIBRAN.

SEVERAL continuous and free-flowering Tropæolums have been raised from time to time and found very useful for bedding purposes. Some of the finest of them are of some shade of scarlet, but that here named is of a clear and bright orange-yellow without any spotting whatever. The variety is very suitable for bedding purposes, in fact more so than the varieties of T. minus which are raised from seeds, and are very apt in dry seasons to produce a blaze of colour, run to seed, and then become quite flowerless for the rest of the season. Besides the above use to which it may be put the plant may be grown in pots for the greenhouse or conservatory or be taken into the dwelling house. The cut flowers also last for some days in water, and look very elegant either by themselves or in association with other cut flowers and foliage. We saw flowers of it the other day at Regent's Park from Messrs. W. Clibran & Son, Oldfield Nurseries, Altrincham.

ARISARUM PROBOSCIDIUM.

THE spathe of this little Aroid reminds one very strongly of the uplifted proboscis or trunk of an elephant, as the specific name would imply. The lower part is bent, inflated, and of a grey colour with olive green veins, while all the upper portion is of a deep shining olive brown, ending in a long tail or point which is curved forward, then upward; it is slender and sometimes attains a length of 5 in. The leaves are sagittate, of a deep shining green, and produced in great abundance. The spathes projecting from amongst the leaves have a peculiar and interesting appearance. The plant is a native of the Upper Arno and the Apennines and is said to flower in February, and this it may do under greenhouse culture, but when planted in the open ground it flowers in May and June, as it may be seen at present upon the rockery at Kew, where there is a plant in full vigour and bloom.

RHODODENDRON COLLETTIANUM.

IN its native country this is stated to attain a height of 8 ft. to 10 ft., but to see it flowering in this country at a height of 12 in. to 18 in. one would hardly suspect it capable of ultimately attaining such a height. The leaves in the dwarf condition at least are not very much larger than those of the European R. ferrugineum, being, however, rather broader and oblong-elliptic or lanceolate, deep opaque green above, paler beneath, scaly there, and of leathery texture. The flowers are much larger, however, than those of R. ferrugineum, pure white, and produced in dense, terminal heads or corymbs. The species is a native of Afghanistan, and was grown for several years under the name of R. Afghanicum until it flowered. Plants die off occasionally, but apparently not under the influence of cold, as the past winter and that previous must have been a very fair test.

DISPORUM SESSILE VARIEGATUM.

THE variegation of this plant is fine, but its beauty is in great part lost by the rambling habit of the underground stems or rhizomes, so that when planted out it rambles all over the place, so that its beauty is fritted away so to speak in little pieces. It might be treated like several other subjects such as Alstroemaria aurantiaca, and plunged in pots, especially in places where it is desirable that it should be kept within a limited space. There is another reason, however, for confining it, and that is because the scattered stems lose that effect they would have in a mass. The leaves are lanceolate, sessile, and heavily variegated with a clear white.

GENISTA HISPANICA.

THE species of Genista are both numerous and very varied both in size and habit. That under notice is very dwarf, compact and floriferous. The barren branches are short, very much ramified, and terminate in strong spines. The flowering branches on the contrary are short, erect, spineless, and furnished with small, oval or oblong, spineless leaves. The golden-yellow flowers are produced in great abundance in short, terminal capitate racemes. Being a native of the south-western countries of Europe, including Spain, it proves hardy here, and nowhere looks better than where planted on some elevated piece of ground amongst rocks, stones, and similar objects. Many of these shrubby Leguminous subjects like to be planted in elevated places or dry, half barren spots, where they become hardy, wiry, and flower in great profusion. Under different conditions the plant varies from 6 in. to 2 ft. in height, and is well worthy of the attention of the planter.

DENTARIA BULBIFERA.

THIS is reckoned one of our native plants, but is by no means common either in gardens or in a wild state. The flowers may be compared to those of the Dame's Violet, but are much fewer in number, of a pale lilac, with darker veins, and borne on the top of stems about 12 in or 18 in. high. The lower leaves are pinnate, with oblong or lanceolate leaflets, while the uppermost ones are lanceolate and altogether undivided. Most of those on the upper part of the stem are furnished with reddish bulbils in their axils, like Lilium bulbiferum and L. tigrinum. It may be described as a pretty and interesting plant although by no means showy.

SCOTTISH NOTES.

NORTH OF SCOTLAND HORTICULTURAL ASSOCIATION—A well-attended meeting of this Association was held in the Young Men's Christian Institute, Aberdeen, on Wednesday evening, 18th inst., Mr. France, president, in the chair. A committee, appointed on a suggestion by the president to consider the advisability of altering the name of the Association, reported that they had resolved unanimously to recommend to the annual meeting that the Association be designated in future "The North of Scotland Horticultural and Arboricultural Association" Further, the committee reported that it had had under consideration the question of differential rates of subscription, and considered that the only change necessary was that suggested at the last general meeting, viz., to fix the subscriptions of apprentices at 1s. per annum, and give awards for essays, etc., with the view of widening the work of the Association and stimulating young gardeners in the carrying out of their profession. It was decided to recommend the adoption of the proposals to the annual meeting.

The secretary reported that he had communicated with Sir Arthur Grant, of Monymusk, asking that the members of the Association be permitted to visit Monymusk on 2nd June. Sir Arthur had replied that he would be glad to see the members on the date mentioned. The next business on the card was a paper on "Daffodils and Narcissi," by Mr. A. Hope, of Messrs. R. Veitch & Sons, Exeter, and which was read by the secretary, Mr. G. C. Minty. The paper was very much appreciated, and a hearty vote of thanks passed to Mr. Hope. A fine display of Daffodils and Narcissi, and other spring flowers, which was on view in the room, was inspected with interest by the members.

PLANTING OUT RICHARDIAS.

As opinions differ somewhat respecting the benefits derived from planting out these most useful Lilies, I will give a short outline of the method I follow, and can only say that the results are so satisfactory that I intend to continue in this way of treating my plants. I have uses for large quantities of these flowers, and have found the following an excellent and easy way of securing strong, healthy, and free flowering roots:—About the end of the present month (May), or early in June, I have a trench prepared in much the same way as that used for Celery, taking care to fork in a fair amount of well-decayed manure. The plants are now knocked out of their pots, parted and planted into the trench at once; receiving a thorough watering as soon as possible.

I now afford them a generous mulching of short stable manure; this keeps the moisture from evaporating and at the same time keeps the soil cool and uniform throughout the summer and autumn. Unless we get an exceptionally dry summer, they will not require more than one or two more waterings, and these should always be thorough, so as to penetrate well down to the roots. When treated in this manner, much labour and time are saved compared to the system of growing them in pots all the summer; at the same time the plants make much freer and stouter growth under such conditions and with unrestricted root-run.

Like almost all bulbous-rooted subjects, the Arum Lily will not flower nearly so satisfactory unless the previous growth has been strong, and the flower spikes practically stored up in the crown. By the middle of October I have the plants taken up, lifting them carefully and with large balls; these should be reduced by working away the soil with a stick until the lump of roots is of such a size as to go readily into the pot you have designed for them. Pot firmly and well drain. Now stand the plants on the shady side of a wall or hedge, and afford them a thorough soaking at the roots, and a slight syringe overhead; this latter may be given frequently, and will prevent their flagging to any appreciable extent.

As soon as they are recovered from their shift, it will be necessary to remove them to a cool house or

vinery, from which they may be shifted on into warmer quarters as occasion demands. Richardias are very readily forced so as to flower at almost any time, provided plenty of light and a gentle bottom heat can be afforded them; this last will bring them on very rapidly, especially if the crowns were growing healthily the previous summer and autumn. In such cases the spathes are induced to push up earlier than under other conditions, and there are also many more of them, not to mention their superior quality.

Probably there is no plant of more service, nor more easily grown, and that will give a better return for Easter decorative purposes than the Arum Lily or Richardia æthiopica.—*Experience.*

ORCHID NOTES AND GLEANINGS.

Cattleya iricolor.

The pseudo-bulbs of this beautiful little Cattleya are fusiform, compressed, ribbed, and 2 in. to 3½ in. long. They are terminated by a solitary, oblong, rigid and deep green leaf. The plant shown by Baron Schroder (gardener, Mr. Ballantine), The Dell, Egham, at the Drill Hall on the 17th inst., bore a raceme of three nodding flowers. The sepals are oblong linear, revolute at the edges, and flesh coloured, the lateral ones being falcate. The petals are also narrow, oblanceolate, subacute, incurved and white. The tube of the lip is rather sharply curved near the base and white except near the base of the lamina, where it shows a deep purple shade owing to a corresponding internal colouring; the lamina is ovate, revolute, slightly crisped at the edge with a golden yellow blotch in the throat, divided into two branches at the upper end; below this is a blotch of the same outline of a rich purple and consisting of lines arranged in a parallel manner; in front of the golden blotch again is another band of purple lines following the outline of the blotch. Altogether it is a very pretty species even although of moderate size, and a First-class Certificate was awarded to it.

Vanda teres alba.

In this we have a white variety of Vanda teres, the general aspect of which is now well known, the stems and leaves being terete and dark green. The flowers are of the usual size as the type, but differ in being white with the exception of the throat of the lip, which is pale yellow. As in all other cases the yellow pigment is the last to disappear in Orchids which are otherwise pure white; or it may be that the whole flower was previously yellow and overlaid with some other hue such as green and brown, which disappear. A plant was shown by the Right Hon. Lord Rothschild (gardener, Mr. E. Hill), Tring Park, Tring, at the Drill Hall on the 18th inst., and received a First-class Certificate.

Cattleya Trianæ Schroderæ leyswoodiensis.

The sepals and petals of this beautiful variety are blush coloured, the petals being ovate and beautifully crimped at the margin. The tube of the lip is pale purple but deepening towards the top, and the lamina is broad, rounded, bifid, finely crisped and toothed, and white or of the palest blush except in the throat, which has a large and unusually well defined coppery-orange blotch, surrounded by a purple band. The combination of colours and their arrangement gives the whole flower a charm such as we seldom see. A plant grown in a basket was shown by J. W. Temple, Esq. (gardener, Mr. Ernest Bristow), Leyswood, Groombridge, Tunbridge Wells, at the Drill Hall on the 18th inst., when an Award of Merit was accorded it.

Cattleya Skinneri Temple's var.

The merits of this variety reside in the unusual size of all parts of the flower, but particularly the petals. The sepals are oblong, and the petals broad and imbricate, and all are of a rich rosy purple. The lamina of the lip is bifid and darker in colour with a creamy white throat. An Award of Merit was accorded it when shown by J. W. Temple, Esq., at the Drill Hall on the 18th inst.

Cypripedium Evenor.

The parents of this hybrid were C. bellatulum and C. Argus, the former presumably being the seed parent unless we may reckon upon the great prepotency of the pollen, and consider it as the male parent. The characters of the hybrid are intermediate it is true, but the shape of the flower forcibly reminds us of C. bellatulum. The leaves are oblong and tessellated with dark green on a pale grey ground. The scape is very dwarf and two-flowered in the plant shown. The upper sepal is roundly ovate, pale yellow, lined and mottled with purple all over. The oblong-oval petals are densely spotted with crimson-purple on a pale yellow ground. The lip is pubescent, similar in shape to that of C. bellatulum, creamy yellow and suffused with purple around the mouth and on the infolded sides of the claw. It was exhibited by Messrs. J. Veitch & Sons, Chelsea, at the Drill Hall on the 18th inst., receiving an Award of Merit, and again at the summer show of the Royal Botanic Society on the 19th, when it received a Botanical Certificate.

Masdevallia caudata-Estradæ.

This hybrid was obtained from M. Estradæ, fecundated with the pollen of M. caudata, and is intermediate in size between the two parents, while the colours are similarly blended. The plant appears to be very prolific, and what is more curious it strongly reminds us of the size and form of M. Shuttleworthi as far as the flowers are concerned. The leaves are oval, coriaceous, and pale green with a short petiole. The lateral sepals are ovate-triangular, slightly concave, purple and paler externally with a median yellow line. The upper sepal is concave, paler purple with five dark purple veins; the tails of all three were 2 in. to 2½ in. long and bright yellow. The petals as usual are small and flesh-coloured, while the lip is slightly darker with a yellow midrib. A finely flowered plant was shown at the Drill Hall on the 18th inst. by Messrs. J. Veitch & Sons, when an Award of Merit was accorded it, and again at the Royal Botanic Society's show on the 19th, when a Botanical Certificate was awarded.

Cypripedium Eurylochus.

The seed parent of this plant was C. ciliolare, fecundated with the pollen of C. hirsutissimum, and it must be acknowledged that the latter has exercised a considerable effect on the progeny. The leaves are oblong, green and slightly tessellated with a darker hue. The scape is one flowered. The upper sepal is pale green, with darker lines and dotted all over with purple. The petals are 2½ in. to 3 in. long, declining, somewhat wavy or twisted, narrowly oblong, yellow on the lower half, spotted with crimson and purple on the upper part and spotted with crimson markings. The lip is horizontal and suffused with brown on a greenish yellow ground. A plant was exhibited at the Royal Botanic Society's show on the 19th inst. by Messrs. J. Veitch & Sons, Chelsea, when a Botanical Certificate was awarded it.

Dendrobium lineale.

The stems of this Dendrobium attain a height of 3½ ft. to 4 ft., bearing long racemes of flowers near their apex. The leaves are oblong and leathery, but of no great length. The sepals are oblong, the petals spathulate, and all are of a pale creamy yellow. The lip is three-lobed and finely lined with purple internally on a pale greenish ground; the middle lobe is small, roundly ovate, and of the same colour; an elevated ridge with three lines upon it and edged with purple runs along the centre. A plant of three stems and bearing five racemes of moderate sized flowers was exhibited by Messrs J. Veitch & Sons, at the Royal Botanic Society's summer show on the 18th inst., and received a Botanical Certificate. The species is a native of New Guinea.

Sarcopodium sp.

An Orchid was shown under the above name by C. J. Lucas, Esq., Warnham Court, Horsham, at the Drill Hall, on the 17th inst., and was awarded a Botanical Certificate. The pseudo-bulbs are narrowly ovoid, and terminate in a single, oblong, leathery leaf. The peduncle is one flowered; the sepals are lanceolate, pale yellow, lined and spotted with brown; the petals are very much smaller, lanceolate, pale yellow, and lined with brown. The lip is a curious looking organ, heart-shaped, revolute, and swinging as if by a hinge on the foot of the column.

Dendrobium Leeanum atropurpureum.

A richly coloured variety of D. Leeanum, named as above, was shown at the meeting of the Royal Horticultural Society on the 17th inst. by Mr. W. H. Young, Orchid grower to F. Wigan, Esq., Clare Lawn, East Sheen. All parts of the flower were of a dark purple compared with the type which was brought before the public at the meeting early in the year. The colour was most concentrated at the apex of the petals and on the lip, as is generally the case with D Phalænopsis Schroderiana coming from the same locality, namely, New Guinea.

Peloria of Cattleya Mendelii.

A very singular form of this Cattleya has come to us from Mr. Thompson, gardener to Wm. Steel, Esq., of Philiphaugh, Selkirk, N.B. The sepals were of the ordinary form, but instead of being spreading they were strongly ascending, in fact almost erect as were the other parts of the flower. The petals had been transformed into organs so strongly resembling the true lip that they could only be identified by their position. The variety had been a very good one with a rich, dark purple lamina to the lip, a large yellow blotch in the throat and white side lobes; the tube was lined with branching white veins on a purple ground. Now the transformed petals were equally well formed, coloured, and marked as in the true lip, so that the flower is one of the most perfect instances of Peloria we have seen. The stamens, or what was developed of them, formed a cylinder round the style closely adhering to it, and the three stigmas were terminal and viscid, just emerging about ⅛ in. from the staminal tube. Altogether it was a very interesting case. Accompanying the above were some flowers of Dendrobium Parishi, and a beautifully blotched form of Odontoglossum crispum Ruckerianum.

Erratic Lælia Purpurata.

Orchids are very erratic in their behaviour, and develop no end of peculiar monstrosities. The other day we received a flower of the above species from Messrs. J. Veitch & Sons, Chelsea, and which seemed to be very undecided as to what it meant to do. The upper sepal was perfect and the lip nearly so, but all the other organs were abnormal. One of the petals was adherent to a lateral sepal for half its length, while the other adhered to an equal extent to the column, and had produced a lobe on one side, resembling in colour that of the lip. The two lateral sepals had developed on their contiguous sides a broad margin the counterpart of one side of the lip, even to the purple lines on the lower part, and the highly coloured lamina, undulated and crisped on the margin. Here then we have one petal and the two lateral sepals apparently making an attempt to simulate the lip. The column was stout, trigonous, strongly winged along one edge, and bearing two more or less perfect anthers.

SOCIETIES.

Royal Botanic, *May 18th.*—The summer exhibition was held in the large marquee, with the exhibits arranged as usual on the grassy and shelving or sloping terraces. The specimen plants in some of the classes were not so large as usual, but the first and sometimes the second prize exhibits were as a rule well flowered. The first prize in the nurserymen's class for 12 stove and greenhouse plants was awarded to Mr. J. F. Mould, Pewsey, Wilts, some of whose best flowered plants were Pimelia mirabilis, Boronia heterophylla, Statice profusa, and some Azaleas. Mr. H. James, Castle Nursery, West Norwood, was second. In the amateurs' class for 6 plants, Mr. A. Offer, gardener to J. Warren, Esq., Handcross Park, Crawley, took the leading award with well-flowered specimens of Tetratheca ericoides, Erica ventricosa coccinea minor, etc.; Mr. R. Scott, gardener to Miss Foster, The Holme, Regent's Park, being second; and Mr. R. Butler, gardener to H. H. Gibbs, Esq., St. Dunstans, Regent's Park, third. Mr. J. F. Mould was again first for six plants in the nurserymen's class, showing Dracophyllum gracile, Tremandra verticillata and Boronia heterophylla, well bloomed. Mr. H. James was the only competitor in the classes for Orchids, and Messrs. Paul & Son took the first prize for a collection of Roses. Mr. A. Offer and Mr. H. James secured the first prizes for 6 Azaleas in the amateurs' and nurserymen's classes respectively. In the open class for 12 Azaleas, Mr. C. Turner, Slough, was first; and for Azaleas in 12-in. pots Mr. A. Offer was first. Mr. J. F. Mould had the best Heaths in the open class. The first prize in the amateurs' class for Pelargoniums in 8-in. pots went to Mr. D. Phillips, gardener to R. W. Mann, Esq, Langley Broom, Slough; Mr. C. Turner among nurserymen taking the first prizes for show and fancy varieties. Mr. T. S. Ware, Tottenham, had the best collection of hardy herbaceous plants in pots, including Primula Sieboldi, Trollius, Saxifrages, and other

subjects. Messrs. Paul & Son took the leading place for Alpine plants. The leading prizes for fine foliage plants, exotic Ferns, and Dracænas went to Mr. A. Offer.

A large number of exhibits was shown in the miscellaneous class. Four large collections of plants in the centre of the marquee and others around the entrance and sides added greatly to the effect of the exhibition One of the four in the centre was contributed by Messrs. B. S. Williams & Son, Upper Holloway, and consisted of Palms, Ferns, Orchids, Clivias, Amaryllis, etc. Messrs. J. Laing & Sons, Forest Hill, had also a collection of Palms, Crotons, Caladiums, Begonias, Heaths, and Orchids. Messrs. Wm. Cutbush & Son, Highgate, had Rhododendrons, Azaleas, Heaths, Palms, etc. Messrs. Wm. Paul & Son had standard and dwarf Roses in pots and also cut flowers. Mr. Ware had a large collection of Tree Pæonies, Azalea mollis, Cannas, etc. Messrs. H. Low & Co., Clapton, showed a collection of Dendrobiums, Cattleyas, and Cypripedium bellatulum. Near by was a fine collection of varieties of Cattleya Mossiæ, C. Mendelii and Miltonias from Mr. W. May, gardener to F. C. Jacomb, Esq., Cheam Park, Surrey. Messrs. J. Carter & Co., High Holborn, had a large collection of single and double Petunias, as well as a collection of Cacti in the corridor, many of them being in bloom. Messrs. Barr & Son, Covent Garden, also had a collection in the corridor, consisting of Ixias, Irises, Tulips, Herbaceous Pæonies, etc. Near the entrance to this place Mr. T. S. Ware had a large collection of Tulips, late Daffodils, Pæonies, etc. Messrs. J. Veitch & Sons, Chelsea, showed a collection of new plants, many of which were certificated. Mr. C. Turner had a group of pot Roses. Mr. D. Phillips exhibited a collection of show Pelargoniums, some of which were new. Mr. R. Scott had a group of Palms, Azaleas, Caladiums, Ferns, etc. Medals were awarded to most of these groups.

WHAT TO DO IN THE GARDEN.

Winter Flowering Subjects.—Where a sufficient stock of rooted cuttings is not now in hand, it may still be increased by taking off fresh batches. The latter will be useful in prolonging the supplies of the respective kinds, by coming into flower at a later period than those now rooted and potted off. Subjects that may be mentioned for this purpose are Scutellaria mocciniana, Euphorbia fulgens (jacquiniæflora), Begonia insignis, Thyrsacanthus rutilans, Salvia boliviensis, S fulgens, Plumbago rosea, Vinca rosea, Centropogon Lucyanus and others.

Poinsettias.—Batches of the different varieties of Poinsettia may be rooted at intervals from now up to August according to requirements, that is, in point of numbers and the length of time the supply is required. Take off the cuttings with a heel of the old wood and they will root with more certainty.

Anthuriums.—Those of the flowering type such as A. Scherzerianum, now that they are flowering, may be put in a house with a cooler and more airy temperature and they will last all the longer for it. Of course they should not be exposed to anything like cold draughts, at least until they have been in their cool quarters for about a week, so that they may get hardened. This will be necessary in proportion to the warmth and moisture of the house in which they have been flowered, and the difference in temperature of the house to which they are taken.

Aphelandras.—Cuttings of old plants are frequently taken, but the best plants are obtained from seeds. This applies to the dwarf-growing kinds, such as A. aurantiaca and its varieties, as well as A. fascinator and others. If already germinated they should be potted on as soon as they can be properly handled, and kept in a warm place close to the glass to urge them into growth.

Salvias.—The stock of Salvias, including S. azurea, S. a. grandiflora, S. rutilans, S. involucrata Bethelli, S. cacalifolia, and others being grown on for autumn and early winter flowering, should be kept pinched at the present stage of their growth, to make them bushy; later on they may be stood in the open air in some sunny position on a bed of ashes, where they should be well attended to in the matter of watering and staking.

Peaches.—The fruits in the earliest started house will now be colouring and fast approaching maturity. Full exposure is necessary to their proper colouring, with abundance of ventilation during the day and a little at night. Before the final stage is reached give a watering with tepid liquid manure, and more liquid manure may be used on this occasion than previously. Syringing may be continued as long as possible while there is no danger of spoiling the fruit. This will keep down red spider till the latest fruits are gathered; and it may be continued again afterwards.

Bedding Plants.—No time should now be lost in getting out any Calceolarias which may still be on hand. The frames and store places may also be cleared of such things as Stocks, Asters, Chinese Pinks, Helichrysums, Acrocliniums, and all those half-hardy subjects which have been raised under glass. The careful cultivator will have thoroughly hardened off all these things before now. Tender and subtropical subjects would hardly be safe in the open air yet except in sheltered places where protection may be given. Hardening off may of course be proceeded with.

Onions.—Where the seedlings are sufficiently advanced, proceed with thinning before the plants get in any way crowded. The distance apart to which they should be thinned will depend upon the size to which the bulbs are to be grown. For ordinary purposes, about 3 in. or 4 in. will be sufficient, as bulbs of moderate size and well ripened keep better than those of unusual dimensions. Some prefer to do the thinning gradually, so that they may use the young Onions as required, but the disturbance of the ground by pulling up Onions of some size often enables the maggot to get in the ground to injure those that are left.

Beetroot and Parsley.—Where necessary these should be thinned and transplanted in showery weather, because they take better to the fresh soil after the operation and entail less or no trouble in watering afterwards. It is not a usual plan to transplant Beetroot, but if carefully performed, the plants succeed perfectly. In making holes to receive the young plants, be careful to make them sufficiently deep to receive the slender tap root without doubling up, otherwise the roots cannot help becoming deformed. The soil should have been properly prepared in autumn, so that the tap-root will have no difficulty in proceeding straight downwards, for this means all the difference between well and badly formed roots.

CALOCHORTUSES.

MARIPOSA LILIES.

AMONG all hardy and half-hardy bulbs there are none more pleasing or unique in form than these grand "Butterfly Tulips" or "Mariposa Lilies" from Mexico and California. When well-grown, there are none of the half-hardy Orchids that can compare with the Calochortuses for beauty and exquisite colouring. I have grown them on a warm sandy border in the open for several years, and as a subject for cold frames with such Cape bulbs as Freesias, Sparixias, &c., there are none more suitable or easily grown with a little care.

They need a sandy and open compost. If raised and afforded the protection of any old and almost worn out frame, I have never had the least trouble in securing a fair return for the little attention they require. Peat or leaf soil in equal proportions to the sandy soil, with a very little thoroughly decayed stable manure, will grow them well. They increase from offsets almost as freely as Freesias, and if treated in the same manner are certain to afford every satisfaction.

As cut flowers, the Calochortuses are grand; coming on a strong and wiry stem of medium length, and lasting in a cut state almost as long as an Orchid. Keep the soil very dry during late autumn and winter, and do not start them quite so early as you would the Freesias. At the end of February it is an excellent plan to give the bed a thorough watering, and so start them into growth at a little later date.

Let them have plenty of water while in active growth; providing your compost is of a sufficiently porous nature and slightly raised, there will be little fear of giving them too much when in full growth and just previously to their flowering; after this has taken place, cease to water and let them dry off and be fully exposed to sun and air. For pot work there is no need for different treatment than the Freesias, Ixias, etc.—*Experience.*

Obituary.

WE regret to record the death on the 9th inst. at Althorp Park, Northampton, of MR. EDMUND COLE, gardener to Earl Spencer, aged 52 years. This well-known and much respected gardener, who had long suffered from chronic Bright's disease, first became a head gardener in the service of F. W. Dalman, Esq., at Alverstoke, Gosport, in 1871, and there proved himself to be a most successful grower and exhibitor of plants, fruits, and vegetables at the Gosport, Portsmouth, and Fareham Exhibitions, his most successful productions being his well known stove plants. He was also very successful with his Grapes, and was the first to exhibit pot vines at the Southsea Shows. He showed black and white varieties in the form of arches, and these were usually the principal features of the exhibition. In January, 1878, he entered the service of Earl Spencer, at Althorp, and took in hand the remodelling of the extensive gardens and pleasure grounds, and the reheating on modern principles of plant and fruit houses, all of which he carried out in a most satisfactory manner. In 1882 he introduced into commerce the fine seedling Potato, "Cole's Favourite," which won the prize of ten guineas at the Northampton Seedling Potato Exhibition, offered for the best cropping and best table quality seedling then on trial. It also obtained certificates at Chiswick and other places. In 1887 he introduced the Althorp Marrow, a very fine white wrinkled Marrow Pea, which was sent out by Messrs. J. Perkins & Son, of Northampton.

He was an active and useful member of the Northamptonshire Horticultural Society, and a successful exhibitor at its exhibitions, at which, with Grapes especially, he was seldom beaten. His services as a judge were also in much demand at Shrewsbury and other shows in the midland counties. He enjoyed the friendship of a wide circle of gardening acquaintances, and the respect and confidence of his noble employer, as well as of those who served under him. Mr. Cole leaves a widow and six children to mourn his loss.

QUESTIONS AND ANSWERS.

**** Correspondents are requested, in order to avoid delay, to address all communications to "THE EDITOR" or "THE PUBLISHER," and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa, London."*

NAMES OF PLANTS.—*C. S.*: The broad-leaved Garlic, Allium ursinum.—*Charles Dixon*: The plant with yellow flowers is Pittosporum bicolor; the other with blue flowers is Rhaphithamnus buxifolius of Myers.—*T. H.*: Euphorbia chamæcyparisias; 2, Sedum Rhodiola; 3, Alyssum saxatile; 4, Fritillaria Meleagris, one flower being a pale variety of it; 5, Ranunculus aconitifolius flore pleno; 6, Croton not recognised; 7, Adiantum decorum; 8, Pteris tremula; 9, Selaginella Braunii.—*W. J. D.*: Doronicum Pardalianches.

BLACK VARNISH.—Would some reader who has tried black varnish as a paint for greenhouses be so good as to give their experience. We lay very low, and white lead paint does not stand long, and my employer is anxious to try black varnish, but I have never heard of its being used for such work.—*W. K.* [We think you would be much better advised to try the Indestructible Paint. We used some (stone colour) five years ago and it has stood admirably.—ED.]

TOMATO HOUSE.—*White*: The most suitable structure for Tomatos is a span-roofed house with a roof no higher than sufficient to accommodate the plants, say about 10 ft. or 12 ft. high in the centre. Tomatos are, however, very accommodating, and may be grown in various sorts of houses provided the cultural treatment is suitable. If you want a house of some width you may make beds down the centre and round the sides, with sufficient pathways to get about to water the plants, stop and tie them, as well as other necessary work. Sufficient hot-water piping may be taken round the sides of the building to heat it, and if very wide some pipes may be taken down the centre. Heat is chiefly wanted in spring to start the plants into vigorous growth, after which less and less will be necessary till it may be left off altogether. Give plenty of ventilation on all favourable occasions, especially when in flower to favour the distribution of the pollen and the setting of the fruit. Your flowers are evidently dropping because they have not been fertilised; we would suggest (without exact evidence of the attendant circumstances) that you give more ventilation and keep the atmosphere of the house rather dry. The base or foundation of the house you intend to build should not be more than 12 in. or 18 in. above the ground, above which height all should be glass, even including the ventilators.

COMMUNICATIONS RECEIVED.—W. C. D.—P. McK.—A. H.—J.—R. D.—Cosmos.—H. N.—J. H. next week)—W. B.—G.—X.—

TRADE CATALOGUES RECEIVED.

JAMES VEITCH & SONS, King's Road, Chelsea, S.W.—Catalogue of Plants, including novelties for 1892.

HERD BROTHERS, Penrith.—Bedding and Hardy Herbaceous Plants, &c.

LONDON SEED TRADE.

May 23rd, 1892.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, E.C., report Agricultural seeds steady, with small consumptive demand. Mustard is scarce and dearer. Rape seed in narrow compass and firmly held. French-Italian Ryegrass scarce.

COVENT GARDEN MARKET.

May 25th.

FRUIT.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.
Apples... per ½-sieve	1 0	5 0
Canadian and Nova Scotian Apples per barrel	12 0	20 0
Tasmanian Apples per case...	8 0	15 0
Strawberries per lb.	2 0	4 0
New Grapes per lb.	2 6	4 0
Pine apples. —St. Michael's, each	2 6	6 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.
Artichokes Globe doz.	3 0	6 0
Asparagus.....bun.	2 0	5 0
Beans, French, per lb.	2 0	2 6
Beet..... per dozen	2 0	3 0
Cabbages ... per doz.	1 6	2 6
Carrots ... per bunch	0 6	
Cauliflowers, Eng. dz.	3 0	6 0
Celery.....per bundle	2 6	
Cucumbers .....each	0 6	1 0
Endive, French, doz.	2 6	3 0
Herbs .....per bunch	0 2	0 6
Horse Radish, bundle	2 0	4 0
Lettuces ...per dozen	1 6	2 0
Musbrooms, p. basket	1 3	2 0
Onions.....per bunch	0 4	0 6
Parsley ... per bunch	0 6	
Radishes... per dozen	1 6	
Smallsalading, punnet	0 4	
Spinach, per strike ...	1 6	
Tomatos..... per lb.	1 6	2 6
Turnips ..... per bun.	0 6	

POTATOES.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arum Lilies, per doz.	6 0	9 0
Azalea .....per doz.	18 0	42 0
—Mollis.....per doz.	18 0	36 0
Cyperus .....per doz.	4 0	12 0
Cineraria ...per doz.	4 0	8 0
Deutzia.. per doz ...	6 0	9 0
Dracæna term., doz.	24 0	36 0
Dracæna viridis, doz.	9 0	18 0
Echeveria Pyramidalis.....	9 0	18 0
Erica various per doz.	9 0	24 0
Evergreens, invar. doz	6 0	24 0
Ferns, invar., per doz.	4 0	18 0
Ferns, small, per 100	8 0	12 0
Foliage Plants, doz.	12 0	60 0
Fuchsia, ...per doz	6 0	12 0
Genista .....per doz.	6 0	10 0
Heliotrope, per doz.	4 0	8 0
Ivy Geraniums, per doz. doz. pots	12 0	18 0
Lilium Harrisii, doz.	15 0	30 0
Lobelia, ...per doz.	4 0	6 0
Marguerites, per doz.	6 0	12 0
Mignonette, per doz.	5 0	10 0
Musk, ...per doz.	3 0	6 0
Palms in variety, each	2 6	10 6
Palms, Specimen ...	15 0	63 0
Pelargoniums, per doz.	9 0	18 0
—scarlet .....per doz.	4 0	6 0
Spiræas.....per doz.	8 0	12 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Anemone various, doz. bun.	2 0	4 0
Arum Lilies, 12 blms.	2 0	4 0
Bouvardias, per bun.	0 6	1 0
Bluebells, doz. bchs.	0 9	1 6
Carnations, 12 blooms	1 0	3 0
Cowslips, doz. bchs.	1 0	1 6
—Single, doz. bchs.	1 6	6 0
Eucharis ...per doz.	2 6	4 0
Gardenias 12 blooms	1 6	4 0
Heliotropes, 12 sprays	0 6	1 0
Jonquils, doz. bnches	1 0	2 0
Lilac, French, per bunch	4 0	5 0
Lilium Harrisii, doz. blooms	2 6	4 0
Liliums var., dz. blms.	1 6	3 0
Lily of the Valley, doz. bunches	3 0	9 0
Maidenhair Fern, 12 bs.	4 0	8 0
Marguerites, 12 bun.	2 0	4 0
Mignonette... 12 bun.	3 0	6 0
Myosotis or Forget-me-not, doz. bnchs.	2 0	4 0
Moss Roses, (French) doz. blooms	2 0	4 0
Narciss, double, doz blooms	0 6	0 9
Narciss, var., doz. bunches	2 0	4 0
Pelargoniums, 12 sps.	0 9	1 0
— scarlet.....12 bcbs.	4 0	6 0
Primroses, doz. bchs.	0 6	1 0
Primula, double, bun.	0 9	1 0
Pansies, doz. bchs ...	1 0	2 0
Polyanthus, doz. bchs.	2 0	4 0
Orchid Bloom in var. per bloom, from	0 3	1 0
Roses, yellow, dozen	2 0	6 0
— Red..... doz. blms.	2 0	4 0
— Saffrano...per doz.	1 6	2 6
— Tea ..... per dozen	1 0	3 0
Spiræas...doz. bucbs	4 0	6 0
Tuberoses, per doz	0 6	1 6
Tulip, doz. bchs	2 0	6 0
Violets Dark, French, doz. bunches	1 0	1 6
—English, doz. bchs.	1 0	1 6
Wallflowers, doz. bunches	3 0	4 0

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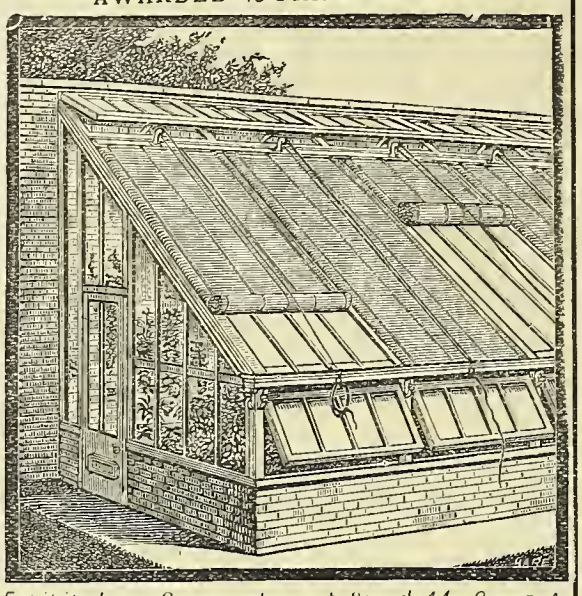

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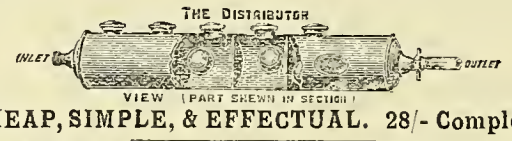

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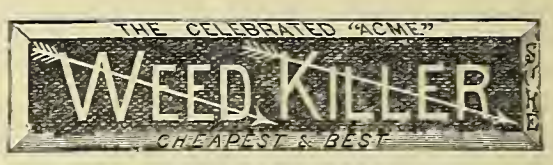

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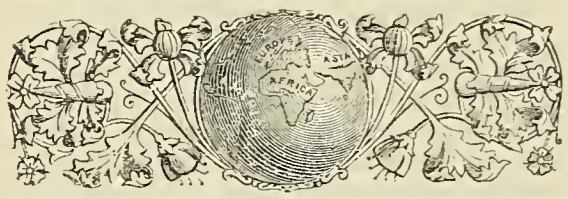

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, June 6.—Royal Horticultural Society of Southampton: Summer Show.

TUESDAY, June 7.—Royal Horticultural Society: Meeting of Committees at 12 o'clock.

WEDNESDAY, June 8.—Sale of two new Cattleyas at Protheroe & Morris' Rooms.

THURSDAY, June 9.—Great Sale of Palm Seeds at Messrs. Protheroe & Morris' Rooms.

FRIDAY, June 10.—Sale of Imported Orchids at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, JUNE 4th, 1892.

LAST WEEK'S EXHIBITIONS.—It would indeed be difficult to exaggerate when referring to the exceeding beauty, as well as variety found at the two great Flower Shows held in London last week. That of the Royal Horticultural Society, in the Temple Gardens, was perhaps much like what has been seen in previous years, but then it was really so much better in every sense; indeed it might be said to have presented the most beautiful as also perhaps the largest show of its kind yet held, which was brought together without the aid of the usual competitions and prizes. We can hardly hope at any time to see a better show in the Temple Gardens than was the recent one, but still we must be ever prepared for surprises, for no one can tell in horticulture what a year may bring forth.

The holding of the Great Competitive International Show at Earl's Court immediately following the Temple Show proved to be a most successful arrangement, for the display was a splendid one, the entries

good, and the interest shown in the competitions remarkable. It is long since such a show for prizes has been seen in the metropolis, and although it may be matter for regret that the entire display could not have been held in one building, where a truly superb effect might have been produced, yet there were the exhibits, and in such ample abundance that material was not lacking, only the opportunity to make the most of it.

We were again enabled to see that there are still numerous fine exhibition plants in the country, and it was a special pleasure to meet with them in the South once again. The Shows, too, proved to be remarkably attractive to gardeners, for they came from far and near to see them, and such gatherings have a valuable social aspect. Men who are all the rest of the year removed from each other by perhaps hundreds of miles come together and enjoy each other's society as well as the shows amazingly. We shall expect to see many of such friends at Earl's Court again during the season, especially at the Autumn Shows.

FORCED STRAWBERRIES.—There can be no doubt but that of edible material exhibited at the Temple and Earl's Court Shows by far the greatest interest was centred in the extraordinary fine Strawberries shown by Mr. Norman, Gardener to the Marquis of Salisbury, at Hatfield. Scores of other good Strawberry growers saw them and sighed in vain for the capacity to produce such enormous yet handsome fruits. It is one of the misfortunes of this kind of exhibit that they create jealousy in the bosoms of not a few, especially wealthy employers, and we heard of one millionaire—who is, if anything, rather coarsely exacting—who going round the Temple Show was by his astute gardener whisked aside to some other exhibit just as the wonderful Strawberries were being reached, and thus avoided a round of bullying.

But whilst we give to Mr. Norman all credit for the skill shown in producing such huge fruits, we may well ask after all what, beyond being grand to look at, are they worth? We have far too many of these large fruited varieties, which in a correct sense are worthless, and would never be grown were they not big. Will anyone venture to affirm that mere bulk is everything in Strawberries, or that, indeed, it bears one-half the value that flavour does? Who but vulgar purse-proud people want gigantic Strawberries on their table at the cost of one shilling each, and which are but mere bags of sugary flesh, as devoid of flavour as a turnip. Certainly these are not the best Strawberries. Even with the very best flavoured sorts we have, it is far from being a matter of ease to obtain that flavour under forced pot culture, and therefore to secure that high flavour incidental to out-door grown fruit allied to good size and appearance is after all much more meritorious in the case of pot Strawberries than is the production of mere giants, however handsome yet flavourless. However, let us haste to do Mr. Norman full justice. He grows all kinds of Strawberries in pots remarkably well, and if he favours mere size in preference to quality perhaps he best understands his employer's taste. We in common with many others still prefer lesser sized fruits conjoined to good colour and high flavour.

PEACH BUDS DROPPING.—An experienced gardener with whom we recently conversed concerning the many complaints made in the spring with respect of Peach bloom buds dropping just prior to the time for expanding, said that he attributed the evil to the common fault of neglecting to keep the roots sufficiently moist during the late autumn and winter months. "It is," said he, "so very commonly the practice to withhold water from the roots when the leaves fall in the expectation that by so doing the ripening of the wood will be hastened. This is done in their forgetfulness of the fact that out in the open root moisture is invariably the greater after leaf fall than before, yet we never hear of buds dropping on outside trees."

Then there is again a common practice that because the borders have been kept somewhat dry during the Winter to water very freely during Spring so soon as heat is applied. Naturally the result is that the very exuberant flow of sap thus created, tends rather to loosen the bloom buds than retain them. The best practice by far is to keep the roots and borders fairly moist through the winter, so that when leaf growth commences it is not needful to water too freely until the fruits are set. Then ample waterings will prove to be of great service, and if there be too heavy a set of fruit it is so easy to thin it.

We were in a series of very large Peach houses the other day where the planted out trees of different sizes and ages were carrying heavy crops, whilst the trees in pots, several hundreds, had very poor crops, indeed many none at all; yet we knew that they bloomed profusely in the spring. The planted out trees had ample root moisture—the pot trees must have suffered very much for want of it. It is indeed very difficult to obtain for pot trees anything like the same conditions for the roots which free growing trees find, and that the soil should often get very dry is most probable. In any case the solution of the great trouble seems to be found in this direction.

THE GARDENERS' ORPHAN FUND.—We would not again so soon intrude this fund upon the notice of our readers but for two things. First a well-known retired gardener, who has some claim to regard the fund with interest, has written to a contemporary objecting to a course of action which he assumes (on the strength of some erroneous statements which he has read) that the committee are about to take in putting some children on the fund "on the strength of a very good dinner subscription." Had the writer half the serious interest in the fund which he professes, he would by this time have made himself acquainted with the rules under which the fund is managed, and, that accomplished, he would have saved himself the trouble of kicking at a shadow and airing valueless opinions.

We deem it necessary in the interest of the charity to state that the committee have never thought of doing anything of the kind suggested, for the simple reason that, except in the case of "memorials," for which funds are specially provided, they have no power to put even a single child on the fund. It is the subscribers who by their votes decide what orphans shall enjoy the benefits of the fund, not the committee, and while that rule remains in force it will we are sure be loyally respected by the executive.

Our second reason is that we heard the other day from another and very highly esteemed gardener, who mentioned the fact that when the fund was first proposed he thought that objects for its charity could not be found and did not exist. Now he admits their too great abundance and has become one of the fund's warmest supporters. Apart from the orphans who could not be elected last February there seems already to be many others likely to become candidates, and the friends of several we know are anxiously waiting for the time to come to nominate them. If the ordinary income of the fund suffers nothing from the liberal contributions at the recent dinner, then will it be possible to satisfy a good proportion of the claimants at the next election.

To that end, however, it becomes obvious that there must be no lack of energy shown, especially by gardeners, and these cannot too clearly understand that just as much as ever is it necessary that they should subscribe, as after all there is no form of income so valuable as is that derived from regular contributions. We think the ex-gardener we first referred to need not be in trouble lest at some time the fund may fall upon evil days. None the less it is and will be a duty to see that whatever may happen no actual recipient orphan shall suffer.

Mr. David Syme, of Peter Lawson & Son, Ltd., Edinburgh, was presented in London on Monday evening, by his friends in the seed trade, with 300 guineas, and a handsome silver tea and coffee service for Mrs. Syme. A report of the proceedings will be found in another column.

The Welsh National Dinner.—Gardeners in general and Welsh gardeners in particular may be interested to know that their order was represented at the Welsh National Dinner given at the Mansion House, on Saturday evening last, by the Lord Mayor, the Right Honourable David Evans, by Mr. Owen Thomas, gardener to H. M. the Queen, at Windsor.

The Ealing Horticultural Society's annual summer show will be held this year in the grounds of Gunnersbury Park, on July 13th, and the autumn Chrysanthemum Show on November 2nd and 3rd.

Windsor and District Rose Society.—In consequence of the lateness of the season this new Society's show has been postponed to Thursday, July 7th.

The Mansfield Horticultural Society will hold its annual show on Monday, August 1, and this year offers increased prizes for groups of plants and Roses.

The Parks Committee have recommended the London County Council to authorise an expenditure of £400 for the enlargement of the Chrysanthemum House in Southwark Park, and we sincerely hope the Council will make the grant.

The Gardeners' Orphan Fund.—We have much pleasure in recording the fact that recent contributions to this fund include £20, the proceeds of a concert given at Altrincham, Cheshire, under the auspices of the Manchester Local Committee; and £10, the proceeds of a lecture given at a meeting of the Ealing Gardeners' Improvement Society, by the Rev. Thain Davidson.

Potatos from Egypt.—In a recent paper on Egyptian Agriculture, read at the Society of Arts, Prof. Robert Wallace stated that the Egyptian would grow anything for which he could secure a ready market and a remunerative return, and Egypt was at the present time aiding in supplying the London market early in the season with young Potatos.

"Chestnuts."—Our Chicago correspondents commenting upon some remarks of ours on "Chestnuts," at p. 528, writes:—"Please note that the phrase is used in connection with an old threadbare anecdote (not merely a 'yarn') and sometimes with the accompaniment of a small bell being rung by the listener, when the story is told. The origin of the custom I do not know."

Rhododendrons on the Thames Embankment.—Messrs. John Waterer & Sons, of Bagshot, Surrey, have obtained from the Corporation of London the use of the spare land on Victoria Embankment, adjoining Temple Gardens East, for holding their usual exhibition of Rhododendrons, and the proceeds of the same are to be devoted to the funds of the London Hospital. The show will be on view throughout the month of June.

The Midlothian Rose and Pansy Society will hold its Jubilee show at Penicuick on July 23rd, the society having been instituted in 1842. In honour of the interesting occasion the schedule of prizes has

een made more attractive than usual, and includes competitions for six Jubilee Cups, Timepieces, Barometers, Silver Medals, etc., which the executive hope will bring forth a display worthy of the event. Copies of the schedule can be obtained from the secretary, Mr. A. Cowes, The Square, Penicuick.

Royal Horticultural Society.—The next meeting of the society will be held in the Drill Hall, James Street, Victoria Street, Westminster, on Tuesday, June 7th, when the Fruit, Floral, and Orchid Committees will assemble at 12 o'clock. In the afternoon, at 3, a paper on "Summer Pruning and Training of Fruit Trees" will be contributed by Mr. A. Young, of Abberley Hall Gardens, Stourport. Amateurs who grow hardy Rhododendrons and Orchids will on this occasion have an opportunity of competing for the prizes offered in the society's schedule, and a Silver Gilt Flora Medal is also to be awarded to the raiser (amateur or professional) of the best new seedling Orchid.

THE APPLE CROP.

SUGGESTION FOR AN APPLE SHOW.

IF what everyone says is truth then should we have this year a really grand crop of Apples, for everyone tells me that there will be such. The bloom largely has escaped frost, the fine warm weather has set it well, and the recent heavy rains have cleansed the trees and given to growth a splendid fillip. Altogether there seems to be every prospect of a fine Apple season. That fact does of course largely help to the regret yet felt that the proposed International Fruit Show does not take place this year; still we may next year be all the better pleased that it was deferred.

In the meantime I should like to see some special effort made to utilise the season, so far as Apples are concerned, by the holding of a great display of those fruits in London at least. I therefore make a suggestion which will perhaps stagger some of my friends. It is that the Royal Horticultural Society should for once join forces with Mr. Milner and the Earl's Court management and arrange for the holding at Earl's Court in conjunction with the hardy Fruit Show of October 5th, and following days, a special Apple Show and conference. There is ample room and the Society would incur little expense beyond giving medals.

No doubt the Earl's Court people would admit fellows of the society on the presentation of their tickets. The society could arrange and conduct its conferences and thus obtain all the *eclat* with a minimum of trouble and of expense. It need hardly be said that such an Apple Show and conference would attract to Earl's Court at least fifty times as many people as would go to the Drill Hall or Chiswick.

It would bring growers from all parts of the kingdom. It would give to the Apple a status not yet enjoyed in public estimation. It would immensely help to popularize the society, and it would show to the world that the society was actuated by no selfish or dog-in-the-manger policy, but was earnestly anxious to assist in the promotion of horticulture everywhere. So popular, I feel assured, would be this move—so much of *eclat* would it bring to the society—that it would be a thousand pities were so splendid an opportunity to evidence the cosmopolitan objects of the society not be availed of.—*A. Fellow.*

MOOREA IRRORATA.

LAST March a plant of this appeared at a meeting of the Royal Horticultural Society, when it was certificated by the Orchid Committee. The exhibitor was Mr. F. W. Moore, curator of the Royal Botanic Gardens, Glasnevin, Dublin, who had just flowered it for the second time. The plant was originally bought at a sale amongst other plants, and nothing further is known as to its native country except that its affinities show it to be from Tropical America. When it first flowered in 1890, its nearest affinity was seen to be with Houlletia, but the differences from that and every other genus were so well marked that a new genus was made for its reception, and the name Moorea was given in compliment to the able curator at Glasnevin. When it flowered for the second time in March last, it bore two racemes of bloom, and had gained somewhat in size compared with that of 1890. The pseudo-bulbs are ovoid-oblong, and about 4½ in. in length, while the basal scape rises to a height of 18 in. to 2 ft., bearing a raceme of ten to thirteen flowers. The spreading sepals and petals are elliptic, nearly equal in size and similar in colour, namely, reddish-brown fading almost to white at the base, so that the five white portions, together form an almost circular space in the centre, as may be seen by referance to our illustration, which was prepared from the specimens exhibited last March. In several respects this is a remarkable Orchid, being pretty, novel, and interesting.

VIOLETS.

A GROWER of Violets who has made a special study of the plant, and who annually sends large quantities to market, informs us there is no other plant scarcely that so much requires warmth in the atmosphere and the soil, as well as ample food, light, and water, as does the Violet, which he considers the sweetest of lovely flowers, and he recommends that during

MOOREA IRRORATA.

the summer they be grown on a northern aspect, open, and therefore not under trees; where they can have as much coolness and shade at midday as they can receive; in the autumn there should be a change of quarters by removing the plants to the full sunlight, so securing for them during their natural period of growth, a free outlook into such blue sky as they can perceive at that season of the year. In fact, to use his own words, "the violets of winter and spring are but the condensed rays of summer sunshine let loose again during days that are cold and dreary. The plants make no Violets then; they simply unfold what they have already made and bound up within. The Violet has thus to do double work in the summer. It grows and at the same time it forms within its heart next year's flowers."—*R. D.*

THE FLORISTS' TULIP.

AT a meeting of the Brighton and Sussex New Horticultural and Mutual Improvement Society, held at the Imperial Hotel, Brighton, on Thursday, May 12th, under the presidency of Mr. W. Balchin, jun., the members were much interested by a lecture on "The Life History of the Florist Tulip," by Mr. Richard Dean, of Ealing.

The Tulip, said Mr. Dean, was introduced to Western Europe about the sixteenth century, being brought from Constantinople, where it was held in the highest estimation. The Feast of the Tulip used to be celebrated annually in the Sultan's seraglio, and was taken part in by the Sultan and his harem. It was first introduced to England in 1600, during the reign of Queen Elizabeth, and up to 1634 Tulips continued to increase in reputation until it was considered to be bad taste for any man of fortune to be without a collection of them. rage in due course spread to other classes, until it developed into the famous Tulipo-mania, when fortunes were invested in Tulips and the most preposterous prices were paid for a single bulb. Having enlarged somewhat in detail on the history of the Tulip, Mr. Dean turned to the life history of the flower. Commencing with the fertilisation, he said that no florist would attempt to fertilise a self-coloured Tulip. The process of fertilisation was effected by pollen being placed upon the stigma; and, to prevent insects from getting inside and undoing the work that was being attempted, the florist put a little light cotton wool over the pollen. Tulips were divided into three main classes—the bizarre, which always had a yellow ground; and the rose and the byblœmen, which both had a base of pure white. The main object sought by fertilisation was to get the class grounds as pure and intense as possible. Thus a white ground was never crossed with a yellow. Fertilisation having been accomplished, the seed ripened in the month of August. The seeds should be sown about the end of October or the beginning of November, when the bulbs are planted; the traditional day for planting being November 9th, Lord Mayor's Day. The most suitable thing for their reception was a shallow box of well-drained light compost. A curious feature about the Tulip was that it would not flower under from five to seven years. It never flowered so long as it threw up only a single leaf; the single-leaf Tulips were styled "widows." Another singular characteristic of the Tulip was the development by the seedling of "droppers," or bulbs of varying size thrown off from the seedling. The Tulip seemed to waste its time in the development of these droppers, instead of forming a flowering bulb; and all that the florist could do was to select the largest of these droppers, the others being of no use. When a Tulip flowered it produced no more droppers, but formed a new flowering bulb for use next year. One other peculiarity about the Tulip was that at some stage of its existence, from the third up to the twelfth year, the self-coloured flower would rectify, or break away into the feathered or flamed varieties, so named according to the manner in which the colouring was distributed. If it had a circle of yellow at the base the broken flower would be bizarre, if it was white at the base, then the flowers would be either rose or a byblœmen. It was not an uncommon thing for a flower to be feathered one year and the next year flamed, and then another year to return to the feathered form; but a flamed did not so often turn into a feathered. How it was that these changes took place no florist could explain. There was an old Persian legend to the effect that "Flowers tell their secrets to the stars." One would be pleased if they would make it clear to us why they underwent these changes. It was a secret hidden in the silent mystery of the flower's nature; and the flower had never yet succeeded in making it known to the children of man. After explaining that the quality of a Tulip depended upon the perfection of its markings and shadings, Mr. Dean said the Tulip would grow in any good garden ground. They loved a soil that was stiff and sharp; and it was absolutely necessary that it should be well-drained. It could not be too strongly asserted that water that could not get away was the very death of a Tulip. Water was almost their only foe; hence it was necessary that the bed in which they were planted should be raised a foot or eighteen inches above the ground level, and should have sides of turf, wood, or brick. The bulbs should be planted about four inches deep, and, once planted, they could be left to all weathers, although when the plants were above ground they were very liable to

be injured by hail, and by water settling in the cups formed by the leaves and then freezing. Mr. Dean resumed his seat admist applause; and he was awarded a hearty vote of thanks. In response, Mr. Dean said that he should be pleased at some future time to give an address on the Auricula, of which he made a speciality. He added with much gratification that, after many years' labour, he had this year succeeded in raising a pure white double Auricula, which he believed was likely to be the only one in Europe, as all his endeavours to procure one from abroad had failed, and no one appeared to have knowledge of it.

HARDY PLANTS AT DIDSBURY.

The Manchester field naturalists had recently again the pleasure of a couple of hours in the rich and beautiful garden at Brockhurst, Didsbury, to which the kind courtesy of Mr. Brockbank allows them access. Brockhurst has long been famed for its botanical treasures, these including various Alpine curiosities, in addition to many of the choicest of the pretty "old-fashioned" things—so called by the ungracious aud the ungrateful—which were cherished by the fathers of local floriculture, John Horsefield, the handloom weaver of Besses-o'-th'-Barn, and others whose names will never die while there are Daffodils to enrich the spring. Brockhurst is now the refuge of many plants for which we should probably inquire elsewhere near Manchester in vain. Mr. Brockbank maintains the ancient reputation of South Lancashire in regard to its love of the dainty and the deserving, and this in the spirit of the old Greek sculptors, who worked upon their marble out of simple devotedness to the purely beautiful. So that with the man who looks upon plants intelligently, a visit to his lovely garden counts always as one of the privileges of the season. The adjacent dell, with its sheltering trees, its winding walks, Ferns, Primroses, and Bluebells, adds equally to the attractions, and from these we turn to well-stocked conservatories. Fortunately the evening was bright, and sunset long deferred. Among the company, numberiug about thirty, was Professor Weiss, the newly-appointed botanist to the Owens College.

The scientific teaching on this occasion, advantage being taken of the numerous exotics right and left, was devoted chiefly to the Ranunculaceæ—that extensive and beautiful botanical family, some of the members of which reckon with the earliest playthings of childhood, while others are the pride of the florist, or famous in classical literature. How curious are nature's interminglings! A few of the race are of immemorial celebrity as medicines aud poisons; only one, on the other hand, supplies an article available for human food, though the woodpigeons are glad of the tubers of the Ficaria. No family of plants is more instructive to the student of structure; the leaves presenting, in the different species, every possible outline between the linear and the most elaborately divided. The inflorescence is also much diversified; the colours of the flowers are such as give pause to the most skilful of painters; their odours, when present, are sweet and inviting, as in the Virgin's Bower; many of them are versed in the fine art of manufacturing honey, and of preserving it in ingeniously formed Nectarines. Mark, again, how curious and suggestive their relationships. The Nigella extends a friendly hand towards the Poppies. They can be independent enough when they please. Modest, without the drawback of bashfulness, how beautiful, nevertheless, their efforts to emulate the Water-lilies (as the little folk of the home-circle play at royalty); this in the golden-hearted snow-cups of the placid river. That some of the family are aquatic indicates again how wide is the range of habitat among the Ranunculaceæ. Meadow and pasture, the cornfield, the woodland, ditchbank, the mountainside, where the eagles go, even the edge of the glacier, all supply their particular examples.

Specially illustrated on the evening in question was the wonderful way in which the outer portions of the flower can be transformed, often to the great perplexity of the beginner in botany. The typical idea is set forth in its best manner in the common Buttercup. When we look at the Marsh Marigold, the Anemone, Thalictrum, the Pasque Flower, the Clematis, and many besides, no petals are developed, and in compensation the sepals are glorified. In the inestimable Christmas Rose and the other Hellebores the calyx is again glorified, while the petals are played forth in the shape of tiny honeycups. The Globe-flowers, the Larkspurs, and the Aconites exhibit other curious phenonema, till at last we are left with the question, Then how can we always be sure that our plant is Ranunculaceous? The answer is soon given. All the parts of the flower are in maturity, absolutely free, except in the one exception, the Nigella, which, as said above, in its capsule touches the Poppies.—*Manchester City News.*

VALERIANA ROTUNDIFOLIA.

The common Valerian (Valeriana officinalis) is a tall growing plant more familiar to the botanist and others along the sides of ditches, in marshes, and wet places than in gardens, and generally grows to a height of 3 ft., but its lovely congener above named is a rarer plant, and certainly a very pretty subject for garden culture. The young and unexpanded buds are of a bright red, but when fully expanded the flowers are white tinted with pink, and though small individually are very pretty when produced in umbellate cymes on stems only 3 in. to 8 in. high. The radical leaves are roundly-ovate and undivided, but the stems bear one or two deeply pinnatifid leaves somewhat after the style of our native species, V. dioica. The latter grows rather coarse however under cultivation, attaining a height of one or two feet, although in a wild state it does not exceed the height given for V. rotundifolia. A somewhat damp position on the rockery is the best place for it.

INTERNATIONAL HORTICULTURAL EXHIBITION.

The great summer flower show at Earl's Court took place on the 27th and 28th ult. under very favourable auspices as to weather, and a large concourse of people was drawn together, especially in the afternoon and evening of both days. The long list of prizes brought together large collections of plants from various parts of the country. It is rather to be regretted that they could not have been arranged in one large and spacious building where they would have been far more effective than in different rooms and quarters all over the grounds. This same means, however, served to distribute the people, otherwise the crowd would have been immense in any one building. The greater number of the competitive groups were arranged in two large halls in the south-west corner of the grounds, and those who wished to see an exhibition somewhat after the olden style would have found it here.

The first award for twelve stove and greenhouse plants went to Mr. J. Cypher, Queen's Road Nursery, Cheltenham, who had some well-flowered specimens of Erica Cavendishiana, Pimelea spectabilis, Erica Bothwelliana alba, etc Mr. J. H. Mould, Pewsey, Wilts, was second with smaller but splendidly-flowered specimens of Tremandra verticillata, Phænocoma prolifera Barnesi, and Darwinia macrostegia. Mr. J. Currey, West End, Wilton Road, Salisbury, was third. In the amateurs' class for six stove and greenhouse plants, Mr. Wm. Chapman, gardener to J. Spode, Esq., Hawkesyard Park, Rugeley, Staffs, received a Silver Medal in addition to the first prize for excellence of merit. His specimens of Tremandra ericæfolia, Statice profusa, Ixora Williamsi, and I. Dixiana were in grand condition. Mr. Wm. Finch, gardener to Jas. Marriott, Esq., Queen's Road, Coventry, was second. Mr. Chas. Turner, Slough, had a prize for twenty Roses in 10-in. pots. Messrs. Paul & Son, Cheshunt, were first for 30 Roses in any size pots. Mr. D. Phillips, gardener to R. W. Mann, Esq., Langley Broom, Slough, had no opposition in the three classes for fancy, show, and zonal Pelargoniums which were very floriferous and received first prizes. In the nurserymen's class for eight greenhouse Azaleas, Mr. C. Turner had by far the largest and finest specimens in Roi de Hollande, Mrs. Turner, Etendard de Flandres, etc. Mr. J. H. Mould was second with smaller but well-flowered plants, and Mr. H. James, Castle Nursery, Norwood, was third. Mr. A. Offer, gardener to John Warren, Esq., Handcross Park, Crawley, took the first prize in the amateurs' class with floriferous specimens.

Mr. J. Cypher took the first award for ten exotic Orchids, and Mr. H. James was second. The first prize for new Orchids was taken by Messrs. F. Sander & Co., St. Albans, with Grammatophyllum Measuresianum, Epidendrum Godseffianum, etc.; Mr. J. Cypher was second here. Mr. F. Hooper, Widcombe Hill, Bath, took the first prizes for twenty pots of Pansies and as many Violas, which were dwarf and well flowered. Mr. T. S. Ware, Tottenham, had by far the finest—indeed a noble collection of hardy herbaceous, bulbous, and Alpine plants, showing Lilies, Spiræas, Saxifragas, Primulas, Cypripedium Calceolus, C. pubescens, C. arietinum, etc. Messrs. Paul & Son were second with a much smaller collection. In the nurserymen's classes for Gloxinias, single and double Begonias, Messrs. J. Laing & Sons took the first prizes in each case. Amongst the double Begonias, Alfred Rothschild, Lady Brooke, and Laing's Rosebud were very fine.

Messrs. Wills & Segar, Onslow Crescent, South Kensington, showed all their old supremacy as floral artists in the arranging of nine Palms. The effect they produced may be understood from the fact that the graceful Rhaphis humilis was 12 ft. high, Areca Baueri about 20 ft., and others such as Latania borbonica, Pritchardia pacifica, and Kentia Belmoreana were of similarly magnificent proportions. They were set up in front with smaller undulating groups of Dracæna Lindeni, Caladiums, variegated Pineapple, Nidulariums, and edged with Selaginella, in front of which a border of cut grass did duty for turf, and was very effective. This furnishing greatly enhanced the effect of the magnificent Palms. Mr. Jas. Cypher was second, with a huge specimen of Latania borbonica and some other subjects, but he had no dressing whatever. Mr. Albert Offer had the best fine-foliaged plants in the amateurs' class, Croton angustifolius, Cycas circinalis, and C. revoluta being his best specimens. The last plant had a head of 125 fronds, which took two years to get to that perfection. Mr. J. Ford, gardener to Sir C. Piggott, Bart., Wexham Park, Slough, was second. Mr. A. Offer was agaiu first for six Palms, showing Kentia Canterburyana, Latania borbonica, and L. Commersoni with red petioles. Messrs. E. D. Shuttleworth & Co., 256, Peckham Rye, took the first prize for ten Crotons in the nurserymen's class. Mr. A. Offer was again first for six Crotons, having huge specimens of C. Warreni and C. Prince of Wales; Mr. J. Ford was second. Messrs. J. Laing & Sons took the leading award for twelve Dracænas, and Messrs. J. Peed & Sons, Roupell Park Nursery, Norwood Road, were second. For six Dracænas, Mr. A. Offer took the first award, and Mr. Wm. Howe, gardener to Henry Tate, Esq., Park Hill, Streatham, was second.

Messrs. J. Peed & Sons had the fiuest Caladiums in medium sized but well coloured specimens. Messrs. Laing & Son's plants were larger but not so well coloured. In the amateurs' class for Caladiums, Mr. Joseph Day, gardener to W. S. Glover, Esq., Casino House, Herne Hill, S.E., had the best lot The six stove or greenhouse Ferns shown by Mr. A Offer were admirable examples of culture, Davallia polyantha and D. Mooreana being of great size, taking the first prize; Mr. J. Ford came in second with good specimens of Nephrolepis acuta, Adiantum, and Microlepis hirta cristata. Messrs. B. S. Williams & Son, Holloway, took the first prize for twelve Amaryllis; a very attractive and pleasing kind was Mrs. W. Lee with rose flowers and a white band along the centre of the segments. This exhibit was arranged in the main building. Mr. T. S. Ware had the first award for hardy deciduous shrubs in flower.

The class for new plants of any descriptiou except Orchids, and introduced since 1888, was certainly a feature of the exhibition. Messrs. F. Sander & Co. took the leading award, showing some fine specimens of Maranta Sanderiana, Leopoldinia Laucheana, Anthurium albanensi, A. Lawrenciæ, Cocos Pynærti, Oreopanax Sanderiana, and Dracæna Sanderiana, all of which are stove plants of great beauty and merit. Messrs. J. and Lucien Linden, L'Horticulture Internationale, Leopold Park, Brussels, Belgium, were awarded the second prize for a smaller but very interesting exhibit, including Tradescantia superba, Heliconia spectabilis, Dichorisandra angustifolia, D. Musaica gigantea, and others, but were subsequently disqualified on the ground that they were not being exhibited for the first time; they had in fact been to the Temple Show the previous two days! Cut flowers in the classes were not very largely represented, but Mr. Geo. Mount, the Rose Nursery, Canterbury, took a first prize for eighteen Tea-scented Roses, and another for twelve blooms of hybrid perpetuals.

Fruit and vegetables were fairly well represented at this season of the year. The first honour for eight dishes of fruits was taken by Mr. Jas. McIndoe, gardener to Sir Joseph W. Pease, Bart., M.P., Hutton Hall, Guisborough, Yorks. He exhibited a Pineapple, Melons, black and white Grapes, Cherries, Strawberries, etc. Mr. J. Crawford, gardener to Col. Thorpe, Coddington Hall, Newmarket-on-Trent, was second. In the class for black Grapes Mr. T. Osman, gardener to L. T. Baker, Esq., Ottershaw Park, Chertsey, had the best in black Hamburgh. Mr. J. McIndoe was second; but was again first in the class for white Grapes with Forster's Seedling. Mr. E. Peters, gardener to J. L. Mansell, Esq., Somerset Terrace, Guernsey, was second. Mr. Geo. Norman, gardener to the Rt. Hon. the Marquis of Salisbury, took the first prize for twelve pots of Strawberries, which were magnificent samples of cultivation. Mr. G. Thompson, gardener to Messrs. W. & E. Wells, Hattonhurst, Hounslow, was second. Mr. G. Norman was also first for a dish of Strawberries; and Mr. Wm. Chuck, gardener to P. Thellusson, Esq., Brodsworth Hall, Doncaster, was second. Mr. J. McIndoe had the best Cherries, and was followed by Mr. Peter Blair, gardener to the Duke of Sutherland, Trentham. Mr. Wm. Robins, gardener to Col. Lee, Hartwell House, Aylesbury, had the best Peaches; and Mr. J. McIndoe was second, but took first for Nectarines, while Mr. J. Hudson, gardener to the Messrs. de Rothschild, Gunnersbury House, was second. Mr. John Crawford had the best scarlet-fleshed Melon, while Mr. J. Bowerman, gardener to Chas. Hoare, Esq., Hackwood Park, Basingstoke, had the best green-fleshed variety. Mr. Geo. Mount was first for Tomatos; Mr. J. C. Tallack, gardener to E. Dresden, Esq., Silvermere Park, Bury St. Edmunds, was first for Figs; Mr. Thos. Lockie, Oakley Court, Windsor, took the first place for Cucumbers; and Mr. S. Mortimer, Swiss Nursery, Farnham, Surrey, was second with specimens 22½ in. long. Mr. A. Newell, gardener to Sir Edwin Sanders, Fairlawn, Wimbledon Common, took the first place for a basket of Salad plants. Mr. A. Smith, gardener to Sir Oswald Mosley, Bart., Rolliston Hall, Burton-on-Trent, had the best 100 heads of Asparagus. The best collection of forced vegetables came from Mr. Thos. Lockie, while the best unforced collection came from Mr. John Crawford.

In the main building of the exhibition were some competitive lots of market plants, fruits, and vegetables. The first prize for a group of market foliage and flowering pots came from Messrs. J. & J. Hayes, Lower Edmonton; Messrs. Wm. & Frederick Brown, Brent Nurseries, Hendon, were second; both lots were varied and very floriferous. The best grown 100 market plants in forty-eight size pots came from Messrs. Wm. & Frederick Brown. The best packed basket of Melons came from Mr. F. Le Poidevin, La Porte, Castel, Guernsey, as well as the best packed basket of Tomatos. Messrs. W. N. White & Co., Covent Garden, had certainly the finest collection of foreign produce for market in the shape of Apples, Oranges, Bananas, Pineapples, Onions, Potatos, Gooseberries, Asparagus, Lemons, etc. The Cherries and Apricots showed a wonderful taste in packing, which our market people would do well to copy. Mr. A. Johnson, Central Avenue, Covent Garden, was second with a smaller collection.

The miscellaneous exhibits were very numerous, especially in a square area and in the rooms adjoining the main building. A Gold Medal was awarded to Messrs. H. Low & Co., Clapton, for a group of Orchids, including Cattleyas, Lælias, Cypripediums, Dendrobiums, etc. They also had a Silver Medal for a beautiful group of Heaths and Pimeleas. A Gold Medal was awarded to Messrs. F. Sander & Co., for a group of Orchids, including Cattleyas, Lælias, and Odontoglossum Loureyanum, etc. Messrs. Charlesworth, Shuttleworth & Co., Heaton, Bradford, and Park Road, Clapham, had also a Gold Medal for a fine group of Orchids, including Oncidium macranthum, Odontoglossum Wilckeanum nobilius, Cattleya grandis tenebrosa, C. Mossiæ, and numerous other species arranged in a circular mass upon the floor. Mr. H. C. Princep, gardener to Viscountess Portman, Hogg House, Buxted, Uckfield, had a Silver Medal for three huge and grandly flowered specimens of Dendrobium nobile grown on the pruned system. A Gold Medal was awarded to Messrs. Wm. Paul & Son, Waltham Cross, for a large collection of Roses in pots and cut flowers edged with Adiantum. A Silver Gilt Medal was awarded to Mr. Anthony Waterer, Knap Hill, Woking, for a large group of hardy flowering Azaleas. A Silver Medal was awarded to Messrs. Barr & Son, Covent Garden, for a large collection of cut flowers of herbaceous plants, including Pæonies, Tulips, florist Tulips, Irises, Lupins, Violas, and others. A similar award was made to Messrs. Kelway & Son, Langport, Somerset, for herbaceous and Tree Pæonies, Pyrethrums, Cannas, Amaryllis, etc. Messrs Dobbie & Co., Rothesay, Scotland, also received a Silver Medal for a large and unique collection of bedding Violas, including Ariel, Blue Cloud, Dawn of Day, W. Niel, Duchess of Fife, and a beautiful new kind named Rosine. They also showed an interesting collection of Sweet Peas.

A similar award was made to Messrs. J. Laing & Sons for a group of Palms, Dracænas, Crotons, Orchids, Caladiums, and Heaths. They also had a collection of hardy cut flowers. Mr. J. Jennings, gardener to Leopold de Rothschild, Esq., Ascott, had a Silver Medal for a fine group of the yellow Almira and the blush Souvenir de la Malmaison Carnations. A group of Palms, Dracænas, Azaleas, and Orchids, shown by Messrs. B. S. Williams & Son, received a Silver Medal. Messrs. W. & J. Birkenhead, Sale, Manchester, had a fine collection of Ferns, which received a Silver Medal. A similar award was made to Messrs. Wm. Cutbush & Son, Highgate, for an effective group of Palms, Azaleas, Heaths, Ferns, etc. They also exhibited a collection of herbaceous plants, including Pæonies, Irises, and Lilies. A group of Malmaison Carnations, shown by T. H. Crasp, gardener to Lord Wimborn, Canford Manor, Wimborne, also earned a Silver Medal, as did the group of Cacti shown by Messrs. H. Cannell & Sons, Swanley, Kent. Mr. T. S. Ware had a table of single and double Tuberous Begonias Bronze Medals were awarded to Mr. F. Hooper, and to Mr. A. Smith, Downley, High Wycombe, Bucks, for fancy Pansies; to Mr. H. Turner, Horsemoor Green, Langley, for Tulips and Roses; and to Mr. Geo. Phippen, Reading, for Lilies, Spiræas, and Ferns, etc.

At the south-west corner of the grounds, and in the rooms with the competitive groups, Mr. W. Iceton, Putney Park Lane, Surrey, showed a fine group of Palms, including huge specimens of Kentia Canterburyana, Latania borbonica, Chamærops excelsa, etc., edged with smaller plants, for which a Silver Medal was awarded. Messrs. J. James & Son, Woodside, Farnham Royal, had an interesting and dwarf strain of Calceolarias in 32-size pots. Messrs. J. Peed & Sons showed a group of Palms, including Latania borbonica, also Encephalartos villosus, Crotons, etc., edged with Anthurium Scherzerianum in bloom, receiving a Gold Medal. A Gold Medal was awarded to M. Van Houtte, Ghent, Belgium, for a case of Bertolonias and Sonerillas showing a great variety of beautiful colours, striped and blotched in various ways. A Silver Medal was awarded to Mr. T. S. Ware for a collection of Iris Florentina, Pyrethrums, Herbaceous Pæonies, and other herbaceous stuff, including a large collection of Darwin Tulips. A similar award was made to Mr. S. Mortimer, Swiss Nursery, Rowledge, Farnham, for a collection of Cucumbers, Tomatos, and Melons. Mr. J. Miller, gardener to the Right Hon. Lord Foley, Ruxley Lodge, Esher, showed Mushrooms, Melons, and Apples. A Silver Medal was awarded to Mr. R. Churchman, The Vineries, Wokingham, for a collection of 60 to 80 Melons. Mr. Chas. Blick, The Warren, Hayes Common, Beckenham, also showed some Melons. A group of Cycas revoluta was set up by Messrs. E. D. Shuttleworth & Co. A group of single and double Azaleas was brought over from the Continent by M. Adolphe D'Haene, Ghent, Belgium. A Silver Medal was awarded to Mr. Jas. McIndoe for a collection of Melons, Citrons, Oranges, Peaches, Pears, Apples, etc., which served to add variety to the show.

There were present on the first day a number of Continental horticulturists, including M. H. J. Van Hulle, M. Aug. Van Geert, M. A. D'Haene, M. De Smet, and M. Louis Van Houtte, all of Ghent; Herr Wendland, Herrenhausen, Germany; MM. Peeters (father and son), Brussels; M. Froebel, of Zurich, Switzerland; and M. Leroy, gardener to Baron Edmund de Rothschild, Armonvilliers, France. On the evening of the first day the exhibition executive invited a considerable number of the leading horticulturists present to a dinner, over which Mr. Milner presided. The principal toasts were "Success to the Exhibition," proposed by Sir Charles Tupper, the High Commissioner for Canada, and acknowledged by the Chairman; and the visitors, proposed by Prof. Stewart, President of the Linnean Society, and responded to by M. H. J. Van Hulle, M. A. D'Haene, and General Sheridan, a United States Senator.

THE TEMPLE SHOW.

Below we give a list of the awards made at the Temple Show of the Royal Horticultural Society last week. The new plants, fruits, etc., certificated will be found described in another column.

Silver Cups

Baron Schroder ..... for a collection of Orchids.
Sir Trevor Lawrence, Bart., M.P. ,,
Messrs Charlesworth, Shuttleworth & Co. ,,
Messrs. F. Sander & Co. ,,
Mr. J. Cypher ,,
C. J. Lucas, Esq. ,,
Messrs. John Laing & Sons, for a group of Plants
Messrs. James Veitch & Sons, ,,
Messrs. R. Smith & Co., for group of Clematises.
Messrs. W. Paul & Son, for Roses.
Messrs. T. Rivers & Sons, for collection of Fruit Trees.
Mr. A. Waterer, for collection of Azaleas.
Messrs. W. Cutbush & Son, for group of Plants.
Messrs. W. & J. Birkenhead, for collection of Ferns
Mr. G. Norman, Hatfield, for Strawberries.

B. S. Williams' Memorial Medal.

Baron Schroder, for Cœlogyne Dayana.

Silver Gilt Flora Medal.

Messrs. J. Carter & Co., for Gloxinias, Calceolarias, Mimulus, &c.
Earl of Portman, for specimens of Dendrobium nobile.
F. Wigan, Esq., for group of Orchids.
Messrs. B. S. Williams & Son, for Azaleas and Amaryllis.
Messrs. Hugh Low & Co., for collection of Orchids.
Messrs. B. S. Williams & Son ,,
Messrs. Heath & Son ,,
Messrs. Lewis & Co. ,,
Mr. H. B. May, for a collection of Ferns.
Messrs. J. Backhouse & Son, for Alpine Plants.
Guildford Hardy Plant Co., for Alpine Plants.
Messrs. Barr & Son, for Cut Flowers.
Messrs. Kelway & Son, for Herbaceous Plants, &c.
Messrs. John Laing & Sons, for Begonias.
Mr. T. S. Ware, ,,
Mr. H. Cannell, ,,
Mr. T. S. Ware, for Herbaceous Plants.
Messrs. Paul & Son, for Roses.
Mr. C. Turner, for Pelargoniums.
Messrs. J. James & Son, for Calceolarias.
Messrs. E. D. Shuttleworth & Co., for group of Plants.
Messrs. Perkins & Son, for Bouquets.
Mr. G. Phippen, for group of Plants.
Messrs. J. Peed & Son, ,,
Mr. H. J. Jones, for Pelargoniums.

Silver Flora Medals.

Messrs. Paul & Son, for Alpines and Cut Flowers.
Messrs. John Laing & Sons, for Cut Flowers.
Messrs. Dobbie & Co., for Violas, Pansies, and Sweet Peas.
Messrs. E. D. Shuttleworth & Co., for Fine-foliaged Plants.
Messrs. J. Veitch & Sons, for Gloxinias and Streptocarpus.
F. C. Jacomb, Esq., for collection of Orchids.
Mr. Jennings, Ascott, for Carnations.
Mr. W. Rumsey, for Roses.
Messrs. J. & J. Hayes, for Pelargoniums.
Messrs. Hugh Low & Co., for Ericas.
Messrs. J. Peed & Son, for Gloxinias.
Messrs. Wallace & Co., for Lilies.

Silver Banksian Medals.

H. Mayhew, Esq., for Foliage Plants.
Messrs. Reid & Bornemann, for a group of Plants
Baron Schroder, for Cœlogyne Dayana.
Mr. M. Pritchard, for Alpine Plants.
Messrs. W. Cutbush & Son, for Hardy Cut Flowers.
Messrs. Chard & Son, for Table Decorations.
Messrs. Hassell ,,
Messrs. Peed & Son, for Ferns and Foliage Plants.
Captain Elliott, for Aroids.
J. Gabriel, Esq., for Calceolarias.
Mr. S. Mortimer, for Cucumbers and Tomatos.

Silver Knightian Medals.

Messrs. J. Veitch & Sons, for Apples and Pears.
A. H. Smee, Esq. ,,

Cultural Commendations.

Mr. T. L. Mansell, Guernsey, for Muscat Grapes.
Mr. Henderson, Thorsby, for Melons.
Messrs. W. & E. Wells, for Strawberries.
Mr. W. Armstrong, for Peaches.

FLORICULTURE.

Auriculas.

THE annual repotting of Auriculas, a very important act in its culture, is now performed earlier in the season than it formerly used to be. Years ago it was the practice to stand the plants on a north border after they had perfected their growth, and leave them to make their summer's growth, and then to repot in August or about that time. It is quite true that the Auricula can be potted early and late. As the Rev. F. D. Horner once remarked, "The Auricula can be disturbed, shifted, potted, dug up, knocked about at the roots at any time from the end of April till well into September; but unless something is going wrong it is not wise to disturb a plant in the dreary months of November and December. By the middle of January, if such need be, a plant may have change of soil, and in February and March it may be disturbed with none or little apparent check; but of course it is far the best to have Auriculas thoroughly established at the roots by the time spring growth commences."

I am decidedly of opinion that May, or at the latest the two first weeks in June, is the best time for potting, though I am bound to say I have known plants potted very much later to do well. The Reading growers who have made their mark with Auriculas during the past few years make a practice of potting early, generally in May. One of them, and by no means the least successful as a cultivator, Mr. J. Gibson, of the Erleigh Road, repots his about the end of May and on into June according as it is convenient to do so. His potting compost is made up of the best fibrous yellow loam, well rotted manure that can be rubbed into mould in the hands, some old mortar rubbish, a little charcoal about the size of Peas, a little peat, for he states the Auricula likes some peat, and some sand to keep it open. This is all carefully prepared and made ready beforehand. Then, in the act of potting, the soil is entirely shaken from the roots, the old part of the tap root cut away up to the point where young, fresh, fibrous roots have put in appearance, the root carefully washed in water to which has been added some soft soap and sulphur, and the plants repotted. The plants are then placed in cold frames, kept a little close, and shaded for a few days until the roots become active, and then they make rapid headway. The soil is used in a sufficiently moist condition so that no water is required for a few days; indeed, it is best not to give any until the plants plainly ask for it, which they do by the drooping of their leaves.

The summer rest of the Auricula is in June. While preparing for flowering the plants make a free growth, and when they have gone out of flower the time for declining activity has set in. That I think is the best time to repot, because soon after midsummer the plant enters upon its second stage of active growth, and it must be very helpful to be in fresh, invigorating soil. As in early spring so now, the plants though rapidly changing in habit and size, there should be no check because it is now and onwards the plants are laying up stores of power and force to bloom in the coming year. If progress in development be not made now it is not likely to be made later in the year.

During the summer season, what with active growth and the operation of drying influences peculiar to that season of the year, the plants require a good deal of moisture. If the pots are well drained, as they should be, there is no stagnant moisture at the roots, a condition of things very injurious to the Auricula. Drip from above falling into the hearts of the plants is very injurious also.

The best summer quarters for the Auricula is a raised frame on a northern aspect, and with a wall or fence at the back but not trees, because anything in the way of drip may lead to fatal results. The lights can be removed by day in fine weather, and indeed by night too, but they should be at hand to be placed over the plants in case of heavy storms. The plants are best standing upon a coal ash bottom, which will always be somewhat moist in consequence of the flow of water from the pots when given. A little surface stirring as required will be found beneficial, and a deadly war should be maintained against the accumulations of green fly.—*R. D.*

PRESENTATION TO MR. DAVID SYME.

THE annual dinner of the London Agricultural Seed Trade Association took place in the Duke's Salon at the Holborn Restaurant, on Monday evening, under the presidency of Mr. N. N. Sherwood, Mr. Rudolph David occupying the Vice-chair. Among the members and friends present were Mr. David Syme, Edinburgh; Mr. Watt, Carlisle; Mr. James Eastes, Ashford; Mr. A. C. Wheeler, Gloucester; Mr. W. Sinclair, New York; Mr. S. P. Taylor, Edinburgh; Mr. Oliver, Hawick; Mr. Caldicott, Worcester; Mr. Inch, Edinburgh; Professor Fream; Mr. R. G. Fortt, Newcastle; Mr. W. J. Nutting, Mr. W. Nutting, Mr. Arnold Moss, Mr. Chartres, Edinburgh; Mr. Fred Bryant, Mr. H. H. Green, Ashford; Mr. T. Manning, Mr. A. Veitch, Mr. Le May, Mr. T. S. Ware, Mr. E. Marcuse, Mr. Aiton, Mr. Kay, Mr. Grainger, Mr. Bray, Mr. Marsh, Mr. Van Lessen, Mr. Thornton, Mr. Paton, and Mr. David Allester, Secretary.

The usual loyal and patriotic toasts having been duly honoured, the CHAIRMAN proposed "Prosperity to the London Agricultural Seed Trade Association," and in so doing said he thought he ought to say only of the Agricultural Seed Trade, as so many provincial seedsmen were present. He regretted that their Association was not in such a flourishing condition as it ought to be; year by year their numbers were decreasing, as he supposed because so many of their provincial friends wrongly considered that the benefits of the Association were confined to the London members only. Their rules, however, had been formed so as to be of benefit to all in the trade; their business was a peculiar one, distinct from everything else, and requiring knowledge of a peculiar and special character. They had a just right therefore to conduct their business with due regard to the advantages of all, and if the provincial members of the trade would not abide by the rules of the Association he for one would be obliged to decline to do business with them. The Association had been most useful for several years past in adjusting differences that arose among them in the course of business; and many disputes had been settled in the most amicable and satisfactory manner without recourse to the law with its attendant delays, vexations, and cost. It was therefore doing a good work and deserved the support of all engaged in their trade, which was second to none among the commercial industries of the country, for if the farmers and market gardeners could not be properly supplied by them, he might well ask what would become of the agricultural industry.

MR. JAMES WATT then rose to propose the toast of the evening, the health of their old friend Mr. David Syme, and to present him with a handsome testimonial to mark the celebration of his fifty years connection with the seed trade. He said that the duty he had been honoured by being called upon to perform was most congenial to him, because the object of making the presentation was of a twofold character, first to reward past services, and secondly by such means to encourage younger men to follow in the footsteps of their honoured friend, who for many years had occupied a perfectly unique position in the seed trade. He formed a connecting link between the seedsmen of the present day and those of the past who had been called away. Mr. Syme had been closely connected with the trade for fifty years. He, Mr. Watt, had known him intimately for some thirty years, he had seen him labouring under sunshine and shadow; he had admired his manifold capabilities, his extraordinary knowledge of his business, and wonderful tact; and had never failed to appreciate his unbounded generosity, his open-handedness and his open-heartedness, those great and good qualities of head and heart which had so greatly endeared him to them all. When oil had to be poured on the troubled waters of business, Mr. Syme was the man to be called in to do it. He had been a court of law in himself for the seed trade, and his judgments had always been respected. He offered him their heartiest congratulations on being able to be present on that occasion to receive such a tangible token of their regard and esteem, and concluded by presenting Mr. Syme with a cheque for 300 guineas, together with a very handsome silver tea and coffee service and tray for Mrs. Syme, and the following address engrossed on vellum:—

Mr. David Syme, Manager of Messrs. Peter Lawson & Son, Edinburgh.

We whose names follow this address have much pleasure in congratulating you upon the completion of the fiftieth year of your connection with the seed and nursery business, for more than thirty years of which you have been connected with the Company you now represent. We have also thought this a fitting occasion of honouring you in a more tangible form by asking your acceptance of the sum of three hundred guineas, together with a silver tea and coffee service and tray for Mrs. Syme, in the hope that you may both enjoy many years of health and happiness. And, finally, for yourself, we trust that you may long be spared to occupy the distinguished position in the seed trade, of which you have during your career been an ornament, and a pride to your host of friends.

[Signed by 184 Subscribers.]

MR. SYME, who on rising to acknowledge the gifts received a most enthusiastic greeting, said he almost felt incapable of finding appropriate words with which to thank the subscribers for such a handsome token of their good feeling towards Mrs. Syme and himself. Notwithstanding all that had been so kindly said by Mr. Watt he could not help asking himself what he had done to deserve so much of their kindly regard. He had certainly been connected with the nursery and seed trade for fifty years, for it was in 1841 that Mr. Peter Barr and he found themselves boys together commencing their career in the business, for boys in those days went straight to work from the parish school and at an early age, whereas now they mostly did not commence to learn the business until they were young men. The nursery and the seed shop were great schools, for either branch of the business was a most interesting one, and they had something to learn from the day they entered it until they left it. Fifty years of a man's lifetime was a long journey to look forward to but not much to look back upon. During his career he had met with some shadows, but sunshine had mostly predominated, and the culminating point had been reached that day at that happy gathering of his friends, old and young, and that handsome present which Mrs. Syme and himself would prize to their latest hour.

MR. JAMES EASTES proposed "The Agricultural and Commercial Interests," and alluded to some of the difficulties which as seedsmen they had to contend with, mentioning especially a case in which he himself had been concerned. He had sold to a farmer on the South-east coast, a bushel of a particular kind of Turnip seed, six gallons of which had been sown on one piece of land, and the remaining two gallons on another farm some distance away. From the first-named sowing the crop was said to be a partial failure, owing to some of the plants having "bolted" or "shooted," and the farmer made a claim for compensation to the amount of £7 per acre. On enquiring fully into the matter it was discovered that the loss sustained could not amount to 5s per acre; and on asking what had been done with the remaining two gallons of seed the farmer admitted that he had never had a better crop than those seeds produced, thus proving that the cause of the "bolting" or "shooting" was entirely beyond the seedsman's control; but that did not prevent the farmer from making the claim for compensation, which though disallowed, was none the less vexatious to the seedsman. Mr. A. C. Wheeler responded. Other toasts followed, including The Visitors, The Chairman, The Vice-Chairman, The Secretary, and The Ladies, and a singularly enjoyable evening was brought to a close with the singing of "Auld Lang Syne."

THE VEGETABLE GARDEN.

Early Puritan Potato for Border Work.

THERE are few Potatos that will beat Early Puritan for crop and quality, and as a second Early to succeed Veitch's Ashleaf Kidney or Sharpe's Victor I do not know a better. But I did not think it was so early as it has proved itself to be in the neighbourhood of Exeter. Sir Dudley Duckworth King (gardener, Mr. McCormick) had a south-west border planted with Puritans on the 21st of January, and I have just seen a dish lifted from it to-day (30th May) the tubers ranging from 5 to 8 ozs. each. Mr. McCormick, who has lately come to Wear House, has great faith in the early properties of the Puritan and thinks that on a warm border, in an average season, they might easily be had in the open by the third week in May. He was also fortunate in having a swarm of bees on the 26th of May—pretty early work.—*Devoniensis.*

GARDENING IN BARRACKS.

One would hardly, in the ordinary nature of things, expect to find the art of gardening closely pursued in the limited area available for such a purpose in an infantry barracks. But minor obstacles are brushed aside by the genuine garden amateur, and the fatal *non possumus* is, neck and crop, bundled out of his vocabulary. In accommodation of the most meagre kind, behind the officers' quarters in the barracks at present occupied by the Devonshire regiment, at Exeter, Lieut. Smith can show gratifying results in the cultivation of flowers. From the floricultural needle to the floricultural anchor, he has, somewhere or other, a bit of everything. A month ago he showed me as fine a plant, in bloom, of the Iris Susiana as I have seen. It was a regular beauty, and if this plant could be well shown at provincial exhibitions now and again, I am certain it would be more sought after. I believe half the gardeners in the country have never once seen this very remarkable and altogether lovely Iris.

Away in a damp corner of a rockery was a Gunnera scabra showing fruit. Hard by were some nice British Ferns, a few Pansies and Violas, some fair Alpine Auriculas, and the other odds and ends that one generally finds in the borders of a garden whose owner loves flowers from his heart. Lieut. Smith's particular fancy, however, lies in Lilies and Gloxinias, but more especially in Lilies. He is, though on the sunny side of thirty, quite a "past-master" in Lilies. He loves them. On the stages and benches, in cold frames, and on ashes in the open, are Lilies galore; and good Lilies, too. L. Washingtonianum, Krameri, Brownii, testaceum, auratum, Harrissi, and even giganteum, with all of which, from the shape of the bulb, through the habit of the plant, to the exact shade and size of the flower, he is as familiar as an expert.

He is much puzzled this season to account for many—more than half—of his L. pyrenaicums and L. chalcedonicums going "blind." The plants are strong, green, and healthy-looking, but they have no flower-buds. Has this been a general experience with Lily-growers this season? And what is the technical cause and cure for it? The Gloxinias are an uncommonly fine lot. There are some very remarkable steel-blue colours and some very good spotted ones, while the Defiance type is in abundance and shows some grand flowers. Gardenias Mr. Smith does well; and, indeed, with his disadvantages, it is wonderful to see so many things grown and such excellent results. Tomatos and Grapes are also fairly well done. And when you consider that all this is accomplished in little more space than many a gardener allows to an erratic Fig tree or other rambling member of the garden, it speaks volumes for the industry and aptitude of the owner. While Mr. Smith is a good all-round amateur florist, he fairly "takes the Abernethy" with Lilies and Gloxinias.—*Devoniensis.*

RHODODENDRON RACEMOSUM.

The application of the specific name in this case is not particularly evident at first sight, as the flowers are arranged in short corymbs in the usual manner for Rhododendrons. The allusion may be derived from the fact that numerous smaller corymbs are produced along the sides of the shoots, producing as it were a sort of raceme with the terminal one. The flowers are of large size compared with the plants producing them; and to contrast them with Rhododendrons already in cultivation it may be said that they range between those of R. dahuricum and R. præcox. All the three are early spring flowering and hardy species, and may therefore be placed side by side as to utility for outdoor work. The leaves of R. racemosum are obovate-oblong, revolute at the margin, leathery in texture, evergreen, and about an inch in length. The stems flower freely when only 2 in. to 8 in. high, and the plant should be invaluable for rockwork, especially from the fact that it flowers when hardy plants in flower are scarce. The five-lobed flowers are bell-shaped, and of a soft pink with a bright rose edge. This picotee-edged character gives the flower a charming appearance, especially when the latter is seen in a mass. The stamens and styles are also pink, and the anthers rose coloured, adding somewhat to the beauty of the flower. The plant was raised from seeds obtained from China, and a pan of small plants was shown by Messrs. J. Veitch & Sons, Chelsea, at a meeting of the Royal Horticultural Society on the 19th of April, when a First-class Certificate was awarded. Our illustration, prepared from one of the plants exhibited on that occasion, will give an idea of the general appearance of the species.

DOUBLE WALLFLOWERS.

Formerly cultivators who prided themselves in growing double Wallflowers were in the habit of raising them from cuttings, but they can now be raised in quantity and variety from seeds in the same way as double Stocks, while they are apparently as hardy as the single varieties. They certainly lack the gracefulness of the single varieties, but they nevertheless always gain a number of admirers, and seeing that they can be raised without any trouble from seeds they should be more common than under the old system of increase from cuttings.

Rhododendron racemosum.

The old varieties consisted of one or two sorts with yellow flowers, and, as a rule, the stem swere leggy, while the flowers not particularly fine. We noted some recently in the garden of N. N. Sherwood, Esq., Dunedin, Streatham Hill, and which had been raised from seeds like the single sorts. A deep golden-yellow variety was particularly notable for its dwarf habit and dense spike of large blooms, resembling in fact a double Stock of that colour, but which unfortunately we have not yet acquired, the so-called yellows amongst Stocks being mere apologies for the name.

A double brown sort corresponded to the single brown one, and alongside of it were numerous specimens with purple flowers. Both of these were about equal in quality to the yellow one, although not perhaps so conspicuous or effective. They probably will not be so much appreciated except where variety is desired. Here, then, we get double Wallflowers presenting almost the same amount of variation as the singles, with exception of the striped ones, which will, no doubt, turn up in time. The object of cultivators should be to select and perpetuate those plants which present a compact habit with large flowers and well-defined colours. Those who like formal gardening will find in these doubles suitable subjects, for they appear to be dwarf and more compact than the singles with stouter stems and spike-like racemes of flowers. Most gardeners know how different the double Stocks are in habit from the single ones, so that we cannot be surprised to find a similar habit developed amongst the double Wallflowers.

HORTICULTURAL EXHIBITIONS.

It is sometimes said that it is practically impossible to hold in this country a large horticultural exhibition on an extensive scale because the material is not forthcoming. Those who hold this opinion point to what is acknowledged to be the falling off at the exhibitions held by the Royal Botanic Society in the Regent's Park and also at the Crystal Palace; and they are found stating that no large stuff is forthcoming with which to create imposing effects. I think it must be admitted after the experience of the recent Earl's Court Exhibition that the material is to be found, and that were an International Horticultural Exhibition, such as that held at South Kensington in 1866 again proposed, and inducements offered in the way of prizes, a very fine display would result. It cannot be said that the promoters of the Earl's Court Exhibition erred on the side of liberality in the matter of prize money, though the compilers of the schedule endeavoured to do the very best they could with the money at their disposal. As far as big stuff is concerned the groups of Palms and other foliage plants shown by Messrs. Wills & Segar and Mr. W. Iceton were proofs that there is yet among us material for forming magnificent groupings on a large scale, and securing the most striking effects.

These two arrangements—fitted to ornament the most spacious building—were highly effective. Then there were the very fine examples of Palms, Crotons, etc., from Handcross Park, from Cheltenham, etc. Stove and Greenhouse plants from Hawkesyard, Coventry, and also from Cheltenham; with Dracænas, Caladiums, etc., in plenty. What is wanted is inducements to be held out to exhibitors to bring them. Specimen Roses, Pelargoniums, Clematis, and such subjects can be produced as fine as ever when occasion arises; and continental nurserymen can be induced to send contributions if they are invited to do so. One of the most interesting features connected with the recent exhibition at Earl's Court was the number of foreign nurserymen and others who were present.

Many persons are found asking why does not the Royal Horticultural Society take the lead in exhibitions of this kind? I am unable to answer this question, though it appears to be one of the proper functions of this incorporated society to take the lead in such an undertaking. At present anything of the kind is left to private enterprise, and our leading society stands by content to hold one large exhibition only annually, where the contributions are mainly from the trade. Without any desire to underestimate the importance of the work done by the society, we yet think it is equal to its opportunities; and it is to be feared that if what it fails to do itself is attempted by others it gives rise to some feeling akin to jealousy. It is not a little remarkable that private enterprise should be carrying out a series of International Horticultural Exhibitions during the present season, and also projecting an important fruit show in the following year, while the Royal Horticultural Society is content to carry out a somewhat stereotyped programme which fails to attract the public to the extent an organization occupying such an unique position should do.—*Veritas.*

GARDENING MISCELLANY.

GLASS CRACKING.

I AM much interested in your answer to "Omega," p. 601, regarding "Glass Cracking." This is a matter I have been forced to study in many ways, and the result of my investigation into the causes of breakages are as follows:—1st. 15 oz. glass is much more liable to go than the thicker kinds, and this, when the laps are large, lets in the moisture, and so when frost comes, the expansion makes it fly at once. A ¼ lap is as safe as any. 2nd. Weak timber is a fruitful cause of breakage; by the astragals sinking, it twists the whole roof, so that every square of glass suffers a twist and something must go. 3rd. Where sashes are movable, and gardeners are careless in not laying them down level, that damages both woodwork and glass in a short time. 4th. Heat and cold will break glass, but in this case the fracture is peculiar. I have a house of Orchids in which not a square has yet been broken for years. It is 21 oz. sheet and ½ rolled plate.—*J. H.*

BELLIS SYLVESTRIS.

THERE seems to be numerous forms of this Daisy for we have seen several under that name, some of which are relatively of large size and coarse. It is always single or semidouble, but we are inclined to think that some of the forms of it are intermediate between the type and Bellis perennis. At all events there are forms of both with ligulate and quilled florets. Several forms having quilled florets are now in British gardens, and some of them have different names. Hitherto we have not seen a double form of B. sylvestris, although the quilled forms are generally in a condition to be described as semidouble, for the ray florets are in several series and vary in colour from pink to a deep red. It may be remembered that the quilled forms of B. perennis have dark red florets, at least in a beautiful old-fashioned red form, which is perfectly double, and which used to be very common in old fashioned cottage gardens far from the leading centres of distribution in this country, and which bespeaks an existence dating back for many years, perhaps for centuries, when simple flowers were more esteemed than at the present day.

VERONICA APHYLLA.

NOTWITHSTANDING the number of Veronicas which have been introduced to cultivation from time to time, we still lacked a beautiful species in V. aphylla, The specific name means without leaves, and this refers to the flower stem which bears no proper leaves. The flower stem is only one to two inches high, bearing relatively large, pale blue flowers, with darker veins and a small white eye. The leaves are oval, small, and produced in a dense, radical rosette, so that numerous rosettes of this kind form a carpet covering the ground. The most suitable place for it is a shelving ledge on the rockery, where it will be raised above the general ground level and more under the eye. It is a European species, entirely herbaceous, and reminds us of V. serpyllifolia, or V. repens, but is infinitely superior to both as far as the flowers are concerned. It would be a pity if it should not get disseminated and take its place amongst other species in British gardens. We noted it on the rockery at Kew.

RICHARDIA ELL'OTTIANA

THE yellow Richardia has not yet found its way into cultivation, no doubt because the owner wants a very high price for the stock. When once it find its way into other hands, we may expect it to get disseminated rapidly all over the country, both because it is beautiful and novel in itself and will form a suitable companion for the well-known and almost universally grown R. africana with white spathes. Some plants of R. Elliottiana turned up at the Temple Show on the 25th and 26th ult. It is dwarfer than well-grown plants of the better known species, and has leaves of similar shape, sagittate, and of a rich dark green, blotched all over with white markings. The spathe is of a clear yellow, uniform in hue internally but more or less suffused with green externally, especially in the younger stages. The spadix is golden yellow, and otherwise similar to that of R. africana. The exhibitor was Mr. G. M. Knight, gardener to Capt. Elliott, Farnborough Park, Hants. It is undoubtedly an acquisition to horticulture, and the sooner it gets disseminated the better.

GENISTA PILOSA.

THIS species might with equal propriety have been named G. procumbens, because the stems are prostrate upon the ground. It is a native of Europe, including Britain, and flowers from spring for a considerable time into summer. The stems are 12 in. to 14 in. long, crowded together in a mass, bearing the golden-yellow flowers singly or in small clusters in the axils of the leaves. The oblanceolate leaves are slightly silky beneath. The plant is long-lived, and although growth is comparatively slow, it flowers regularly every year from May onwards. The best position for it is undoubtedly on the rockery or on some elevated bank, where it will be kept moderately dry at least during the winter months. It also appears to best advantage under these conditions as the procumbent stems are brought more under the eye, and the dwarf, compact habit is highly suitable for that method of treatment.

MUSCARI CONICUM.

ONE of the most ornamental of the species of Muscari is that named M conicum, which flowers in March or April according to the season. The flowers are of a bright violet blue and are produced in long oblong-conical racemes well thrown above the foliage, and are much larger and more conspicuous than those of M. armeniacum, because of a brighter blue. The mouth or rim of the perianth is white at first but gradually changes to purple as it gets older. The linear channelled leaves are produced very early and mostly spread upon the ground as in other cases where the leaves get long. The species is a native of Campagna and was recently collected in Trepazana by H. J. Elwes, Esq. We noted a large bed of it in full bloom in April in the nursery of Messrs. Barr & Son, Long Ditton, Surrey, and it was very effective when compared with several other species then flowering.

NEW & RARE PLANTS.

THE undermentioned new species and varieties of plants, as well as fruits, were exhibited at the Temple Show, held in the Inner Temple Gardens, on the 25th and 26th ult., by the Royal Horticultural Society, when certificates were granted according to merit.

LABISIA SMARAGDINA.—The habit of this plant is very dwarf, with the leaves lying on the surface of the pot or pan in which it is grown. They are oblanceolate-oblong of a deep velvety, olive green, darker along the centre, but much lighter coloured when young, and 4 in. to 6 in. long. First-class Certificate.

DICHORISANDRA MUSAICA GIGANTEA.—The leaves of this species are elliptic-oblong, of ample size and width, slightly oblique at the base, arranged in two ranks, with numerous longitudinal deep green veins, and very numerous short ones connecting them on a grey ground. The under-surface is of a uniform deep purple. The flowers are pale lilac and borne in a terminal thyrse. Altogether it is a noble-looking plant. First-class Certificate.

TRADESCANTIA REGINÆ.—A plant of this shown consisted of twelve to fourteen stems, bearing stalkless leaves in two ranks, and which are lanceolate, acuminate, and 6 in. to 8 in. long. The intricate arrangement of colours makes it a pleasing and attractive subject. There is a deep olive green band along the centre, shaded with purple when young, and a grey band on each side of this, and an olive green narrower margin Both the latter and the centre are variously marked with short transverse grey lines, which are often shaded with purple when young. The under-surface is dark purple. First-class Certificate.

STENANDRIUM LINDENI.—The leaves of this Acanthad are much smaller than any of the foregoing, opposite, oblong-elliptic, deep olive-green, with a lighter greenish-yellow band along the centre, and incurved lateral nerves and some branches of the same hue. The yellow flowers are borne in spikes, but are of little consequence compared with the foliage. First-class Certificate.

TRADESCANTIA SUPERBA.—The leaves of this plant bear a considerable superficial resemblance to those of T Reginæ, but they are broader and produced in two ranks on dwarf, slightly arching stems. They are of a deep olive-green above, along the centre on each side of which is a slightly interrupted silvery-grey band, and a narrow, green edge. The under-surface is dark purple. First-class Certificate.

SMILAX ARGYREA.—The stems of this species are slender and spiny, bearing alternate, lanceolate leaves about 6 in. or 8 in. long. The latter are strongly three-nerved and heavily blotched with deep olive green on a grey ground, and of a paler but uniform green beneath. First-class Certificate.

CYRTOSPERMA FEROX.—The leaves of this Aroid are sagillate, with very long auricles, leathery, and of a uniform deep green. The petioles are deep olive brown, blotched with grey, and prickly all over. The spathe is greenish white, and rolled up, while the spadix is stout and shortly cylindrical. The leaves, but especially their petioles, are the most ornamental feature of the plant. Botanical Certificate.

[The seven plants above described are all ornamental-leaved stove subjects, and were exhibited by MM. J. & Lucien Linden (L'Horticulture Internationale), Leopold Park, Brussels, Belgium.]

GLOXINIA CLIO.—The flowers of this variety are funnel-shaped, very large, seven-lobed. heavily spotted with purple on a white ground in the throat. The segments are marbled and spotted with purple and red, with a broad white margin. Award of Merit.

GLOXINIA CICELY.—Here again the throat is white and finely dotted with purple. The lamina is six-lobed, rich purple shaded with crimson, this being surrounded with a purple band, and that again with a white margin. Award of Merit.

GLOXINIA CLARIBEL.—The flowers of this variety are of great size, funnel-shaped, and seven-lobed, like so many others of the leading varieties. The throat is finely dotted with purple and very faintly so on the base of the segments. Award of Merit.

[The three Gloxinias here mentioned show that improvements in this showy class of flowers are still being carried on, and that substance as well as size is being gained. They were exhibited by Messrs. J. Veitch & Sons, Chelsea.]

SCOLOPENDRIUM VULGARE DIGITATUM MAJUS.—The frond is oblong in the lower portion, undulated, and undivided. They have three main divisions at the apex, and those again are lobed, each ultimate division bearing a small crest, and all the segments are strongly divergent. First-class Certificate.

S. V. CRISPUM FIMBRIATUM.—The fronds of this beautiful variety are of the usual strap-shaped form, but the undulations or folds are carried to such an extreme that they are imbricated over one another, and they are also toothed at the edges, a fact which explains the name fimbriatum. First-class Certificate.

[Both these bold and striking Ferns were exhibited by Messrs. W. & J. Birkenhead, Sale, near Manchester.]

BEGONIA LAING'S TRIUMPH.—The flowers of this variety are double, of great size, rosy salmon, with broad, slightly undulated and loosely arranged sepals. Award of Merit.

BEGONIA PICOTEE.—This is also a tuberous Begonia with deep green, half cordate leaves of moderate size. The flowers are large and double, with the sepals arranged round several centres. The outer or true sepals are much larger and broader than those filling up the flower, forming a guard as it were. All are flesh coloured, with a well defined rosy-salmon edge. Award of Merit.

BEGONIA DUCHESS OF WESTMINSTER LAING'S VAR.—The leaves of this Begonia are very broad, half cordate, somewhat lobed, and deep olive green. The flowers are also large but single, and bright scarlet, with a white blotch, slightly shaded with pink at the base of each of the four sepals. Award of Merit.

DRACÆNA BARTETI.—The leaves of this variety are of moderate width, oblong-elliptic, stalked, and deep bronzy-purple with red edges. Occasionally the young leaves are wholly red. Award of Merit.

CROTON REIDI.—The broad and short oblong leaves of this Croton are somewhat undulated in the centre, deep olive-green, and heavily reticulated with soft salmon-red along all the principal nerves. The oldest ones are the most highly coloured. Award of Merit.

[The above three Begonias, the Dracæna, and Croton were shown by Messrs. J. Laing & Sons.]

BEGONIA DUCHESS OF WESTMINSTER.—The use of the same popular name by two or more parties is no doubt unavoidable, and the plants are generally widely distinct. In this case the flowers of both varieties are single, but quite different in colour. The variety under notice has large, orbicular, clear salmon flowers with a darker centre. The plant is dwarf with very broad, obliquely cordate leaves and overlapping auricles. Award of Merit.

THE ARTISTIC ARRANGEMENT OF PLANTS AND FLOWERS.*

Had I not a deep love for the artistic and effective arrangement of plants and flowers, coupled with some amount of practical knowledge and experience, I should not have dared to venture here to offer any remarks on the subject. I think many of you will agree with me when I say that during the past ten years marvellous strides in the way of improvements in the artistic and effective arrangement of plants and flowers have been made. For myself, I can clearly see these changes and rejoice in the knowledge of such, and I feel that to those who helped to bring about these changes for the better our warmest thanks are due.

In studying our subject we must look straight to Nature herself and there learn an object lesson. When we take a survey of some of our lovely woodland scenery in the summer and autumn months, we do not see anything that is conventional or formal. On the contrary, everything seems to be arranged with a delightful ease; nothing seems to clash—the colours of the flowers bend beautifully, their foliage is in perfect harmony, the fine overshadowing trees above us, and the mossy ground beneath our feet, all tend to make the scene of natural wealth which Nature so lavishly provides and one which we can enjoy and feast upon. Take again the banks of some of our lovely rivers; the scenes at points are enchanting, what with the Iris, Water Lilies, and other lovely flowers, Rushes, and river grasses, backed up with wild Dog-roses, Elders, and many other lovely trees. Here we see Nature's arrangement to perfection; we get no hard pruning of the Rose, no cutting into a pyramid or round shape of the Elder, but we have them presented in their natural form with long flowing branches thickly studded with beautiful flowers. In rowing up the Thames between Caversham and Pangbourne I have often enjoyed the sight of these lovely pictures.

I am fully persuaded that those who would succeed in the artistic and effective arrangement of plants and flowers must have a love for that which is natural, and strive to follow Nature's laws and ways. If we do this then will our march be in the right direction. Some people tell me we must work on the conventional basis and not follow Nature. I for one do not agree with this. When anyone can show me that the conventional is more beautiful than the natural, I may perhaps then dream of altering my opinion.

Halls and Staircases.

First, as to plants and flowers for house decoration. The English as a nation have a love for flowers in their homes, and Goddess Flora certainly cheers and brightens our dwellings. I am an advocate for the greater use of plants for house decoration than is made of them at present. Take a large hall and wide staircase. What a charming appearance flowers and palms have here; little groups being formed in the angles of the staircases, at the ends, or in the niches of the corridors, with here and there a hanging basket of Ferns. Again in the reception, drawing, and dining rooms, plants might with advantage be more employed, always taking care that the arrangement is in harmony with the surroundings. Palms and other light feathery plants should always be used to give a light and artistic effect. The red pots in which the plants are growing, should always be hidden from view, either with moss or with Maidenhair or other Ferns. I cannot admire many of those brilliant coloured cache-pots which we see so much in use; they detract from the appearance of the plant in my opinion. There are some lovely tints to be found in art silks which have a charming effect draped round the pots.

Dinner Table Decorations.

I would like now to allude to dinner table decorations. Here is a great field for the display of artistic talent, and there is room for much improvement. As to the design of the epergnes employed, I think those good people who design them in nine cases out of ten miss their mark. They design something that is very handsome, and in many cases chaste and artistic, but when we come to put flowers in them we find that the effect is not what we could wish. Why is this? I believe it is because the designer is not a floral artist, and consequently does not know what is really required to show off flowers to perfection. Epergnes in general are not made light and artistic enough.

Presuming that we have obtained the ideal epergne, dressing must now occupy our attention. The flowers used should be small, delicate in colour, and in perfect harmony with each other, and of chaste appearance; larger flowers may be used in the base of the epergne. If Maidenhair Fern is used it should be of a pale green colour; trails of Smilex are very pretty if carefully and lightly used. The Asparagus foliage is also charming and can scarcely be dispensed with if we want to get the best effects. An epergne, well dressed, is to my mind not often seen. It should have a fairy-like appearance whatever be the flowers used, and look as though hands had never touched it; the blending of colour and the whole balance would have to be perfect to present an ideal arrangement.

Having thus dealt with the epergne, which is the most important part, I will only add that the specimen glasses should be filled to correspond. When one has epergnes on the table I never advise having any flowering plants whatever, but if there is room, that lovely Palm, Cocus Weddeliana, may be employed, it being the best table Palm we have.

Church Decorations.

This is a large subject and would occupy a whole afternoon if we went anything like fully into it. There not being two churches alike it is somewhat difficult even to give a general outline of what course should be pursued. Plants in pots are not I think sufficiently used. In many cases and oftentimes a very formal appearance is presented; but, on the other hand I cannot agree with the elaborate use of large Palms and placing them on the top of the pews, as is sometimes done when decorating for a wedding. If Palms are employed it should be to form a series of arches up the central aisle from the entrance to the communion steps, a wonderful effect being thus produced.

The style of the windows should influence and guide the artistic treatment of the interior. Trails of Ivy seem indispensable. Arums never seem so much in character as when employed in decorating a church. In some churches I have seen used small zinc flower holders containing water and supports for the flowers and ferns; these, effectively filled and hung around the choir stalls, pulpit, &c., produce a pretty effect. Ferns may be extensively used in this work; the common wild Fern, Asplenium Felix-mas seems especially adapted, although it may be a little stiff. Coloured flowers must be used with great caution, in fact scarlet is about the only one that should be employed to any extent, though harmonies in yellow are popular.

Many ladies seem to have a special love for church decorations In their hands frequently we see very pretty results, but sometimes there is a want of harmony, owing perhaps to the fact that one does this portion, and another that, and so on. Would it not be better that in these cases if a harmonious plan were first thought out, and then all help to bring it to completion.

Artistic Arrangement of Flower Shows.

I maintain that here there is room for great improvement. People have said to me, "I do not care to go to the flower show, there is so much sameness in it." I regret to acknowledge there is a great amount of truth in this; but it should not be so when we consider for one moment the inexhaustible supply of artistic material that we have to deal with. One of the first faults I have to find is that compilers of schedules will persist in copying each other. Why not each try to introduce some amount of originality, to strike out a fresh line, and to get out of the old rut? "But suppose we do," some one says, "others will follow, and then we shall soon get into the same state of sameness." All I have to say is this—keep striking out fresh lines, and the more that is done the more openings will be before us.

Having thus referred to the schedule compilers, let us now take a look at the show itself. What is the usual feeling experienced? I well know what it is with me; it is this—what dreadful formality runs through the whole. At times we have so many hundreds of flowers—of Dahlias, it may be—set up in prim green painted boxes, with not a vestage of foliage visible, and these staged upon lengths of straight tables. At other times we have fine Asters and Zinnias, staged up in like manner. Then again at some shows we have the lovely Carnations, many of which flowers have been mutilated and dressed and are now set up in paper collars, staged in the orthodox green box, and placed also on straight tables. What a pity it is that these lovely flowers should be so presented to the public. What is there that is artistic to be seen here?

Take the queen of autumn flowers, the noble Chrysanthemum—how are these flowers usually presented to us? They are placed in boxes, and these boxes have to be made to a required size—so many inches long, wide, and high—and if your flowers happen to be large and extra fine you must crush them into the box. Looking last season at a magnificent lot of flowers thus ruthlessly set up, I could not help exclaiming, "What a failure." The public look to horticulturists to lead them in the matter of artistic and effective arrangement of plants and flowers; but what, I ask, is the object lesson often given by this body in this respect? It certainly is not what it should be. I do not say one word about the flowers themselves, because they at most times represent the highest state of cultivation; it is the inartistic manner in which they are presented to the public that I complain of.

Specimen flowers of Chrysanthemums lend themselves admirably to artistic treatment. In staging, for instance, say one has 36 Japanese blooms to set up, and 4 ft. or 5 ft. run of table space is allowed for the purpose, I would dispense with the green box at once; have the flowers cut with long stalks, varying from 9 in. to 2 ft. in length; each flower should be placed in a receptacle, which would hold water and be heavy enough at the base to prevent overturning; the flower should also have some sort of support to maintain it in an erect position.

Having your flowers thus prepared a number of suitable foliage plants should be utilised, say light feathery Palms, about 3 ft. high, to serve as a background. The flowers are then artistically grouped together with small foliage plants—Maidenhair Ferns, Asparagus, etc., and edged with Isolepis and Panicum, so that the whole of the table space shall be hidden by this groundwork of plants and Ferns; the flowers rising from this would present a marked contrast to the formal box style, and I venture to predict the public would appreciate the change. Of course, this will mean a little more work, but I do not think the man who has looked after his plants for well nigh twelve months would grudge that.

Time will not permit me to go into detail of an artistic setting up of each of the classes of flowers, which are usually found staged in the green boxes, but the instance I have given of the Chrysanthemum will give you some idea of a more artistic treatment.

Stove and Greenhouse Plants.

While on this subject of flower shows, perhaps I may be allowed incidentally to say a word or two in respect to stove and greenhouse plants in flower. These are usually presented on balloons of faultless shape and each shoot tied into a mathematically accurate position, forming in my opinion one huge contortion, as useless as it is ugly. Could not these be trained in a more pyramid form, and let the shoots have a natural sway, not be tied closely in. I remember seeing one such plant at a show; a Bouganvillea, I think it was. It formed a picture and favourable comment was freely bestowed upon it. That some plants lend themselves better to this treatment than others I am fully aware of, but the change to the more natural would be a step in the right direction.

Decorative Groups.

The arrangement of groups of plants at exhibitions has, in the last few years, wonderfully improved; a more natural idea has been brought about; ugly banks of plants are disappearing and the light and artistic style of treatment is taking its place. One only has to visit our metropolitan or large provincial shows to gain object lessons, from which one can gather more practical knowledge in five minutes than one could learn from any amount of papers and books. The arrangement of flowers in baskets, bouquets, vases, etc., at country flower shows nearly always exhibit almost an entire lack of knowledge of even the rudiments of taste. At some shows at which I have judged I have found a great difficulty in awarding the prizes, and after deciding which is the least ugly—for ugly they all are—the first prize has to be bestowed on a most unworthy object.

Now, how does this act? Why simply in this way. The people seem to look upon this first prize ugly thing—be it bouquet, basket, or vase—as an ideal, and next year when the show comes round again all strive

* A lecture delivered by Mr. George Phippen, Reading, on the occasion of the Great Summer Flower Show at the International Horticultural Exhibition, Earl's Court, May 27th, 1892.

to copy it. Much good might be done if one could undertake some amount of teaching in this respect by providing a bouquet, vase, or basket properly and well done to serve as an ideal at which the competitors might aim. This would, I believe, create a taste for the artistic where little now exists. In making the foregoing remarks I am speaking of the generality of shows, but there are places where the arrangements are excellent.

Flowers must be well arranged, and colours blended to be well appreciated. In many cases it is not the size of the individual flowers which charm us most, but those that are set up artistically with care and grace that claim our attention and praise. With regard to bouquets, wreaths, and designs composed of flowers we as a nation are well to the fore in making these. Generally speaking we have an artistic notion of the arrangement and follow more the natural style, whilst the Americans work on rather a more formal method, and this I feel is creeping on us, but I hope will never captivate us; for what beauty there can be in a piano or chair or such like things made of real flowers I cannot imagine. Bouquets or posies of flowers should be made lightly, so that each flower may be easily seen; there should be no crowding whatever, and foliage should be used to enhance the effect of the flowers, so making what may be termed a lovely bunch of flowers and having a natural appearance.

Grouping and Massing.

Many plants gain greatly by being planted in masses. What can be a fairer sight than a bold group of Rhododendrons in full flower backed up by foliage trees, or a fine bed of Azaleas on a large lawn? This system of massing is often much abused. At times we see masses of one colour, then of another, and another, the result of which is a poor effect; when, had more foliage been used and the masses of colour placed further apart, a much finer effect would have been obtained. When we refer to Nature we cannot but notice how unobtrusively she presents to us her masses of bloom; what a wonderful effect a piece of rustic scenery with a mass of Blue Bells, Lily of the Valley, single Narcissus, and Buttercups has. Although it is a mass of bloom it is not crowded and crushed together, or one mass spoiling the effect of another. There should not be a formal appearance to the massed plants, be they what they may. This is a danger which cannot be guarded against too carefully. Where one has plenty of room, say having large grounds round a mansion, I love to see large clumps here and there of Lilies, Roses, Phloxes, Hollyhocks, Foxgloves, Campanulas, Iris, Dahlias, Sunflowers, etc., each family of plants steering well clear of its neighbours so as to prevent any clashing.

Having before asserted that some flowers gain by bold treatment—take, for instance, the Rose—what a glorious sight is presented by a bank of these flowers, similar to those set up at some of our great flower shows. We must allow the effect is greatly enhanced by the liberal use of Maidenhair Ferns as a groundwork and fringe to the group. Cut flowers and flowering plants must have Ferns or foliage to show them off to anything like advantage. What a bare and hard appearance a box of flowers set up for exhibition has without foliage. Take again an exhibition group of Chrysanthemum plants which we frequently see at some of the large autumn shows. It is a mass of flower set up at a perfect angle, and a faultless semicircle in shape; what an effect would be here gained if the exhibitor had a little more space allowed him, and Palms and foliage at the back and Ferns, etc., in front. This would alter the effect of the hard and formal group, and it might then claim to be considered artistic.

Conservatory Decoration.

Just for one moment I should like to allude to conservatory decoration, and plead for a less formal arrangement of the interior. In some instances we have beautiful examples of artistic and effective arrangement of plants and flowers, and of interiors fitted up in an artistic manner, but more often we have presented the formal stage, straight path, etc. What we want is a miniature landscape garden, as it were, under cover, and to let our plants grow in a more natural form than all in a row of pots. Many of our lovely greenhouse climbers are not used nearly as much as they should be. The walls are not utilised to the extent they might be either. I have seen some covered with Gloxinias, Begonias, Ferns, etc., presenting a glorious appearance. The peat and loam in which these grow is fixed to the wall by wire netting; the Ferns and Lycopodiums soon cover this, and the result is most effective.

I plead all round for a less formal and more natural and artistic treatment of the things which I have alluded to. I believe there is still much before us in the way of improvement in this phase of horticulture, and it is gratifying to find that men of the present day are striving in that direction.

ORCHID NOTES AND GLEANINGS.

Cypripedium hybridum Vipani.

Of the numerous hybrid Cypripediums that have appeared lately few are more distinct than that under notice. It is the progeny of C. philippinense (C. lævigatum) crossed with C. niveum. The leaves are short, oblong, faintly tessellated with light green on a darker shade. The plant shown had a two-flowered scape. The upper sepal is roundly ovate and white, traversed longitudinally with about eleven purple veins. The petals are oblong, of moderate width, slightly declining, and white with five pale purple veins. The lip is slightly laterally compressed, resembling that of C. niveum or C. concolor and wholly white. The staminode on the contrary is green with a white edge. Altogether it will be considered a choice subject in a collection. First-class Certificate.

Cypripedium Chamberlainianum excellens.

The typical form of the species has the upper sepal green with a brown base, but the variety under notice has that organ of a clear and decided yellow with a large, bifid brownish-purple blotch at the base, and four short, broad lines radiating from each of the two divisions of the blotch. The lip is densely spotted with rosy-purple, and yellow round the mouth. The broad, ligulate and keeled leathery leaves are like those of the type. Award of Merit.

Odontoglossum crispum Sanderæ.

The sepals of this handsome variety are elliptic and heavily blotched with purple, the blotches being so arge, numerous and amalgamated into one irregular piece that they nearly cover the whole surface—the ground colour being rosy-pink. The petals are ovate, overlapping, deeply toothed at the edge, and brownish-purple with an irregular pink or lilac margin. The lip is oblong, emarginate, shortly fringed, blotched with brownish-purple, and having a golden-yellow crest and disc. First-class Certificate.

Miltonia Bleui splendidissimum.

As may be remembered, this is one of the seedlings arising from the hybridisation of Miltonia vexillaria with M. Roezli. The sepals are lanceolate-elliptic and white, with a few pale purple lines at the base. The petals are obovate and white, suffused with lake on the lower thirds of their length. The lip is very large and white, with a conspicuous, brownish-orange blotch at the base and three reddish-purple lines radiating from the centre of it, ultimately fading to pale purple except the three middle lines. First-class Certificate.

Oncidium Rolfeanum.

This new Oncid was introduced from Columbia, and belongs to the Microchila section, although it differs considerably in the lip from most or all of hat type in cultivation. The pseudo-bulbs are ovoid, moderate in size, and slightly compressed. The leaves are narrowly ligulate and produced four to six from a pseudo-bulb. The scape of the plant as shown attains a length of 20 in., but may greatly exceed that when fully established, and is branched. The upper sepal is triangular, undulated at the edge, which is yellow, the rest being brown; the lateral sepals are elliptic, dentate at the margin and pale brown. The elliptic petals are revolute at the tip, undulated, and crisped, and transversely blotched with brown on a yellow ground. The small, three-lobed lip has the middle lobe ovate, revolute, and yellow, with a submarginal band of brown; the lateral lobes are yellow and brown at the tips. The crest consists of three central, yellow teeth, and four flattened yellow teeth in front. Botanical Certificate.

Phaius Sanderianus.

The sepals of this Phaius are lanceolate, the petals similar but smaller, and all are pale orange-brown. The lip has the tube yellow at the base, and purple upwards, while the lamina is quadrate, retuse, and white, with a central, yellow band; the throat is purple with yellow lines. First-class Certificate.

Cattleya Mendelii Cookson's Var.

The sepals of this Cattleya are delicate pink shaded with white. The ovate-elliptic petals are spreading, revolute, finely crisped at the edge and some shades darker in colour. The lip is a large and showy organ, with the tube and side lobes white; the lamina on the contrary is of a deep rich purple, much undulated and crisped at the edge; the blotch in the throat is pale yellow and the interior of the tube purple, striated with white lines. Award of Merit.

Epidendrum Godseffianum.

The pseudo-bulbs of this species are short, ovoid and covered with pale sheaths, bearing on the top two lanceolate, rigid leaves, about 12 in. to 16 in. long The branching scape is about 2 ft. to 3½ ft. long. The sepals are broadly oblong, the petals more nearly orbicular, all incurved at the tips and brownish-orange marked with pale lines. The three lobed lip has oblate pale pink, lateral lobes, and the terminal one is reflexed at the sides, white and beautifully lined with rosy purple, the lateral veins being branched. It is pretty and effective for an Epidendrum, with flowers of good average size. Botanical Certificate. All of the above nine Orchids were exhibited at the Temple Show on the 25th and 26th ult., by Messrs. F. Sander & Co., St. Albans, Cypripedium hybridum Vipani being from the collection of Captain Vipan.

Odontoglossum Wilkeanum nobilius.

The sepals of this beautiful variety are oblong and heavily blotched with cinnamon-brown on a pale yellow ground. The petals are rhomboid with a broad claw, of a soft sulphur or creamy yellow, with a large irregular blotch above the middle, and a few smaller ones lower down. The oblong lip is fimbriated, palest sulphur, and having a large cinnamon blotch in front of the crest and a few at the sides. The column has a deep purple-brown blotch on the back. A plant with eleven flowers on an arching raceme, was shown by Messrs. Charlesworth, Shuttleworth & Co., Heaton, Bradford, and Park Road, Clapham, at the Temple Show on the 25th and 26th ult., when an Award of Merit was accorded it.

Cymbidium Lowianum viride.

The sepals of this variety are lanceolate, rather fleshy and of a pale, soft green, while the petals are narrower but otherwise similar. The lip is of a uniform pale yellow except the lamina, which is a shade darker and tinted with green. Award of Merit.

Cypripedium southgatense.

In this we have a hybrid of which C. Godefroyæ or C. bellatulum has had something to do with the parentage. The leaves are ligulate, deep green above and slightly tessellated with a paler hue. The one-flowered scape is only about 4 in. high. The upper sepal is oblate acute, suffused and blotched with deep purple on a pale yellow ground, and pale at the margin. The petals are oblong and heavily blotched with purple, especially on the lower half. The lip is compressed on the sides, brownish purple and spotted with purple on the infolded sides of the claw. First-class Certificate. This and the Cymbidium were exhibited by Messrs. Lewis & Co., Southgate, at the Temple Show on the 25th and 26th ult.

Lælia purpurata Handleyana.

The sepals of this variety are of the faintest pink; the petals on the contrary are toothed and crisped at the edge, and light purple with a darker middle line. The lip has an intensely maroon-purple lamina, with exception of a pale purple blotch at the apex, and which is very characteristic of nearly all the forms of the species; the side lobes are much crisped and undulated. Award of Merit. A plant exhibited at the Temple Show on the 25th and 26th ult., by Mr. Jas. Cypher, Cheltenham, had a raceme of five flowers.

Zygopetalum Graminifolium.

The leaves of this species are linear, and deep green, with a grassy appearance, as the specific name would indicate. The scape is about 18 in. high and bears a raceme of flowers. The sepals are oblong and brownish purple with transverse greenish lines. The oblanceolate petals are similar in hue. The obovate, emarginate lip is reflexed at the sides and mauve purple with a violet-purple, toothed crest at the base. Botanical Certificate. Exhibited by C. J. Lucas, Esq.

Dendrobium nobile.

Three huge plants of this species were exhibited at the Temple Show on the 25th and 26th ult., and were the admiration of all visitors especially those who have any knowledge of Orchids. They had been grown by Mr. H. C. Princep, gardener to Viscountess Portman, Hogg House, Buxtead Park, Uckfield. They were not large imported pieces, but had been grown on from small size to their present dimensions, and that too on the pruning system. All the stems were of last year's growth, although

not exactly of the same age, for we noted that many of them were quite leafless, while others had a few leaves and the rest were in full foliage. All were, however, flowered pretty much alike, and the hundreds or thousands of flowers were very effective. It is a pity that the variety was not D. n. nobilius or some other of that quality.

Odontoglossum Louryanum.

THE general contour of this Odontoglot is similar to that of O. triumphans, but the segments are somewhat differently shaped, especially the lip, and the colours are different. The ovoid, compressed pseudobulbs bear from four to six lanceolate, deep green leaves. The scape bears a raceme of about five flowers or more. The oblong-elliptic sepals are pale brown with yellow tips, some yellow markings towards the ase, and a submarginal band of deeper brown. The ovate-oblong petals are slightly toothed at the edge, and brown with yellow tips, and marked with white and purple on the lower half. The lip is ovate with acordate base, finely fringed, pale brown and white at the base. The column is white and the wings tinted with pale brown. First-class Certificate. Exhibited by Messrs. F. Sander & Co.

Lælia purpurata Warnham Court Var.

THE sepals are rosy pink, and the petals rosy purple. The lip is very large, with a nearly flat lamina of a rich purple shaded with crimson and slightly paler towards the open. Award of Merit. Exhibited at the Temple Show on the 25th and 26th ult., by C. J. Lucas, Esq. (gardener, Mr. George Duncan), Warnham Court, Horsham.

Reversion of Cypripedium caudatum.

IT is now generally recognised that Uropedium Lindeni is nothing more than a reversion of Cypripedium caudatum to an ancestral condition in which the lip becomes like the petals; the three segments indeed constitute the inner whorl of three. A specimen was sent us the other day from Messrs. J. Veitch & Sons, Chelsea, showing a reversion to a primitive condition not only in the lip but also in the column. The lip was unequally developed on the two sides. The left side showed evidence of an attempt to simulate a petal, inasmuch as it was strongly undulated, and only prevented from twisting in a spiral manner by being adnate along one side to the rest of the segment which bore more resemblance to the lip. The whole organ was about 2 in. long, and the undulated side was like a petal in colour, and a cushion of hairs was developed at the base as in the petals. The other side represented the claw of the lip greatly elongated, the inflexed side lobe being nearly at the apex. The stigmatic disc was separated into three of unequal size, and the column was divided in a similar way for half its length. One anther was unusually well developed while the other was somewhat imperfect.

Cattleya Citrina.

THIS lovely Cattleya has gained very much in popularity during the past few years, and it is now no unusual thing to see grand examples of cultural skill. The Rev. F. D. Horner, Lowfields, Burton-in-Lonsdale, has devoted a considerable amount of attention to the culture of this superb Cattleya, and he has been rewarded with the most extraordinary results. At the time of my visit there were literally dozens of splendid blooms, whose aroma filled the entire house, quite out of all proportion to the number of plants grown. If Mr. Horner would detail his mode of culture, I am certain that it would be much appreciated by many readers of THE GARDENING WORLD. Another plant grown and flowered very successfully at Lowfields, is Macillaria Sanderiana, several plants of which in small pots were carrying from ten to a dozen gorgeous blooms. —*J. McNab.*

The Orchid Grower's Calendar.

WITH such splendid weather as we are now experiencing, and with every prospect of its continuance, growers will find some difficulty in keeping the temperature in the various divisions low enough in the day time unless the houses are heavily shaded, a state of things I do not advocate except in rare instances. We endeavour to keep it low by frequent syringing amongst the pots and by pouring water over the floors. By this means we manage to keep the inside temperature of the cool houses lower than the outside without shading too heavily. If there is no stint of help a good plan in the hottest part of the day is to thoroughly wet the blinds; but there are not many of us who can spare the time for this.

APHIS at this time is very troublesome, and should be diligently sought after or the young growths of Odontoglossums, etc., will suffer. We use a sponge where practicable, but for those found located in the heart a camel hair brush will be necessary or the young leaves are liable to get damaged. They are very fond of the young growths of Lælia anceps, on which they increase rapidly unless kept under.

DISAS are fast pushing up their spikes, and will be much benefited by being watered with liquid manure at intervals of a week. It need not necessarily be guano water, as I find these do not object to drainings from the cow shed if well diluted. If not procurable, soot water will give colour to the foliage and strength to the spikes. If not already done they may be placed in a cool pit or frame facing north. The bottom should be of coal ashes, as these retain the moisture longer than anything else. We water the plants twice a day, using a fine rose can, at the same time sprinkling the brickwork, ashes, and the mats or whatever shading is used. Unless a suitable brick pit is at hand I should prefer keeping them in the cool house nearest the door. Thrips are very fond of these, and should be kept under by frequently dipping them in tobacco water; but as the spikes are now well advanced this cannot be done so well. A better plan, should there be any signs of them, is to drop a little in the heart of the growth by the aid of a sponge.

SOPHRONITIS.—These are now rooting freely, and should be repotted at once, using peat and sphagnum moss with a dash of sharp silver sand. Most of ours are grown in small pans or baskets, and suspended near the glass in the cool house, a position which suits them well during the summer months, but during winter a little warmer quarters suits them best. Amateurs who cannot give it the extra heat during winter will be glad to learn that we have grown it well when kept all the year round with the Odontoglossums.

CYPRIPEDIUMS.—We have no set time for potting these, but generally do so as they go out of flower. Generally speaking the barbatum section and hybrids from it do best when potted in almost all moss; whilst villosum, insigne, and Boxallii, etc., do not object to a little loam. They are moisture-loving plants, consequently water must be given with no sparing hand. —*C.*

Dendrobium Devoniense album.

WE have been favoured with some flowers of this beautiful variety from Mr. Jas. Brown, gardener to R. B. White, Esq., Arddarroch. The sepals and petals are creamy white; and the deeply fringed lip is of that shade also with exception of a large orange blotch on each side of the throat, a purple blotch and some purple lines at the very base in the convolute portion of the same. Mr. Brown states that he only received a small portion, but that the young stems every year exceed those of the previous year in length. Thus the stems now in flower are 2 ft. long, while those which produced them in the previous season were only 10 in. He grows it in a basket suspended from the roof of the stove, so that the stems hang down in a natural manner, and he considers that both this and the type do better when treated in this manner than when grown in pots. The variety is very pleasing, and certainly an acquisition.

PLANTS FOR A TUB.

THE water Hyacinth, Pontederia crassipes, is an odd plant and a good one to grow in a tub. Its thick shiny leaves are on inflated bulb-like petioles, producing lovely spikes of light purple flowers. The rootlets, which are also purple, are very fine and feathery, and quite as charming as the flowers. The inflated petioles enable the plant to float, but more flowers are obtained by setting the plant in rich loam. When so treated its petioles elongate and lose their expanded form, as if the plant knew it had no further use for these boat-like structures.

Novel and charming as these plants are, their sister, our native pickerel-weed, Pontederia cordata, seems still more beautiful. The large numbers of bright blue flowers, standing above its lovely green heart-shaped leaves, form one of the prettiest borders of our lakes and slow-running streams. It loses none of its beauty by standing in the water in company with the delicate white spider-lily, Pancratium rotatum, in the rivers of Florida.—*American Gardening.*

QUESTIONS AND ANSWERS.

**** Correspondents are requested, in order to avoid delay, to address all communications to "THE EDITOR" or "THE PUBLISHER," and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa, London."*

ADDRESS WANTED.—Can any of our readers oblige us with the present address of Mr. G. R. King, formerly of Torquay.

FERNS FOR AN OLD WELL.—*C. M.*: The stronger forms of the Hart's-tongue Fern, Scolopendium vulgare, would do well in the bottom of your old well 5 ft. deep; and smaller forms may be planted with advantage round the sides. Nephrodium Felix-Mas and Lastrea spinulosa dilatata would also do well at the bottom or on the sides. The British Maidenhair, Adiantum Capillus-veneris would also do well near the top. With a little care in planting an old well like yours may be made a very interesting feature in a garden.

GERANIUMS AND PELARGONIUMS.—*Omega*: The spotted French varieties grown in greenhouses and all the bedding varieties are true Pelargoniums, and should not therefore be called Geraniums. The spotted and show varieties generally come from Pelargonium cucullatum, and the bedding or zonal varieties from P. zonale and P. inquinans, all Cape species. Pelargoniums are distinguished from Geraniums in having irregular flowers, the latter being regular, and in having a nectariferous tube running down the pedicel from the calyx, which is absent in the Geranium. They were all called Geraniums originally by Linnæus in error, hence the most frequent use of the name. By the term "irregular" is meant that the petals are of unequal size, two being smaller than the others, while "regular" means that all the petals are of the same size.

GLAZING WITHOUT TOP PUTTY.—*Omega*: We do not know that any special term is applied to this modern method of glazing.

TWO COLOURS OF FLOWERS ON LABURNUM.—*A. D.*: The Laburnum you sent us was L. Adami, which is now generally considered to be a graft hybrid, originally obtained by grafting Cytisus purpureus on Laburnum vulgare. At all events the two natures of those plants have been mingled and they often get separated. The shoot you sent us bore flowers of Laburnum vulgare and Laburnum Adami. We have sometimes seen the other parent (Citisus purpureus) appear on the tree, but this is by no means so common as the yellow flowers of L. vulgare. You may then consider it as a case of the unmingling of the blood (so to speak) of two parents in the progeny.

NOURISHING VINES.—*Omega*: You can do this by keeping the pans or tanks over the hotwater pipes well filled with liquid manure from the stables, or you may make the liquid by steeping some cow dung in a tank amongst water. You could use a little guano in the evaporating pans occasionally. If you have no evaporating pans you may distribute the liquid manure over the border and pathways by means of a coarse rosed watering pot. The ammonia arising from the liquid manure and the guano would be absorbed by the damp soil of the border, and is therefore carried into the vines by means of the roots, not by the foliage as is generally supposed.

NAMES OF PLANTS.—*A. D.*: Passiflora quadrangularis.—*R. Thompson*: The Dendrobium is D. Parishii (see p. 616); the other is Masdevallia Bonplava.—*Jas. Thomson*: Oncidium curtum. —*J. Y. N.*: 1, Lomaria gibba; 2, Fraxinus sp; 3, Cyathea dealbata; 4, Davallia elegans: 5, Adiantum Veitchianum; 6, Adiantum hispidulum; 7, Lomaria sp. — *Omega*: Saxifraga crassifolia, the thick-leaved Megasea or Saxifrage.—*E. M. J.*: Populus alba canescens.—*A. C.*: A semi-double florists' Tulip which we cannot undertake to name. —*J. Gold*: Asperula odorata; 2, Daphne Laureola; 3, Prunus Padus; 4, Ulmus campestris.—*Omega ii.*: Smith's Medlar (Mespilus grandiflora, also sometimes named M. Smithii) —*G. E. G.*: 1, Laburnum ulpinum; 2, Cornus mas variegata; 3, Berberis vulgaris; 4, Pyrus Aria cretica, sometimes called P. A. rotundifolia; 5, Asplenium bulbiferum minus; 6, Too much shrivelled up to be identified and without fruit.—*Perthshire*: It is a very fine variety of D. nobile, but we are unable to identify it with any of the named sorts; the colour was too far gone, but the breadth of the petals and the roundness of the lip show that it is worth looking after.

ODONTOGLOSSUM FLOWER.—*W. Boyd*: The flower you send is a very good form of O. crispum Andersonianum, but there is nothing distinctive about it to render another varietal name necessary. O. crispum Andersonianum is usually more or less blotched with chestnut brown on a pale yellow or creamy white ground. Your variety takes its place amongst the latter, and the reddish brown blotches are well shown off on the white ground.

HOUNDSTONGUE, &c.—*Flos*: Houndstongue, Wood Garlic and Belladonna are pretty frequently grown in gardens as ornamental plants in the herbaceous border. The Dead Nettle is not grown there except it comes up as a weed. Houndstongue is a Borage-wort with purplish blue flowers, and grows generally

about 2 ft. high. The leaves are covered with silky grey hairs. Wood Garlic would translate as *ail de bois*, but the French have probably another name for it. The leaves are broad and flat while the flowers are white and produced in umbels, and all parts of the plant smell strongly. The Dead Nettle has yellow, white, or purple flowers according to the species, the upper lip being hooded and the lower one three lobed. The whole plant is covered with coarse bristly hairs which are very troublesome when they penetrate the hands. The Belladonna has oval leaves of some size, purple flowers and black berries which are very poisonous. The French name is Belladonne. We do not know the French names for the others.

COMMUNICATIONS RECEIVED.—G. P.—J. S —J. C. —D. F & Co.—D. A.—C. L.—J. L. & Co.—J. W. —G. H. S.—

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Beans, French, per lb.	2 0	2 6	Musbrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers, Eng. doz.	3 0	6 0	Small salading, punnet	0 4	
Celery.....per bundle	2 6		Spinach, per strike ...	1 6	
Cucumbers .....each	0 6	1 0	Tomatos..... per lb.	1 6	2 0
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—Mollis.....per doz.	18 0	36 0	Heliotrope, per doz.	4 0	8 0
Cyperus .....per doz.	4 0	12 0	Ivy Geraniums, per doz. doz. pots	12 0	18 0
Cineraria ...per doz.	4 0	8 0	Lilium Harrisii, doz.	15 0	30 0
Deutzia.. per doz ...	6 0	9 0	Lobelia, ...per doz.	4 0	6 0
Dracæna term., doz.	24 0	36 0	Marguerites, per doz.	6 0	12 0
Dracæna viridis, doz.	9 0	18 0	Mignonette, per doz.	5 0	10 0
Echeveria Pyramidalis.....	9 0	18 0	Musk, ...per doz.	3 0	6 0
Erica various per doz.	9 0	24 0	Palms in variety, each	2 6	10 6
Evergreens, in var. doz	6 0	24 0	Palms, Specimen ...	15 0	63 0
Ferns, in var. per doz.	4 0	18 0	Pelargoniums, per doz.	9 0	18 0
Ferns, small, per 100	8 0	12 0	—scarlet .....per doz.	4 0	6 0
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Bouvardias, per bun.	0 6	1 0	Pelargoniums, 12 sps.	0 9	1 0
Bluebells, doz. bchs.	0 9	1 6	—scarlet.....12 bchs.	4 0	6 0
Carnations, 12 blooms	1 0	3 0	Primroses, doz. bchs.	0 6	1 0
Cowslips, doz. bchs.	1 0	1 6	Primula, double, bun.	0 9	1 0
—Single, doz. bchs.	1 6	6 0	Pansies, doz. bchs ...	1 0	2 0
Eucharis ...per doz.	2 6	4 0	Polyanthus, doz. bchs.	2 0	4 0
Gardenias 12 blooms	1 6	4 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Heliotropes, 12 sprays	0 6	1 0	Roses, yellow, dozen	2 0	6 0
Jonquils, doz. bnches	1 0	2 0	— Red..... doz. blms.	2 0	4 0
Lilac, French, per bunch	4 0	5 0	— Saffrano...per doz.	1 6	2 6
Lilium Harrisii, doz. blooms	2 6	4 0	— Tea ..... per dozen	1 0	3 0
Liliums var., dz blms.	1 6	3 0	Spiræas...doz. bnchs	4 0	6 0
Lily of the Valley, doz. bunches	3 0	9 0	Tuberoses, per doz	0 6	1 6
Maidenhair Fern, 12 bs	4 0	8 0	Tulip, doz. bchs	2 0	6 0
Marguerites, 12 bun.	2 0	4 0	Violets Dark, French, doz. bunches	1 0	1 6
Mignonette.. 12 bun.	3 0	6 0	—English, doz. bchs.	1 0	1 6
Myosotis or Forget-me-not, doz. bnchs.	2 0	4 0	Wallflowers, doz. bunches	3 0	4 0
Moss Roses, (French) doz. blooms	2 0	4 0			

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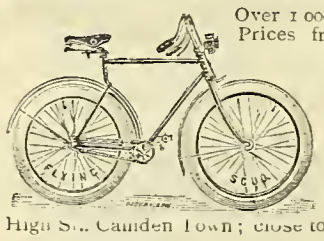

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The Gardening World.

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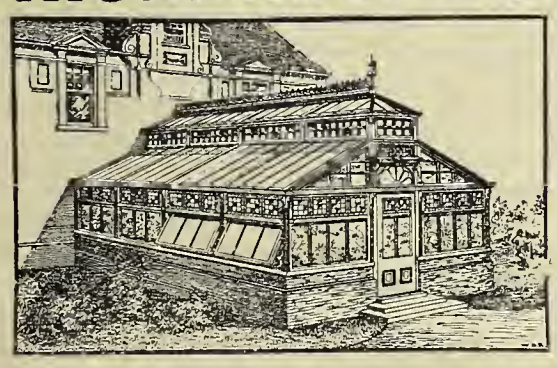

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, June 14.—Sale of Imported Orchids at Protheroe & Morris' Rooms.

WEDNESDAY, June 15.—Grand Yorkshire Gala (3 days). Sale of Palm Seeds at Protheroe & Morris' Rooms.

FRIDAY, June 17.—Sale of Orchids at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, JUNE 11th, 1892.

THE NEW LEAFAGE.—It is difficult to describe in fitting terms the wondrous wealth of richness of leafage and beauty of colouring found just now in the trees and shrubs of our island. What might have been the aspect of Nature in those old days ere our forefathers had imported from nearly all parts of the world the beautiful trees and shrubs which we now possess in such rich abundance, it would be difficult to say, but at least there must have been beauty in the early summer then. But to our glorious new leafage we have added such loveliness as well as profuseness of bloom.

Apart from the Rhododendrons and Azaleas just now in their most gorgeous floral dress, we have of older tree and shrub life, Scarlet May, Lilacs, Laburnums, Almonds, double-blossomed Cherries, Catalpas, Ribes—indeed the variety of floral beauty imparted to our land through the introduction of trees from other climes is wonderful. During the past few weeks our earliest impressions of the vegetable kingdom have rather been of fairyland than of any mere mundane sphere. All this wealth of colouring is now passing away and giving place to the cooler and most welcome tints of green which foliage presents in so great abundance.

Dull indeed must be the sense of the onlooker who is incapable of finding the most refined pleasure in noting not merely the varied formations of foliage, the diversities of shape and outline on trees and shrubs, but also in observing the delicate tints, almost only of green, yet so numerous as almost to make us marvel that one colour can give so many shades that are at once so beautiful and so harmonious. If now and then some umbrageous Purple Beech or heavy-shaded Cornus obtrude upon the vision they never seem to be out of character with the surroundings, whilst they look as if burlesques on Nature rather than robust vegetation. We shall lack nothing of vegetable beauty throughout June.

SUMMER PRUNING.—The excellent paper on this subject contributed by Mr. A. Young at the meeting on Tuesday of the Royal Horticultural Society, will, it is hoped, serve to draw attention to garden work which is in its highest sense technical and yet experimental. It is of course accepted practice that certain classes of trees or bushes or other forms of vegetation should be subjected to summer pruning. But then this form of pruning differs so materially from winter pruning in this, that one takes place whilst the tree or other object operated upon is at rest, whilst in the other case the object is in active life, and the pruning is intended to operate on the object in some direction almost immediately.

Practically we prune in the summer first, although not the most important, to give to the remaining wood light and air, so that it may ripen or mature. But the specific object of summer pruning is, in checking growth development in one and a comparatively useless direction to, as it were, compel the creation of buds capable eventually of producing fruit in another direction. Practically we place the sap power of a tree or bush under restraint and compel it to form naturally, yet almost artificially, formations that would not be performed were the sap left to its own natural will. We refer to summer pruning chiefly in relation to hard-wooded fruit trees, but we are constantly summer pruning Vines, Cucumbers, Melons, Tomatos, and many other things which would only be satisfactorily fruitful when so pruned.

That in relation to hard-wooded trees we might carry on summer pruning much farther than we do there can be no doubt. It is a practice, even by high-class professional gardeners, often more preached about than practised, hence the winter pruning often becomes a serious matter simply because the summer pruning has not been properly performed. Trees are required to produce fruit rather than barren wood, and all good pruning is presumably directed to secure that end.

TOMATOS.—We have been gratified to read in one of our daily contemporaries an authoritative statement with respect to the assumed outbreak of disease amongst the Tomato plants in the Canary Islands, which should materially serve to allay apprehension amongst growers of this valuable esculent at home. It would appear that, although the Canary Islands are situate on the African coast, yet they do not always escape frosts, and the Islands having had to suffer from what is in that mild climate comparatively severe frosts, the Tomato plants were so much injured that after-effects have led to the conclusion that they had been attacked by disease—hence the alarm.

Now it may be to growers of Tomatos at home of little moment whether the Canary Islands Tomato plants suffer from frost or other ills. Very much depends upon the breadth of thought shown here. But there can be no doubt whatever but that our home growers feel great concern with regard to the report to which we have referred, because were Tomatos even so remote as the Canary Islands being devastated by disease there would be no certainty that our home crops would long escape. It is true that we have at times had to suffer from moderate disease attacks, but these have been rather local than general, and have not appreciably affected the supply of Tomatos in the market.

Did our plants suffer as severely as Potato plants often suffer the result would be almost absolute ruin to the crop, because fruits and foliage always suffer together. In our case freedom from disease amongst Tomatos is even of greater importance than is the case in warm climates, because we are dependent for our chief home grown crop upon plants grown under glass, thus rendering their production very costly. That even glass houses are not always preventitives of the disease we know full well, but then it is comparatively under control in such case. Undoubtedly it would be a serious misfortune both to growers and consumers did our Tomato crops suffer from disease, and we earnestly hope that from such misfortune we may be spared.

GOOSEBERRIES.—Is it not an old tradition that we have Gooseberry pies, puddings, or fools at Whitsuntide. When that moveable festival falls early it goes hard with the pies, etc. When, as this year, it falls late it finds the green acid fruits, if not so very abundant, at least fairly fine, and of the exact needful quality. Hence there have been plenty of Gooseberry puddings and similar toothsome diet this season already. In many cases the Gooseberry bushes suffer much from frosts during the spring, when, just as the bushes are bursting into leaf, two or three severe white frosts come and not only check growth but almost kill it. Then the bushes meet with a reverse from which it is hard to recover.

Then, even if they escape such a disaster, the birds literally often play old gooseberry with the buds, and the bushes later wear a barren forlorn aspect, and if this evil be surmounted, then the late frosts often do serious injury to the young fruits when in the flowering stage. What wonder then that the culture of even such hardy fruits as are Gooseberries is found attended with some disappointment; and yet, on the other hand, it is a fact that hardly any other variety of hardy fruit is so largely grown or found on the whole to be so profitable. That is good, because we could ill dispense with our Gooseberry pies and puddings, and it is pleasant to find that after all the culture of the fruit brings grist to the mill.

We have many uses for Gooseberries in the green state, even perhaps more than when ripe. They make us pies, they make capital jam, they are readily preserved whole in bottles for use during the winter. Then when ripe they form a delicious dessert fruit. That we can thus gather them green enables growers to relieve their bushes of heavy crops and also to give them a long market season. We can grow Gooseberries as well-kept and pruned bushes, as dense thick unkempt bushes, as cordons or trellis trees, and we have fully 100 sorts we may select from to suit all tastes and fancies—what wonder then that the Gooseberry is such a popular fruit.

The International Horticultural Exhibition, and Wild West entertainment, drew no less than 43,646 persons to Earl's Court on Monday.

The Flower Sermon.—The Church of St. Katherine Cree, in the City, was well filled on Tuesday evening, on the occasion of the fortieth flower sermon by the Rector, the Rev. Dr. Whittemore. This annual sermon on a floral subject is the outcome of a suggestion made to him thirty-nine years ago by some young friends, and many flower sermons are now preached, not only in churches and chapels throughout England, but also in Australia, Africa, and other parts of the world. To Dr. Whittemore the anniversary must have many associations. The hymns sung included two out of a large number written for these occasions by a hand that writes no more; and the bouquet upon the pulpit was the gift of a friend who has never failed from the first to send one, though she now lives a long way from London. There were present, as usual, children from the Aldgate Ward school and the Sailors' Orphan school, Dock Street. Dr. Whittemore took his text from Jeremiah viii. 32, "Is there no Balm in Gilead?"

The Neill Prize.—At a meeting of the council of the Royal Caledonian Horticultural Society, held on the 1st inst., the Neill Prize for the biennial period 1890-1892, value £37 10s., was awarded to Mr. John Paterson, late gardener at Millbank, Edinburgh. Mr. Paterson was for many years one of the most famous cultivators of plants in Scotland, and until the dispersion last autumn of the famous Millbank collection, was, perhaps, the most constant and most successful exhibitor at the Royal Caledonian Society's shows. The compliment now paid him by the Society was well deserved.

Protheroe & Morris v. the Anguloa Cricket Club.—The third annual cricket match between the firms of Messrs. Protheroe & Morris, of Cheapside, and Messrs. Sander & Co., of St. Albans, took place at the Essex County Grounds, at Leyton, on the 1st inst, when the auctioneers beat the Orchid men by an innings, 172 runs, and 2 wickets. Last year the Anguloas won by one run. For the winning team this year Mr. G. P. Stanley made 97, Mr. T. A. Morris, 58, and Mr. G. Clarke, not out, 40. Luncheon and tea were provided in the pavilion by Messrs. Protheroe & Morris, who were heartily thanked by the players for their hospitality.

Gardeners' Orphan Fund.—At a meeting of the committee held on the 3rd inst., Mr. W. Marshall in the chair, the following resolutions were passed unanimously: (1) "The committee of the Gardeners' Orphan Fund have learned with deep regret of the death of Lady Goldsmid, and desire to express their sense of the kindly interest taken in the Fund by her Ladyship, as was particularly shown by her attendance at the floral fetes in aid of the Fund held in the Wholesale Flower Market, Covent Garden. The committee tender to their president, Sir Julian Goldsmid, and the members of his family their sincere condolence and respectful sympathy under the great bereavement they have sustained." (2) "That this committee express to Sir James Whitehead, Bart., their high appreciation of the great service he rendered to the Fund by taking the chair at the recent annual dinner, and for his exertions in securing such a highly satisfactory subscription list. The committee also desire to tender their hearty thanks to Sir James for his eminent services thus rendered to the Fund, and they have the gratification of placing on record their sense of the unprecedented success which marked the new departure in the matter of the annual dinner." (3) "This committee, in recording their sense of the marked success which attended the celebration of the recent annual dinner of the Fund, desire to express their hearty thanks to their chairman, Mr. William Marshall, their hon. secretary, Mr. A. F. Barron, and to Mr. B. Wynne, for arranging the details of the dinner and carrying them out in so highly satisfactory a manner; also to those friends who supplied flowers, and who so kindly assisted in decorating the dinner tables." The hon. secretary reported that since the previous meeting, in addition to the handsome contributions received at the annual dinner, he had received the following sums:—Ealing District Gardeners' Mutual Improvement Society, £10; Manchester Local Committee (result of concert at Altrincham), £20; Mr. John Wills, a birthday offering, £10 10s.; Miss Gibbons, Birmingham (result of a private appeal to fifty friends), £5; Tadcaster Paxton Society, £1.

THE COCKCHAFER.

THIS troublesome insect is also known as the may-bug, and its appearance may be looked for at this season of the year. Time was when I have seen them quite plentiful in the suburbs of London on a summer evening, putting in appearance just as dusk commences, and gathering about the foliage of the trees it frequents. When I was a schoolboy, and living close to the sea coast in the south of England, there would be swarms of cockchafers at the end of May and early in June; and they would gather on the Hornbeam and Beech hedgerows planted for shelter on the nursery where I was born. Then the labourers would place garden mats on the ground by the sides of the hedges, shake the chafers on to them, and turn them into a water barrow partly filled with lime water for the purpose of destroying them. In this way thousands were captured, and had they not been sharply looked after they would no doubt have

stripped many trees and shrubs of their foliage. When the water barrows had become full they were run down to the sea and their contents emptied into it.

The female is about this time laying her eggs in the earth, and in a fortnight they are hatched, and out come a swarm of about eighty or ninety tiny worms, and begin the great business of eating. In the course of a year the larvæ are half-an-inch long. They continue to exist in this form feeding on the tender roots of plants until they are three and a half years old, and then they take the pupal form and descend into the earth, remaining until winter is past, and the perfect beetles emerge in spring. It is needless to say that when they are numerous they do a great deal of harm. I have heard of an excellent method adopted by a Hampshire nurseryman, and which proves a very effectual one. He hangs nesting boxes about his nursery for the benefit of the starlings, who soon take to the nests. As soon as the mature cockchafer appears above ground the starlings are ready to receive him, and the result is comparative freedom from the insects. Robins and other small birds which prey upon the cockchafers should also be encouraged.

Going back to the grub state, I may say that when fully matured it is a formidable fellow. Large, tough, forming the segment of a circle, black head and shoulders and a white body. I have known it very destructive to plantations of Hawthorn and other plants. We used to call them "rook worms" because when the labourers in the nursery were digging a piece of ground they would throw the grubs on to the surface, where they were eagerly devoured by the rooks, who would come from distances, and settling upon the soil near the men at work, they appeared to treat them as delicious morsels. Ducks also appeared to relish these fat grubs. —*R. D.*

ROSES FOR DECORATION.

It has been well said that the planting and cultivation of Roses with a view to the production of effective floral pictures in the garden, instead of being relegated to some obscure spot, and treated as mere cut flower-producing machines, is still in its infancy. It is true much is written about Roses, but the main idea of most of the writers is, that a garden of Roses should be formed merely to produce flowers for exhibition purposes; and any other idea as to the purpose of such a garden appears to be too low for the lofty views of the modern rosarian. Decorative Rose gardening—the employment of Roses for the embellishment of the garden—was, I think, better understood by the gardeners of a generation or two ago.

I was last summer in an old-fashioned garden, the laying out of which probably dated back three-quarters of a century at least, and in it I saw an excellent illustration of how Roses could be planted to secure striking decorative effects. A long walk running between two parallel bands of turf, broad enough to admit of beds being cut in them, was arched over its entire length with old-fashioned decorative Roses, while a modern planter had mingled with them some of the fine summer-blooming Clematis now so largely grown. In the side beds were planted newer Roses of the perpetual type, and so in June and July the early summer-flowering varieties were in full bloom to be followed by Clematis, and the later-blooming summer and autumnal Roses.

Why it should be thought necessary to have a Rose garden instead of a garden of Roses, is not clear, unless in the case of the people who only grow Roses for the purpose of obtaining cut blooms for exhibition. The old objection that Roses were gay for ten days in the summer and a desolation for the remainder of the year, is no longer valid. The cultivation of dwarf brier stocks of the Tea-scented Roses have altered all that, and in a favourable season we may have out of doors Roses from June until November.

Decorative Roses.

What are the vital qualities of a real decorative Rose? They are six in number: vigour of growth, freedom of bloom, flowering in autumn, an erect habit of growth, purity and brightness of colour, and a hardy constitution. In selecting the varieties possessed of the above qualities, the tea-scented types rank high, indeed bold groups of selected Tea Roses are in autumn as in early summer so striking and effective that other sections might be dispensed with.

Some of the leading varieties of Tea roses best adapted for garden decoration are Marie Van Houtte, lemon and peach; Hon. Edith Gifford, pure white, bluish centre, late in the season; Anna Oliver, shaded yellowish rose, deeper base; Jean Ducher, shaded tawny yellow; Madame Lambard, rose colour, variable early in the season; Perle des Jardins, full rich yellow; Souvenir de Gabrielle Drevet, shaded yellow and flesh tinted rose; Souvenir de Therese Levet, deep brownish crimson; and Caroline Kuster, pale yellow. The last-named has a good deal of the Noisette character, producing large cloisters of flowers, it requires to be pruned moderately hard, as then the growth is stout and strong. Souvenir de Gabrielle Drevet, though not new, is a most free-flowering and charming tea, the blooms carried quite erect, the plant hardy and free, and a thorough autumnal. Souvenir de Therese Levet has bright crimson flowers, inclining to brown rather than purple, and decidedly good.

To the white flowered Hon. Edith Gifford, which is the best of all the white Teas, may be added Innocenta Pirola, though if it had a closer and more short-jointed growth it would be better; the petals of the flowers, too, are apt to stick together in wet weather. Another good vigorous growing variety is Francisca Kruger. It is true its habit of flowering is somewhat pendulous, but it is yet vigorous in growth and free-blooming, both early and late, the flowers well formed and of a very pretty coppery-yellow colour. Madame Chedane Guinoisseau, of a lovely clear pure yellow, is rather semi-double, but it is decidedly free, and the colour does not fade so readily as in others. Madame Perny produces great clusters of tawny yellow buds, but the mature flowers are almost white, and in all stages most attractive.

One great advantage possessed by the Tea-scented Roses is their greater ability to resist the attacks of Mildew and Red Rust, the latter pest being rarely found upon them, and the full meaning and advantage of this all who have ever seen their Rose trees leafless, even as early as the middle of August in the south, through the ravages of these troublesome fungi, will readily appreciate.

Climbing Roses.

If climbing Roses are required for decorative purposes and for a continuous display, then the near relatives to the Tea-scented, the Noisettes, and the varieties of the Gloire de Dijon family should be employed; they flower freely in autumn, and are but little subject to mildew. The best Noisettes for this purpose are the well-known Marechal Niel, and William Allen Richardson, the coppery-yellow Rose so much esteemed for buttonholes, and to these may be added Lamarque, the best and the most beautiful of all the autumnal white climbing Roses, Ophirie, Aimee Vibert, whose large trusses of white flowers are useful from the lateness of their production; Fellenberg, brilliant crimson, and Reve d'Or, also a lovely and free autumnal Rose.

Then there is a group known as the Bourbon Teas; the best are Bouquet d'Or, which is superior to Gloire de Dijon in the beauty of its form, the pale yellow Emilie Dupuy, and Madame Berard. If these Roses named are not wanted as climbers, they are exceedingly decorative when grown as great bushes, not tied up to a post, but allowed to grow their own way, with a few stakes or supports to the long arching shoots.

Of the hybrid perpetuals, some of the most constantly decorative, and least subject to mildew, are Ulrich Brunner, which produces early and late handsome, rich, carmine flowers; La France, A. K. Williams, probably the finest of all crimson roses in autumn; Boule de Niege, Grace Darling (really a hybrid Tea); Anna Alexiff, an old but very free variety; Anna des Diesbach, Julie Touvais, Dupuy Jamain, General Jacqueminot, Jules Margottin, Marquis de Castellane, Merveille de Lyon, &c.

In the foregoing lists will be found some varieties which can be included among the show Roses, but they are none the less valuable because they can be so effectively employed for decorative purposes. I have by no means exhausted the list of varieties suited for the latter purpose. I am content to name a few only, as the subject is too large to be exhausted in one paper. —*R. D.*

Cypripedium Chamberlainianum.

CYPRIPEDIUM CHAMBERLAINIANUM.

We are now in a position to give an illustration of this new and very distinct type of Cypripedium. The leaves are ligulate, channelled above, keeled beneath, and similar in fact to those of C. Sanderianum, the flowers of which are so distinct as every one knows. The upper sepal of the species under notice is green in the type, but there is a variety named C. excellens in which the ground colour is yellow, and other fine things may turn up when the plants of the importation generally come into bloom. The large brown blotch with four radiating lines on each side of the midrib seems to be pretty constant in form but varying in colour. The petals are remarkably twisted considering how moderate they are in length, and the arrangement of colours is not their least striking feature. The large inflated lip is densely spotted with crimson-purple on a rose ground, and the margin of the pouch is sometimes decidedly yellow. So far the plants have given evidence of vigorous growth, so that when they have been well established and some years have elapsed we may expect to see some fine samples of cultivation as in the case of older kinds. In a batch of plants the leaves in many instances are distinctly tessellated with dark green on a paler ground.

FLORICULTURE.

Tulips.

WRITING to the *Manchester Guardian* on the 2nd inst., Mr. Samuel Barlow takes exception to the honoured name of Darwin being associated with inferior strains of the Tulip. "The best Tulips known to exist," says Mr. Barlow, "or that ever have existed, have been raised in England, principally in the Northern counties, and it may be news to many when I state that at the present time there are more high-class florist Tulips grown within fifteen miles of Manchester than are grown in the whole kingdom of Holland. Lancashire, Yorkshire, and Derbyshire have contributed more, I think, than the rest of England. Over forty years ago the late Dr. Hardy, of Warrington, in a series of papers to the *Midland Florist*, showing evidences of much love, thoughtful and thorough research, and patience, completely settled all the points of excellence which go to make a first-class florist Tulip, and his definitions have never since been disputed. Since then the cultivation of florist Tulips has much improved, especially in the counties named, although, singular to say, it has almost died out in the South of England, where fifty years ago the most enthusiastic Tulip growers made London their centre for exhibitions. There are distinct evidences now of a revival of interest in this grand old flower, and I hope that the Exhibition of the Royal National Tulip Society, on Wednesday, will give additional stimulas to the cultivation and love for this fascinating flower."

THE SPARROW.

So much has been, of late, written about the sparrow in *Nature Notes*, that I, too, think I want my say! Poor bird! he hardly gets fair play in all this controversy. His opponents are too bitter; and they make no allowance whatever. Personally I rather dislike sparrows; it bores one to set a breakfast in the garden every morning all winter long, and to find scarcely any birds except sparrows come to eat it. And yet there is something rather pathetic in the instinct they evidently have that *some one* is *un*sympathetic. The poor little things don't make half the jolly fuss and noise they made once—in the old days before they found out about it. Yet they are not without friends. One day I remarked to my gardener, "I do hate those sparrows." "Do you?" said he, "I like them, they are so clever." And so they are, brimful of cleverness, most amusing to watch in their cunning ways and manners. Your correspondents differ so much, that one has to believe sparrows' dispositions vary in various localities. For instance, *I* never saw a single bird of any other species driven away by them from our breakfasts. I never, on any occasion whatever, have seen a sparrow even speak to any other bird, much less fight him! and since the "feed" is on the gravel walk, in full view of my window, whence I don't fail to keep an eye on the birds, and on all that goes on, I can hardly be mistaken. As a rule we have about fifty sparrows for the feed: four robins, three hedge-sparrows (I beg pardon. I mean *accentors*), half a dozens blackbirds, the same number of thrushes off and on, with a chaffinch or two. They all seem to eat about the same quantity, according to their size, the sparrows gobbling up perhaps twice their share. The "other birds" are shyer, of course, but I can say with truth, I never observed one of them appear consciously to avoid any one of the sparrows. Overhead, six Cocoa Nuts dangle on strings from so many wire rose-arches. These for the tit-mice and nuthatch (probably they would greatly prefer fat bacon, but I don't). The holes in the nuts have to be cut on the under side just to circumvent our heroes. One unlucky day they happened to pick up some Cocoa crumbs that had fallen, and liked them so much that they looked up at the nuts and instantly "went for" them, the holes being at that time on the upper side. A titmouse will sit and look on and say nothing while a sparrow devours its own pet morsel. But the great tomtit (*Ox-eye*) will fight and beat off in no time any number of coles or blues. As for the Crocuses, and Primroses, and Peas, and Pears, and fruit buds, we know, of course, all about them. They want management—care and trouble—like everything else in a garden, and if we love our gardens they are worthy of all the care and trouble we can possibly bestow upon them. Crocus and all spring flowers are easily saved by a few yards of black thread wound along the tops of little sticks stuck in amongst them. Wire guards save seed and young Peas. Threads or nets effectually protect all manner of fruit bushes. As for the fruit trees, we have never missed an Apple or a Pear through the birds; there always appears to be enough for us all and for the wasps besides. Cherries, however, disappear by rooks, or starlings, if you don't look out, directly they begin to redden: but I never saw sparrows after them.

Poor sparrow! the careful gardener need fear nothing so very dreadful from him, with all his wicked cleverness! He is so wonderfully wary that he suspects a deadly snare in every inch of all that harmless black thread! I should like to verify the theory that "sparrows feed their young, after the first week, upon Peas and young Wheat." I know that now and again green food is considered by old birds of all kinds to be necessary to the health of the nestling. Thrushes have been seen to gather up grass left by the mowing machine on the lawn, and take it to the nest. Surely everyone ought to know that the sawfly (Gooseberry caterpillar) cannot be swallowed by birds owing to a certain hairiness of its outside. The same objection exists for birds in many other caterpillars which we say they ought to eat. By one of your correspondents the merciful operations of the "Poisoned Grain Act" appears to be deplored. Had your correspondent beheld, as I have, lanes all strewed with the dead bodies of greenfinch, yellow-hammer, blue titmouse, linnet, &c., &c., besides those of the hated sparrow, I think even he would have felt that the Act had been passed none too soon. We knew a farmer who regularly, in spring and autumn, used to drive to the nearest village, procure a bag of poisoned Wheat, and drive gaily home again along the lanes, letting the Wheat run out of the back of his gig as it went. Besides small birds, one fatal year, the rooks, who, to our delight, were at that time just establishing a small rookery in our group of old elms in the field, suffered also. Many old birds lay dead on the ground under their nests, and the new rookery was finally abandoned. (It is rather gratifying to remember that a little boy, who was on one occasion sent out to pick up what he could of the poisoned grain, threw it over the palings into that farmer's own poultry yard; so he informed us afterwards. We never heard what happened after that exploit!)

The martins are a very sore subject. For years, up to 1885 or 1886, they used to build on our south side, while the red-throated chimney swallow appropriated the north porch. There were always two broods in the year, and to watch them (the white-breasted martens in the south porch) was my joy and delight; they were never afraid, and they would swoop down with a scream close by the cat's ears, when she went out to take her walks abroad. I cannot blame the sparrows, I know they had no hand in it, but the martins have long since ceased to build here. Once, not long after their desertion, a pair of martins sat on a rose-arch, and looked at the old place. I thought they would come back to the nest, but they didn't, and I have not seen them since. I think of one possible reason. Some foolish person had advised the nests to be taken down in the winter, "his father had done it every year to encourage the swallows," so I reluctantly let one be taken away. It did not encourage ours. Just once, after they were gone, I caught a sparrow prying about the forsaken nest. He was immediately scared away, and never has ventured near it since. The chimney swallows remained with us longer, but they grew timid, and came no more. I am convinced that the miscreants who shoot them for women's hats and bonnets, on the other side, as they rest on telegraph wires, before crossing the straits, are alone to blame for the undoubted decrease of our martins.

There is no such trouble with the swifts: at least, not hereabouts in South Bucks. It has been their their habit, for no one knows how many years, to breed among the inside rafters of the old roof of a dwelling-house, at the end of the garden here. They creep in under the eaves, and make themselves at home in the roof, and there is never any apparent diminution in their numbers. It is a large, and prosperous, and noisy colony. And every season, in the long summer evenings, in clear or clouded weather, our swifts collect together by scores, mount up on high, and sport gloriously in the open firmament of heaven.—*E. V. B., Huntercombe Manor, Burnham, Bucks, in Nature Notes.*

RURAL INDUSTRIES OF EGYPT.

IN an address delivered at a meeting of the Horticultural Club on the 25th ult., Sir John T. D. Llewelyn, Bart., said that Egypt was a land of agriculture rather than of horticulture, for good gardens were few and far between, and these were taken but little advantage of for teaching the people the cultivation of the several classes of useful and ornamental plants that have a place in them. Agriculture, on the other hand, was most successfully carried out, but it was pretty much a question of water, especially from the Nile and νεα ἰλὺς (new mud) tells the story of the fertility of the vast tract of land watered by this remarkable river. This, at the time of its flood is, as is so well-known, heavily charged with earthly matter which, when the water overflows the banks, is deposited on the land, and so greatly does this deposit contribute to its productiveness that the point to which the water reaches is so clearly shown when the crops are in full growth that it is hardly a figure of speech to say that it is possible to stand with one foot in the desert and the other on fertile land. Of the cultivated area about one half is devoted to Wheat and other cereals, and the other half to Date Palms, Cotton, Castor Oil, Sugar, Lentils, Peas, Beans, and Poppies. Of the several crops other than those of cereals that of Dates is perhaps of the most importance to the people, and it would perhaps be of the greatest interest to a body of horticulturists. Phœnix dactylifera, of which twenty-seven varieties were commonly offered for sale, is abundant in Egypt, but rare in Palestine. Its rarity in the last-named country is all the more remarkable from the fact that the name by which the land was known to the Greeks and Romans was Phœnicia, or the land of Palms. Again, when Vespasian wished to commemorate on his coins the capture of Jerusalem by Titus he represents Judæa as a woman sitting weeping under a Palm.

Probably in olden times the valley of the Jordan was full of Palms, and the shores of the Dead Sea are fringed with trunks that have been preserved from decay by the salt water, and tell of a time when Palms must have been much more common than now. In Egypt the Date Palm grows as a common tree, and under ordinary cultivation is very productive. It also grows freely in some parts of Europe, Italy for example, but in Granada alone does it ripen fruit in the European Continent. To the Moors belongs the credit of introducing this Palm to Europe, and they say, "He must have his foot in water and his head in the sun." It undoubtedly marks the presence of water, and in proof of this Sir John stated that Major Lloyd told him that when he was engaged in a survey of the desert, he saw a decaying Palm trunk, and in consequence sunk for water and found a spring. In Egypt, each Palm is taxed at twenty piastres, which is equivalent to about two pence half-penny, and as illustrating the usefulness of the Date to the people, it was pointed out that besides its employment for building, wine is made from the sap, and a spirit is distilled from the wine; the crown of barren trees is cooked as a vegetable; sugar is made from the syrup; mats, baskets, and various utensils manufactured from the leaves; horses are fed on the stalks, and camels on the pounded stones. The trees bloom in March and April, and the fruit ripens in August and September. When first ripe the Dates are harsh and astringent, but, like Medlars, are more palatable after fermentation, and are very nice also when dried in the sun.

The other field crops were passed under review, and the enormous increase in the cultivation of Cotton pointed out. This increase was attributed chiefly to the cultivation of a superior form of the Cotton plant, and the consequent improvement in the quality of the produce. In the case of the Water Melons, which form a very important crop, it is the practice to select the sections before the water from the Nile has receded to its bed, and to mark them with bushes. Poppies for Opium are largely grown, and Hemp is extensively cultivated, although, like Tobacco, its growth is nominally prohibited.

In gardens, Oranges are the best of the fruits grown, but Bananas, Figs, and Pomegranates are very satisfactory. Tea and Banksian Roses thrive and bloom profusely, but hybrid perpetuals are very poor. The Damask Rose is also rather extensively cultivated in some districts for the production of

attar of Roses. Other flowers to which special reference was made included Bougainvilleas, Poinsettias, Oleanders, and Jasmine, and the effect produced by the great masses of Poinsettia and the sheets of Bougainvillea spreading over the houses was described as indescribably beautiful. Potatos are not as a rule grown well in Egypt, but they are now receiving considerable attention in the vicinity of Alexandria, where they are being grown largely for the London markets, as it is found that they can be placed upon the metropolitan markets in advance of Algerian produce.

PEA AND BEAN WEEVILS.

In her report to the Council of the Royal Agricultural Society, on the 1st inst., Miss Eleanor A. Ormerod referred to the very unusual number which has appeared this season in various localities of the Pea and Bean weevils, the Sitona lineata and S. crinitus, on the leafage chiefly of young Peas, but to some degree also on Beans. These beetles are small, just over (or under) two lines in length, cylindrical in shape, and greyish, or, if old specimens, blackish in colour, and they feed by gnawing away the edges of the leaves, working gradually onwards, until, in bad attacks, the whole leaf may be devoured. This infestation is one of our commonest kinds, so far as garden crops are concerned, and the beetles are to be found in great quantities on Peas at harvesting time, but I never before have met with such severe infestation on field crops so early in the year.

From Alcester (Warwickshire) a correspondent reported that the ground seemed to be teeming with the insects, that the attack was general in this district, and affected Beans as well as Peas. From near Severn Stoke (Worcestershire), a neighbourhood where early Peas are grown, it was reported that many acres were destroyed. Near Sandy, in Cambridgeshire, they were noted as threatening ruin to winter Beans, but in Essex the attack was especially wide spread and severe. From Rochford, report was sent on May 2nd of some of the earlier sown fields being apparently quite destroyed by the infestation, and from Chelmsford, a little earlier, notes were sent of scores of acres being destroyed. Similar reports of the Peas having suffered terribly were also sent from Romford, and from Southminster also the report was very bad.

This unusual amount of appearance is, I conjecture, attributable to weather influences, and might very likely arise in part from the first brood of beetles developing earlier than usual, consequent on a period of warm weather in the early spring, and in part also from the difficulties of getting land into cultivation in the winter, allowing the shelters for the hybernating beetles to remain undisturbed. From these shelters (when woke up by sunshine) the powerful wings of the beetles would enable them to distribute themselves far and wide. Very little appears to be known as to remedial measures, but in some cases I am aware that dusting the plants with lime, or lime and soot, or some similar deterrent, has done good. I have therefore drawn attention to this, and especially to the importance of dusting when the dew is on, or the leafage damp, so that the powder might adhere.

PECULIARITIES OF PLANT LIFE.

A meeting of the Ealing Microscopical and Natural History Society was held recently, when the President, Rev. Professor Henslow, delivered an address on "Peculiarities of Plant Life," dealing with the effects produced on plants from the environment and other causes, and with singular phenomena attaching to plant life in other directions, the causes of which latter peculiarities had not been determined. Professor Henslow observed that there was, especially in France and America, a wide-spread feeling that the structure of plants and animals should be studied, not only from a classificatory point of view, but also in relation to environment, in order to ascertain how far the changes which plants obviously could and did undergo were referable to their surroundings. French botanists had for a long while been leading the way in this matter, by experimental endeavours to effect alterations in plant structure; and in many instances they had proved that just those changes could be produced at will which were deductively inferred to be due to conditions in nature similar to those they artificially supplied. Therefore we had now a considerable body of data on which to reasonably base an estimate of the

Effects of Environment on Plant Life.

By environment was understood the soil and its ingredients, moisture, heat, light, and other elements, together constituting what was known as "climate;" consequently we were now in a position to arrive at some clearer ideas of the general laws in obedience to which varieties and species in plants had arisen in nature. Mr. Henslow illustrated his remarks upon the subject of the effects produced by environment by reference to several plants the qualities of which as they grew in a wild or natural state had been lost by cultivation under different conditions as to soil and treatment. All travellers, he said, had noticed how spinescent plants abounded in hot, dry, and desert regions, and it was an inference or deduction that there was some sort of cause or effect between the spinescent structure of these plants and the conditions with which they had to contend in their natural surroundings in those regions. It had been shown that spinescent plants could be grown without spines under conditions differing from those which belonged to their natural surroundings; thus proving that the plant responded to its environment; as soon as it was subjected to new influences, it changed its structure, so as to bring itself into adaptation to the new surroundings. The common Barberry, for example, had been made to lose its spinescent leaves by being grown in a moist atmosphere, though it reproduced them in a dry one; and the common Restharrow, which he had himself gathered in Ealing, had, by the method of treatment under which he had reared it elsewhere, developed into a plant of another character—one in which the spines had become extinct. A plant so transferred did not, however, lose its original and hereditary characteristics all at once; there would be a struggle between those characteristics and the action of the new environment; for that reason, the spines of a spinescent plant, transferred to other conditions of growth, did not disappear all at once, but became gradually less pronounced, less in accordance with their natural and original aspect, and finally extinct.

Experiments with Vegetables.

M. Carrière, a French experimenter, said Professor Henslow, raised a great variety of Radishes from the wild Raphanus Raphanistrum. M. Carrière's experiments with that plant revealed the fact that the long-shaped Radishes were produced in a shallow, penetrable soil, and the Turnip or rounded forms in stiff, resisting soil; the shapes of the Radishes were thus evidently attributable to the comparative difficulty or ease with which they penetrated the soil in which they were grown. As an example of an improved garden flower, Professor Henslow showed how the blossom of the Primula sinensis, first introduced in 1820, was changed in a single year from a very small sized to a large-sized flower. The Cineraria was another genus the attributes of which had altered excessively under cultivation, especially in the colour and size of the flowers, and the dwarf habit of the plant.

Water Plants,

Mr. Henslow pointed out, as experiments had demonstrated, adapted themselves just as readily to land culture, by changing the structure of the leaves from that of a water plant to the form of leaf which was associated with a plant grown in air. The conclusion one arrived at upon a contemplation of the structure and features of water and land plants was that aquatic plants were merely degenerate forms of land plants. If a land plant were compelled to grow in water, it instantly degenerated in its functional and structural development; and, as a further proof of the degeneracy of water compared with land plants, amphibious plants—those which were common to both land and water—throve much better on land; they grew into vigour, and restored tissues which had been lost by them in the aquatic state. All the peculiar features to which he had referred in plants of different kinds were obviously nothing more or less than the response or adaptation of the plant to its environment, and these distinguishing and specific features could be shifted or changed as the cultivator desired. The conviction was therefore impressed that those specific features and details which were seized upon by specialists for the classification of plants were simply this response or adaptation of the plant to the circumstances of growth and culture which happened to encompass it—circumstances, an alteration in which would be followed by an alteration in the individual characteristics of the plant. Professor Henslow afterwards asked for information upon the

Origin of Dwarfing and Enlarging

The normal size of plants. The former operation was, he observed, as far as he could make out, simply a process of starving the plant, but he had no certain knowledge upon the point. For instance, a gentleman selected for growth the very smallest seeds of a certain plant; he sowed those seeds with the result that after three years of that treatment the plant died out altogether That method of treatment was evidently too severe, but he (Professor Henslow) would suggest that experiments might be conducted with, not the very smallest, but with the moderate sized seeds of ordinary annuals; that those seeds should be sown in rather a poor soil, with the object of raising from them plants of dwarf habit; and that, with regard to the opposite quality—the production of plants which were gigantic in comparison with the normal size—the experiment should be made by selecting and sowing in a soil as rich as could be procured the largest seeds of dwarf plants, such as French Beans. If any of the members of the society would undertake experiments of that description, with the object of obtaining either dwarf or giant plants, he would feel obliged to them. He would also ask them to undertake like experiments with regard to heath and rock plants, for the purpose of discovering whether, when sown under different circumstances of propagation, those plants would lose the characteristics they naturally possessed. He would advise the transference of rock plants first to a rich and moist soil, and afterwards to water, and the transference of heath plants to a rich and wet soil. He would further suggest the growth of aquatic plants on land and of land plants in water, that the changes in the anatomical tissues of the roots, stems and leaves which followed upon the new environment might be noted. Professor Henslow concluded his discourse by detailing

Some Curious Metamorphoses

That occurred in flowers and plants, and urged that florists and horticulturists when they perceived any unusual feature in the form or structure of a flower or plant should take note of it, that by that method of observation the causes of the singular metamorphoses and phenomena that were now discerned in certain plants and flowers, and the reasons for which were not at present ascertainable, though the effect was plainly seen, might be discovered.—In the course of a short discussion that followed, reference was made to the sporting of Chrysanthemums and to the doubling of Petunias, on the point of whether those floral achievements were not often due to climatic conditions.—Professor Henslow remarked that Chrysanthemums had been known to sport simultaneously all over England, or at least over several counties, and that concurrent result certainly indicated a climatic cause. Again the doubling of Petunias had, after several ineffectual attempts, been accomplished in the same year in both England and Germany, and in this matter again climatic conditions appeared, from the extent of the area simultaneously covered, to be the factor that had produced the alteration in the condition of the flower.—The proceedings terminated with a vote of thanks to Professor Henslow for his address.

LAWN SPRINKLERS.

Your remarks on a dry spring in the number for May 28th remind me that I may do some one a good turn by directing their attention to the thoroughly useful character of the Lawn Sprinkler. I believe I am correct in saying that it is an American invention; but be that as it may, I can say from experience that it is a valuable introduction. I have had them in use for the last four years, and have recently got some new ones from a firm advertising in your columns.

Gentlemen visiting here, who have travelled a good deal in America, tell me that they are much used in the States for watering lawns, green, well kept lawns being much thought of there as here. As yet we have not found it necessary to use them on our lawns, but they do us real good service in the kitchen garden and on our fruit tree borders. One of their greatest merits is that after connecting them with the garden hose, and placing them in position, they require no further attention.—*Con.*

TULIPS FOR OUTDOOR CULTURE.

There is a large number of species and well marked forms or varieties of Tulip which may be made to contribute largely to the ornamentation of British gardens, as they are showy, hardy, and may be grown and flowered successfully every year from the same lot of bulbs without having to import fresh ones from abroad. The soil must, however, be of a light and friable nature, with an open or well-drained subsoil, and it may even be sandy, provided it is naturally rich or made so by means of well-decayed manure. All are essentially spring flowering, so that they may be grown in beds intended later on for summer flowering plants. The stronger and taller growing kinds may be grown by themselves, or planted in the centre of large beds with the dwarf ones outside. By the time the plants are well in bloom the young bulbs are made, so that when they go out of bloom they may be lifted and laid in soil in the reserve garden till they ripen off, after which they may be lifted and stored till planting time in autumn.

Strong Growing Kinds.

Tulipa Gesneriana.—So well known is this species that little need be said about it than that it contains a host in itself of various types both for outdoor and pot culture. The florists' flamed and feathered or rectified Tulips belong here. Recently a new strain of breeder Tulips have been raised and put into commerce under the name of Darwin Tulips. They are strong and vigorous varieties, presenting a great range of colour, and might be largely used for bedding purposes.

T. spathulata.—Some good authorities consider this as the wild form of T. Gesneriana. The flowers are large and red with a violet blotch at the base of each segment within, and shaped somewhat like a crown. It grows about 18 in. high and answers well for bedding out.

T. Ostrowskyana.—The height and habit of this plant is similar to the last, but the flowers show it to be closely allied to T. oculis-solis; they are scarlet with a black blotch surrounded with a yellow line at the base of each segment.

T. vitellina.—Yolk of egg colour as implied by the specific name is not strictly correct, for the flowers are pale yellow, the outer segments being slightly shaded with green and the inner ones with white. Occasionally the whole flower is white. In all cases it is of large size and effective in beds, while the scapes grow 1½ ft. to 2 ft. high.

T. strangulata.—The flowers of this species are large and of a deep red, with a pale black blotch at the base. Sometimes the flowers sport or become rectified, by being mottled and striated with fine red lines on a yellow ground, and the blotch is here absent. The leaves are very broad.

T. Greigi.—The broad leaves of this Tulip are striped with purple, and the huge flowers are different from those of other species. They are bright scarlet with a black claw having a yellow edge. The segments are widely spreading, revolute at the apex, and the three outermost are much the largest. Unfortunately the bulbs have a tendency to get weaker and weaker in succeeding years in certain soils.

T. suaveolens.—Although a strong grower, this does not generally exceed a foot in height. The flowers are large reddish-purple with the upper third white or pink. A double form is quite as common as the single.

T. fulgens.—In this we have one of the tallest growing Tulips with stems about 2½ ft. high. It is very effective and striking when bedded out, owing to the size of its brilliant red flowers with a yellow blotch at the base. Sometimes the flower is flamed with yellow. The segments are pointed, the outer ones being recurved, the inner ones slightly so.

T. elegans.—At a casual glance this resembles the last, but the segments are longer pointed, all recurved, and the stems are only 12 in. to 18 in. high. The colours are nearly alike in the two cases. Both are of garden origin, and handsome.

T. retroflexa.—The stems here are 1½ ft. to 2 ft. high, with large, bright yellow flowers. The segments are lanceolate, often lobed and twisted, with long revolute points as implied by the name. It may be described as a yellow T. elegans and is very effective in beds.

T. acuminata.—This is often grown under the name of T. cornuta, but in both cases the name refers to the long and pointed character of the segments, which are yellow and more or less suffused with red upwards. They are linear-lanceolate and 3 in. to 5 in. in length. The sort may be regarded as an extraordinary curiosity than as an effective bedding plant, although it is sometimes used for that purpose.

T. maculata.—The segments of this Tulip are spathulate, emarginate, and crimson-red with a black blotch at the base, surrounded with yellow and often running down the segments in the form of rays or teeth.

T. viridiflora.—This may be described as the green Tulip, for all the segments are glaucous green with yellowish edges; the inner segments are often conduplicate, or folded upon themselves. It is a vigorous grower with stems 18 in. high.

Dwarf Species.

T. Eichleri.—Although of low stature with only two leaves, this Asia Minor species has very large scarlet flowers, with a somewhat arrow-shaped black blotch surrounded with a yellow line at the base of each segment. A garden race of dwarf varieties raised from this would be very showy, although it would seem difficult to improve upon the original.

T. Clusiana.—Internally the flowers of this charming little Tulip are white with a purple blotch at the base of each segment; the three outer segments, externally, are reddish-purple with a white edge. The filaments are black, the anthers violet, and the leaves linear and slender.

T. linifolia.—The scape of this species is 6 in. to 8 in. high, with slender leaves as in the last case. The flowers are, however, large and brilliant scarlet, with a rounded black blotch at the base of each segment, and violet anthers. On the whole it is certainly pretty, and might be more extensively grown.

T. sylvestris.—Amongst all the species of Tulip this is the only one which is reckoned British. The flowers are of a bright yellow with oblong segments tipped with a tuft of short hairs; the inner segments are somewhat narrower and lanceolate. As a rule it flowers freely and is well worthy of a place in the garden.

T. fragrans.—The flowers of this species are similar to those of T. sylvestris, but they are slightly larger, with broader segments not pubescent at the tips. They are also fragrant, as the name implies, and of a bright yellow.

T. Dammaniana.—The stems of this species grow from 12 in. to 16 in. high, and the flowers are bright red, with a longitudinal black blotch surrounded with yellow at the base of each segment. The whole plant, including the flowers, is of medium size as Tulips are reckoned, but very neat and well adapted for edging beds of larger kinds, or even shrubs.

T. macrospeila.—The origin of this Tulip is unknown, as in the case of so many others. The flowers are of medium size, deep red, and having a short, rounded black blotch at the base, surrounded with yellow. In general aspect it may be compared with T. spathulata than which it is a little smaller, but equally adapted for planting in beds, flowering at the same time.

T. platystigma.—The scapes of this plant are 12 in. to 15 in. high, bearing very broad leaves. The flowers are of medium size, of a purplish-flesh colour with a yellow blotch at the base, slightly tinted with green, at least in the young state. They are late in being developed compared with most of the above, and form as it were a succession to them. Although useful as a bedding plant, it is not so showy as most of the above.

T. australis.—All parts of this species are of moderate dimensions, comparable to those of T. sylvestris, but the leaves are narrower, the plant altogether more slender, and the flowers more decidedly funnel-shaped. For garden purposes it is, however, totally distinct, as the yellow flowers are heavily suffused with red on the back of the outer segments, so that the combination of colours is quite charming. Something similar happens in the case of T. Clusiana, only the ground colour in the latter is white. The pair would make a very interesting contrast. Could not hybridists do something with these two species?

IMPORTED POTATOS.

So far as my judgment goes I regard good well-preserved home grown Potatos of the previous year's crop to be much better for eating, even so late as the month of June, than are the new tubers which are so plentiful in our markets in early summer, and come to us in such abundance from France, Jersey, Malta, the Canary Islands, and elsewhere. None of these imported tubers are ripe, that is certain, and they nearly all have a close watery nature; this doubtless arises from their being grown in a warm humid climate where the rainfall is considerable, and also because lifted and sent into market whilst the tops are still full of growth.

Now it is a curious fact that in spite of the Potato being a native of South America, and an exotic, yet with us it produces the best quality in tuber in a comparatively cool climate. What Potatos are better than those grown in Yorkshire, or the North of Scotland, a warm humid atmosphere conduces to plant growth, at the expense of tubers, whilst a cool atmosphere if fairly dry checks coarse top development and induces good starchy tuber production; hence it is that no Potatos grown in any part of the world are better than are those grown in our coolest districts. Looking over the fine imported Potatos shown at the recent Earl's Court Exhibition, I was struck with the great likeness shown by the fine handsome Kidneys from Malta and Jersey, with our old exhibition friend International Kidney, and I cannot doubt but that they were of that variety.

It is thus both amusing and instructive to find that what we have rejected from cultivation at home we should so readily purchase from other countries. Potato culture in the Canary Islands has become an important industry, but it is interesting to learn that the seed tubers are annually imported from England; but these are certainly not better materials, wearing a coarser appearance, and partaking somewhat of the volcanic nature of the soil, which is rather black, yet producing excellent quality it is said.—*A. D.*

THE VEGETABLE GARDEN.

Potato Chiswick Favourite.

This is a good and useful Potato, and especially worth growing for its excellent late keeping qualities. It is still with us, June 1, very good indeed, and shows no trace of going black in the boiling; on the contrary the flesh is perfectly white and mealy, which is somewhat remarkable as last year was by no means a good one for Potatos generally. With us it is a strong grower, producing a goodly number of large tubers. Our crop was grown in the open field, side by side with some eight or ten other sorts, none of which have kept so well as Chiswick Favourite. It was also almost disease proof, and certainly is a sort that should be better known. Can your correspondent "A. D." say who raised it?—*Con.*

Spring Sown Onions.

I do not known what the experience of gardeners in other parts is, but here in the west of England, in the majority of places the spring sown Onions have come up very bad. I have visited a number of gardens recently, and in not a single instance did I see a good plant. I am myself among the favoured few in this respect, and I will explain how it comes about. I decided to make my sowings in two places, and obtained my seeds from two different seed firms. I am glad that I did so, as in the one case not half enough came up to make a crop, while in the other there are about four times too many. The moral to be drawn from this would seem to be—in seasons which are bad for harvesting seeds, don't get all your seeds from one source. Opinions vary as to the cause of this partial failure, but I think myself it is easily explained by the fact that the seeds ripened well only in a few favoured localities last year. The failure is much to be regretted, as it is too late now to sow again, and a short crop is a great inconvenience. Many I know waited to see if rain would cause the seeds to germinate, and we still have to wait for it. The long drought is becoming a very serious matter, as the soil is getting too dry for all surface rooting crops, and farmers are much concerned about food for their stock. Most of the old Hay is gone, and where a supply for next winter is to come from is at present not quite certain.—*Con.*

LINDESFAIRN, BOURNEMOUTH.

Being recently in Bournemouth for a few days I paid visits to several private gardens in the neighbourhood, and among them Lindesfairn, a place which was built a few years ago by the late Earl Cairns. I found gardening very well done there, hence these few notes. The "glass" consists of six houses and a few pits, and the houses are by no means large ones, but contain a great deal. They are built in pairs, and in one pair I noticed a fine lot of various stove and greenhouse plants for furnishing, and a number of Orchids making their new growths. Among the latter were some large plants of Dendrobium nobile in the best possible health. I noticed no old growths among them, and learnt from Mr. Spong, the excellent gardener in charge, that it was his practice to cut out the old bulbs as soon as they had done blooming, and he found the plan to answer admirably.

In the next house we went into were some good plants of Gardenias planted out on one side, clean, healthy, and full of bloom. On the opposite side were Cucumbers—a capital lot in full bearing; and on a shelf near the glass was a good crop of Tomatos, just ripe, on plants grown on from cuttings put in in the autumn. These are span-roofed structures with paths down the centre. Near by is another pair, running north and south, which are devoted to decorative plants. In one was a good strain of Amaryllis, Primula obconica in quantity, Azaleas, and quite a number of Orchids for so small a place. The other house also contained a number of Orchids all doing grandly, and on one plant in a 5-in. pot of Dendrobium thyrsiflorum I counted thirteen good strong spikes just about to open.

The fruit houses consist of two Vineries, which, no doubt, were originally intended for growing Vines and fruit trees in pots, as in them are a set of rails and platforms of the pattern introduced by the late Rev. John Fountaine. They have not been used as originally intended for several years, having doubtless proved a failure here as they have done in so many other places. At the time of my visit the travelling platform was fixed inside and used forstanding plants upon, under the Vines, which were showing fine crops. The latest house contains Lady Downe's Seedling, Black Alicante, Muscats, Gros Maroc, and Gros Colmar, etc., almost in bloom. In the earliest house the Grapes were close upon the colouring period, and I noticed very good bunches of Foster's Seedling, Frontignan's, and Black Hamburgh.

On the back wall is a large Brown Turkey Fig in splendid condition. Mr. Spong told me that he had begun to gather ripe fruit on May 20th. The tree was carrying a grand crop nearly ripe, and showing well for a second crop. These houses also contained a great number of plants of various kinds—Orchids, Azaleas, Camellias, greenhouse Rhododendrons, Stephanotis, etc. In the late division were some good standard Figs in 12-in. pots, and a fine batch of Lilium Harrisi in 32's and nearly in bloom. I was assured that these houses were full of plants all the year round, and in addition there were hanging shelves for Strawberries.

At the rear of the Vineries are some sheds and a Mushroom house, and looking into the latter I saw a most abundant crop, the beds being almost white with the toothsome "buttons" and "grillers." In the fruit room were some forty or fifty fine bunches of Grapes still hanging in bottles, and some of the Alicantes would not have disgraced any exhibition, being almost as bright and as fresh as when first cut. There will be old Grapes here I doubt not until the new ones come in, and that only from the crops of two houses.

In the kitchen garden I observed a grand quarter of Veitch's Model Broccoli, and some capital Asparagus. I had not time enough to allow of my going all round, but I saw enough to prove that Mr. Spong most decidedly makes the best of his opportunities.—*Con.*

CATTLEYAS AT CLAPTON.

A grand display of Cattleya Mossiæ may be seen at present in the nursery of Messrs. Hugh Low & Co., Clapton. There are several species with their allies in bloom, but the display is entirely produced by C. Mossiæ, and a magnificent spectacle it is, consisting of a large importation flowering for the first time. There were between 4,000 and 5,000 sheaths all showing at one time, and when we saw them the other day there were over 1,000 flowers in full bloom in a cool house near the principal entrance. The variety of colour is very great, yet very few have received special names. A variety named Cynthia is unique as far as we know. The sepals and petals are blush coloured; but the special feature is the tube of the lip, which is white internally, and the side lobes are nearly white; the lamina is richly netted with purple on a pale ground and the finely crisped margin is nearly white. Close by is C. M. magnifica with rosy sepals and petals and an intensely purple lamina with a lilac edge, but without any of the usual reticulation which is so characteristic of C. Mossiæ.

To have singled out any more for varietal names would have been an endless task where so many fine things exist. A few were sent to Enfield to be flowered there, and the effect has been marvellous. The flowers are altogether larger with widely spreading petals of great breadth and substance. Amongst the collection are many with rich rose petals and sepals. Very pleasing is a variety with a nearly white lip suffused with delicate pink. Another has a rich purple almost orbicular lamina. Contrasted with this is another with a huge lip variegated with dark and also delicate colours. One variety has a purple blotch at the apex of the petals, as in C. Trianæ Backhouseana. Contrasting with this is another with a white lip excepting a small purple blotch at its apex. Several pieces of C. M. Reineckeana have turned up in the importation, some of which are superior to the type, inasmuch as not only the sepals and petals are white, but likewise the lip, excepting a small purple blotch at the apex of the lamina. Several pieces of C. Mendelii may also be seen in this house, but we particularly noted one with stout fluted pseudo-bulbs, and a strikingly distinct lip. The lamina is purple, the side lobes white, and the orange blotch has entirely disappeared. The powerful but agreeable fragrance that meets the visitor on entering the house is not the least attraction of a house full of C. Mossiæ.

The remainder of this importation is distributed through three or four other houses, where the same agreeable perfume meets the visitor on entering. Some pieces growing on wood as imported from their native wilds should serve to give some idea how Cattleyas can live, thrive, and flower in a state of nature clinging to a bare branch without any means of nourishment apparently than that brought to them by rain; for other matter, if brought there, must soon be washed away by the first heavy shower. One of the pieces in question shows great delicacy of colour, and being in full bloom arrests the attention more than those in pots.

Another large quantity of C. Mossiæ may be seen in a long, low-roofed house. Some of them here may be singled out as particularly noteworthy, particularly one with warm rose sepals and petals, and a rich purple lamina edged with lilac, and having a prominent orange blotch in the throat. Here again we noted C. M. Reineckeana, almost entirely white. Those who wish to realise the effect of a houseful of this grand old Cattleya should not miss the sight while the plants are in bloom and their respective merits can be determined. They are certainly a grand lot.

Iris tingitana.

IRIS TINGITANA.

Of all the species of Iris belonging to the section Xiphion, and generally known as bulbous Irises, that under notice, and of which we give an illustration, is one of the least known. It would be unfortunate were it to remain so considering the beauty, hardiness, and great variety in its nearest allies, the Spanish Iris (I. xiphion) and the English Iris (I. xiphioides). It has the habit and vigorous growth of the latter with the flowers of the former. The lamina of the falls is orbicular, and lilac-purple with a central yellow spot on a white blotch, and the claw is fiddle-shaped. The erect standards are much narrower and as well as the stigmas lilac-purple. The species was originally introduced about 20 years ago from a district about ten miles south of Algiers. The bulbs are inclined to start into growth and to flower at an unfavourable time for our climate, but if they could be urged on so as to flower early in autumn, or delayed till they could flower with safety in spring, the season of Iris bloom would be prolonged thereby. A race of varieties might also be raised similar to that of its allies.

THE HERBACEOUS BORDER.

Choice Plants in Flower.

SPIRÆA PALMATA.—So easily is this grown in any good garden soil, that no collection of any importance whatever can afford to be without it. The flowers are small, similar in fact to those of our native Meadow Sweet, but of a warm rose colour and produced in more spreading and more graceful cymes. The specific name refers to the terminal lobe of the leaf, which is larger than in other Spiræas of the same type and deeply lobed in a palmate manner; the other divisions or leaflets are relatively very small. It may be planted in the ordinary border or on the banks of streams and ponds into which its roots can dip, or at all events obtain a plentiful supply of moisture.

AQUILEGIA CÆRULEA.—The flowers of this Rocky Mountain Columbine are of large size, and blue and white, both colours gradually merging into one another. The long, diverging spurs are slender, pale in colour, and tipped with green. In most respects except colour, this species closely resembles A. chrysantha, and if other evidence is required to show that the two are closely allied, it is found in the difficulty in keeping them separate if both grown in the same garden and raised from seeds.

TROLLIUS EUROPÆUS.—For garden purposes there is no finer Trollius or globe flower than the European species and some of its forms. When seen in a wild state, and in competition with the weeds of its native habitats, the stems are dwarf and the flowers small; but the same plants placed under favourable conditions as to growth, produce large, globular flowers of a uniform clear yellow and very handsome. There is no difficulty in growing it in any moderately good garden soil.

PAPAVER ORIENTALE.—Under this are included some wild as well as some garden forms of great value for garden decoration on account of the great size and conspicuous character of the blooms. The petals are of an intense crimson red bordering upon scarlet with a black blotch at the base; but there are garden forms with orange and rosy pink flowers that are very distinct. A large plant here and there in the border is very effective, and being hardy and perennial there is no trouble in growing them.

PÆONIA OFFICINALIS FLORE PLENO.—Although this may be considered old-fashioned, it still remains one of the most highly ornamental of the double Pæonies. The flowers are large, of a deep crimson-red, and the petals are flat and arranged with great regularity, a statement that cannot be made with respect to some of the double forms of P. albiflora now so much in vogue, and of which the garden forms are very extensive. A cool, moderately retentive soil is all that this kind requires, and if enriched with manure once a year the clumps soon attain considerable size, and look grand when flowering during the months of May and June.

HEUCHERA SANGUINEA.—Since the comparatively recent introduction of this plant, it has proved very serviceable in various ways, both for pot culture and outdoor work. With a little forcing it may be had in bloom early in spring, when it is highly ornamental either for the greenhouse or conservatory, as well as for the hardy plant house proper. The suborbicular, slightly lobed, deep green leaves are mostly confined to the base of the plant, while the flowers are borne well above the foliage. Though the individual blooms are small, their numbers and bright red colour make this a favourite with all who see it. The plant is perfectly hardy and easily propagated by division.

IRIS FLORENTINA.—All who are acquainted with the broad-leaved type of Irises know how useful this is for making an early display; for it is in bloom about ten days before the German Flag may be said to be in full flower. Both the falls and the standards are broad and of a pleasing porcelain hue, or white tinted with a delicate shade of blue. The fragrance of the flowers is an additional recommendation. Rich and friable, moderately moist soil is most congenial to its welfare.

ANEMONE DICHOTOMA.—The flowers of this species are somewhat similar to those of the Snowdrop Windflower (A. sylvestris), but not so large. The flowering stems are however numerous, and the involucral leaves are large and well developed, giving the plant a bushy appearance. The habit may also be compared to that of the Japan Anemone in this respect, but the flowers are smaller, and the flowering period of the two plants entirely different. That under notice is hardy and by no means difficult to cultivate.

HERBACEOUS PLANTS AT HAMPTON COURT.

WITHIN recent years a collection of herbaceous plants has been got together in the grounds of the Palace, and stress has been laid upon those things which are productive of certain effects at different times of the year. Those are grown in quantity as edgings single or double, but generally forming broad bands to the large beds. Most of those, however, are late flowering subjects and come into bloom when the bedding subjects are at their best, or even late in the season, when herbaceous plants get a fairer share of attention and the cold nights and shortening days are telling upon the more tender subjects in the beds.

Spring and early summer flowering plants are noticeable at present when the beds although mostly filled with their respective subjects do not as yet attract much attention. Pæonias, mostly varieties of Pæonia officinalis, are now out of flower, and Irises constitute the most telling feature on account of their size and showiness. The bulk consists of I. germanica and its allies, but no care whatever has been exercised in the selection of the finer varieties which are now common in cultivation. There are too many clumps of I. squalens, the colours of which are rather dingy, whereas many of the varieties of I. germanica and I. pallida would be more attractive and certainly present a more refined appearance. The dwarf and pleasing I. virginica has not however been neglected; but its beautifully variegated variety I. v. versicolor might well be included in the list. The quaint and beautiful flowers of I. sibirica are produced in bunches on tall stems emerging from amongst grassy foliage.

Columbines are scattered about the borders and beds in a great variety of colours, red, white, and blue, single and double. The rosy flowers of Geranium cristatum are produced in great quantity on procumbent stems; and here and there, clumps of Veronica rupestris are a mass of lively blue flowers and contrast strongly with those of the pale V. gentianoides, one of the oldest and most widely spread of cottage garden flowers. The golden-leaved Marjoram (Origanum vulgare aureum) never looks better than in June, when its young leaves assume their best tints of golden-yellow; later in the season when the flower stems make their appearance the foliage becomes greener. The double Pyrethrums will soon be at their best, and hardly any other class of plants is more effective for garden decoration during the month of June. Tradescantia virginica with its deep blue flowers, Euphorbia Cyparissias, and Asperula odorata are other old-fashioned subjects that are hardly ever absent from collections. Several Violas are grown in the beds mostly mixed with other subjects by way of contrast; but some of them such as Blue Bell and Blue King find a place amongst the herbaceous plants, sometimes in lines along the sides of the narrow borders right and left of the Palace, where old-fashioned subjects seem in keeping with the place. Amongst them may be seen the stumpy specimens of Ailantus glandulosa destined later on to produce a subtropical effect with their huge pinnate leaves.

Several of the early summer-flowering shrubs are now in their gayest attire, including the Roses on the walls, and which are very attractive in their first blush of blossom, particularly in the sunshine and clear skies of the past week. The so-called Japan Honeysuckle (Weigela rosa), the Mock Orange (Philadelphus), and Deutzia gracilis, all laden with bloom, furnish a striking contrast to the avenue of antique and sombre-hued English Yews, that scarcely alter in appearance all the year round, and which although presenting a pleasing feature in the landscape during the depth of winter, are hardly in keeping with the gay attire of the deciduous subjects. On the walls and trained along wires are some floriferous pieces of Clematis montana, than which scarcely any flowering shrub is more effective during the early days of June, whether on the walls of a palace or a cottage. Several of the garden forms of Clematis with large lilac-blue and white flowers are also in full bloom, and do not fail to get admirers amongst the thousands of visitors.—*F.*

GARDENING MISCELLANY.

PLANTING OUT RICHARDIAS.

WITH reference to the remarks on the culture of the Arum Lily by "Experience" in your issue for May 28th, allow me to say that I have tried them planted out, and have also grown them in pots all the season; and I served under one gardener who plunged them in the pond for the summer, in fact till the time came to house them. I have now superseded these methods of culture by another one which I will briefly mention. As soon as the plants have passed their best, and the leaves begin to turn yellow, I lay the pots on their sides at the foot of a wall where they get the sun in the morning but are shaded after midday. They are left in this position until the last week in July, by which time the tops have died down. The roots are then shaken out and fresh potted, and stood on a bed of ashes out-of-doors until the time comes for removing them under glass. I have adopted this plan for the last two years, and with such satisfactory results that I am this season again following the same course of treatment.—*A. Butcher.*

PHLOX REPTANS.

WHEN first introduced to British gardens this plant was flowered in a stove, so little was then known as to its actual requirements or its hardiness. The flowers of that introduction were more or less of a decided blue, but since then it has seldom appeared in gardens, but for what reason is not very obvious. The prevailing one now widely distributed throughout the country has reddish-purple flowers with a crimson eye. This form at all events is quite hardy even in the far north, and when once established is able to take care of itself. Just as the colour is variable so we find that it enjoys or rather is encumbered with a number of names. P. stolonifera and P. verna have been applied to it, the latter obviously because it flowers in spring. P. reptans and P. stolonifera both refer to the habit the plant has of developing procumbent shoots which root in the ground, forming a close mass or cushion of shoots from which flowering stems arise, with the returning warmth of spring.

ERODIUM TRICHOMANÆFOLIUM.

THE finely-divided leaves of this Heron's Bill are hoary in appearance, evergreen and form a close cushion covering the short subwoody stems. The specific name refers to the foliage which has been compared to that of the Black Spleenwort (Asplenium Trichomanes). It is a native of Mount Lebanon, perfectly hardy here, and flowers during May and June, possibly longer, providing it is thriving vigorously and the season is favourable. The flowers are relatively large for the size of the plant, borne in clusters generally of three and which rise above the foliage; the petals are of a soft rose with darker veins and certainly pretty. The rockery is the most suitable place for it, as it is there seen to best advantage. In well-drained garden soil it may however be planted on the level, and in the front line of the border. Full exposure without the evil influence of overhanging trees, is necessary to its welfare. The plant may be propagated by cuttings, division or seeds, the latter means being perhaps the most convenient, expeditious, and ultimately the most satisfactory. The subwoody stems and roots do not like to be much disturbed.

THE GARDENERS' ORPHAN FUND.

EVERY well-wisher of this fund must be gratified with the large measure of success which attended the recent dinner at the Hotel Metropole, but I agree with some other warm supporters that it would be a mistake to abolish the subscribers' dinner on a more modest scale. Why could it not be held on the night of the annual election, when the result could be made known and thereby help to work up some enthusiasm in the cause. I agree with you that the fund should receive some support from every gardener, and with a view of drawing what I could from the gardeners of this district, I recently made an appeal through the columns of our local paper, but up to the present time without any result. Let me ask, through your columns, the gardeners of Weybridge and the district around to communicate with me, and let me know to what extent they will assist this season. I hope we shall all work harder

than ever in the noble cause, and so obey the Divine Master's injunction to "Feed my lambs."—*A. J. Brown, Local Secretary for Chertsey.*

COMMON FLOWERING SHRUBS.

EVERY season as the time for the flowering of trees and shrubs comes round one cannot help wishing that more of the commoner flowering shrubs were planted instead of so many of the everlasting Laurel, an excellent shrub in its way but so utterly wanting in variety. What can be more beautiful than good healthy bushes of Lilac, Guelder Rose, Laburnum, and the common and double crimson Thorns. Only to-day, June 1st, I was delighted with a bush of the single red Thorn in full bloom. It had a rich background of greenery, and was most beautiful to behold. Surely these things are cheap enough and fast growing enough to suit anybody.—*Con.*

CRATÆGUS PUNCTATA.

OF the numerous species of Cratægus which have been introduced from various parts of the world to adorn our gardens and parks, a large proportion of them have been neglected for years past and allowed to become lost except in a few collections where they have received special attention. The collection in the gardens of the Royal Horticultural Society, Chiswick, used to be very extensive, but that too has been decimated during the lapse of time. A fine tree of the above species still exists near the Council Room, flowering and fruiting finely every year. The species is a variable one, and although several varieties of it at one time existed they have disappeared with the exception noted, and which is a variety having yellow fruit slightly tinted with red. The tree is now in full bloom, and is about 20 ft. high.

MESPILUS GRANDIFLORA.

THE large-flowered Medlar is very often grown under the name of M. Smithii or Smith's Medlar. The flowers are large, pure white and produced in great profusion either singly or in clusters of two or three. The fruits are smaller than those of M. germanica, the common Medlar, and although edible, they are comparatively worthless for consumption. The leaves are oblong-elliptic and serrated, while those of the last named are lanceolate and entire. As an ornamental tree, however, the beauty of M grandiflora is unquestionable. It grows about 20 ft. to 25 ft. high, with a broad, spreading head and somewhat drooping branches, laden with conspicuous white flowers during the months of May and June. The most suitable place for it is in the pleasure grounds or parks, where there is plenty of space for its perfect development. Two tall specimens may be seen in the gardens of the Royal Horticultural Society, Chiswick, where however they have been rather too closely crowded by other trees to permit of their perfect development.

VERONICA SYRIACA.

ANNUAL species of Veronica as a rule are not very showy, and seldom get cultivated, that under notice constituting a very unusual exception. It is a native of Syria and has ascending or diffuse very much branched stems bearing racemes of pale blue flowers that are relatively large compared with the size of the plant. The leaves are ovate, of a light green, and as usual best developed on the lower part of the plant. A quantity of it grown in small pots may be seen in the gardens of the Royal Horticultural Society. It may be described as pretty, but is nevertheless hardly equal in beauty to many of the perennial species which are scattered about in gardens. The collection of seed and the sowing of it every year would be too much trouble for most people except those who are enthusiasts.

POTENTILLA CHRYSOCRASPEDA.

THE whole aspect of this plant reminds us of P. verna or some form of it, such as P. v. aurea. The latter is a British species which varies considerably even in a wild state and has received various names. Some plants under the above name in the hardy plant house at Kew have yellow flowers with an orange blotch at the base, and some lines of the same colour radiating from it. The leaves consist of three oblong, toothed leaflets, on stems 3 in. to 6 in. high, and the latter terminate in small cymes of flowers. P. verna on the other hand has more numerous leaflets, about five to seven on the radical leaves, and five rarely three on the stem leaves. In either case the dwarf compact habit of the plant, and the bright yellow flowers with an orange blotch at the base of each petal, are characters that strongly recommend the plant to those who have a rockery or even a herbaceous border. The plants are also compact in habit requiring little space for their perfect development, and are well worthy of a place in a collection.

PHLOX SUBULATA MODEL.

THERE are several forms of P. subulata in gardens, and all were very pretty subjects for rockwork on account of their dwarf trailing habit and profuse flowering character. That under notice is a garden variety with soft rosy-pink flowers, and a small, bifid, deep purple blotch at the base of each segment. The habit of the plant renders it suitable for planting on the shelving ledges of the rockery, to which it gives an attractive appearance during the months of May and June, in proportion to the size of the patches. Thus elevated above the general surrounding level, perfect drainage is ensured, and the plants thrive better than on level ground, especially if the latter is heavy or inclined to clay and therefore wet in winter. Propagation is easily effected by means of cuttings of the half-ripened young shoots during the month of July and August. They should be inserted in pots of sandy soil and placed under bell-glasses, and if covered by a frame so much the better.

CRATÆGUS CRUS-GALLI OVALIFOLIA.

THE Cock's-spur Thorn takes its name from the long and stout, solitary spines that are compared to the spur on a cock's foot. The species is variable, and several forms have found their way into British gardens. Some have narrow and others broad leaves, such as the fine variety under notice, a native of North America, and which is often considered a distinct species. It differs from the type chiefly in its broad leaves and half heart-shape stipules, whereas the latter are linear in the typical form of the species. The tree under notice grows to a height of 15 ft. to 20 ft. and has a spreading head as broad as high. Just now it is in full bloom, and the trusses of large white flowers with pink anthers are very conspicuous. Then again in the autumn the trees become conspicuous with the decaying red and yellow leaves, intermingled with an abundance of red fruits that hand long after the foliage has dropped.

GENTIANA PYRENAICA.

ALTHOUGH not always so dwarf as G. verna, still this species may be included amongst the dwarf ones. The stems are procumbent with the flowering shoots rising to a height of 1½ in. to 3 in., bearing each a solitary flower, which although not so brilliant as that of G. verna is nevertheless pretty and interesting botanically, inasmuch as the funnel-shaped corolla is ten lobed or of five deeply bifid lobes. The corolla further is blue shaded with purple, with a white throat and more or less tinted with green externally in the early stages. The leaves are lanceolate, small and crowded in dense rosettes upon the ground. It was originally introduced in 1825, and flowers some time between April and June according to the conditions.

AN ASPARAGUS ISLAND.

THE Boston Asparagus market has been largely supplied this spring from Hall's island opposite the coast of South Carolina. This island of 1300 acres is owned by two Boston gentlemen who were originally drawn to it in search of game. Notwithstanding it is now largely cultivated, game, such as deer, rabbits, quail, &c., still abound. About 100 acres are now under cultivation to Asparagus, while preparation is being made to extend the area next year to 300 acres. Stable manure sufficient to "bring up" this sandy waste would be out of the question. The owners have been compelled to resort to the coarse marsh grasses which abound on the shore. The past season 5,000 loads have been placed within boarded pens upon which are pastured, night and day, several hundred cows, this grass, in connection with concentrated food, being their ration. These cows are of the scrub order, purchased of the coloured folk throughout South Carolina. The grass is broken up by the cows' tramping and after a season's fermentation it is, with fertilizers, equal to barnyard manure. The crop commenced to be harvested the first week in March, when the price received was $1.00 per bunch; for the most of the season, however, the price has been about $6.00 per dozen. There has been some loss sustained this season from frost. Whenever a cold wave has been heralded by the government weather service the sprouts just pricking the ground have been cut deep, thus making light coloured stalks, and as the New York market wants light coloured Asparagus it is sent there. With warmer weather the sprouts are allowed to grow long making green Asparagus which is sent to Boston. The amount of Asparagus sent north this season has averaged about 40 dozen bunches per day.—*New England Farmer.*

NEW & RARE PLANTS.

(Concluded from page 630.)

BEGONIA LEOPOLD ROTHSCHILD.—Here the leaves are relatively narrow, ovate and oblique at the base. The large double flowers are of a uniform crimson-scarlet, with the outer sepals largest, and all loosely arranged round a common centre. On the whole it is a bold and conspicuous variety. Award of Merit.

CARNATION MRS. H. CANNELL.—The flowers of this Carnation are very large, double and of a beautiful soft rose. The petals are all broad, undulate, and not crowded although quite full. The variety is useful for indoor or outdoor culture, and the flowers are highly fragraut, a recommendation but too often absent in Carnations. Award of Merit Both this and the above Begonia were shown by Messrs. H. Cannell & Sons.

TREE PÆONY ORME.—The petals are less numerous in this single variety than in the oldest forms of Tree Pæonies in cultivation. The petals are obovate, slightly toothed at the edges, and of a deep maroon red The filaments and ovary are of the same hue, but the anthers are yellow. Award of Merit. It was shown by Messrs. Kelway & Son, Langport, Somerset.

SELAGINELLA ELEGANS.—In this we have evidently a form of S. apus, known in gardens under various names. It is somewhat taller than the type, with the leaves more sparsely arranged, and of a pleasing bright green. Altogether the stems would not exceed 2 in. or 2½ in. in height. First-class Certificate.

PTERIS SERRULATA GRACILIS.—The fronds of this variety are once or twice pinnate at the base, but only pinnate upwards. The pinnæ are long, but comparatively rigid and remarkably narrow, giving the plant a graceful appearance as is implied by the varietal name. The forms of Pteris serrulata are now becoming very numerous, but that under notice is wonderfully distinct, and while the pinnæ are narrow the fronds are very numerous, giving the plant a compact or rather well furnished appearance. First-class Certificate. Both this and the Selaginella were shown by Messrs. H. B. May, Dyson's Lane, Upper Edmonton.

TREE PÆONY SNOWFLAKE.—The leaves of this Moutan Pæony are rather slender with narrow segments and light in colour. The flowers are single and pure white, with about ten obovate petals, slightly undulated, and toothed along the upper edge. It was shown by Mr. T. S. Ware, Tottenham, and received an Award of Merit.

PTERIS TREMULA DENSA.—The fronds of this variety are very much shortened, and heavily branched and crested, reminding us of some of the varieties of the Lady Fern, such as Asplenium Filix-fœmina grandiceps, A. F.-f. acrocladon, aud A. F.-f. depauperatum. The whole lamina of the frond is branched in this way down to the petiole, and a well furnished plant forms a round headed mass about 8 in. to 10 in. high. It was shown by Messrs. Richard Smith & Co., Worcester, and received a First-class Certificate.

PELARGONIUM PRINCESS MAY.—The petals of this variety are slightly undulated, so that it may be classed in the regal or decorative section, and they are of a beautiful soft salmon with a large crimson feathered blotch on each of the two upper ones. The variety will no doubt prove useful for market purposes An Award of Merit was accorded it wheu shown by Messrs J. & J. Hayes, Lower Edmonton.

AZALEA MRS. ANTHONY WATERER.—The flowers of this new hardy Azalea are large, with ovate, imbricate segments, and pure white with exception of a yellow blotch on the middle of the upper segment, and this fades cousiderably as the flower gets old. The leaves are elliptic-oblong and deciduous. A First-class Certificate was awarded it when shown by Mr. Anthony Waterer, Knap Hill, Surrey.

Tea Rose Princess May.—The flowers of this Rose are large, somewhat similar in shape to that of La France, and delicate pink fading to a very pale tint on the outer petals, which are strongly revolute or folded backwards at the edges. An Award of Merit was accorded it when shown by Messrs. Wm. Paul & Son, Waltham Cross.

Lobelia Barnard's Perpetual.—This seems a rather strong growing, upright habited Lobelia of the bedding type (Lobelia Erinus). The stems are 4 in. to 6 in. high, and graceful, but might be dwarfer and more compact if grown out of doors. The upper segments of the flower are small and deep blue, while the lower lip is broader, of a rich dark blue shaded with purple, and having two small, white, eye-like spots near the base. The foliage is also of a dark tint and by no means prominent. An Award of Merit was granted it when shown by Mr. H. Barnard, Chase Side, Southgate.

Cucumber Sutton's Success.—The parentage of this Cucumber was Sutton's A. 1. crossed with Prize Winner, and the progeny has the free bearing habit of the former and the colour of the latter. The five specimens shown by Mr. S. Mortimer, Swiss Nursery, Rowledge, Farnham, Surrey, were 19in. long, cylindrical, smooth, faintly ridged, slightly tapered at the very base, and of a uniform, rich dark green. First class Certificate.

Apple Armorel.—The fruits of this Apple are rather of small size, gobular, but slightly depressed at either end, yellow, spotted with russet specks and heavily covered with russet as a rule all over the top. The eye is open, and set in a moderately deep rounded, and scarcely plaited cavity. It was in splendid condition when shown by Mr. C. Ross, Welford Park, Newbury, and a First class Certificate was awarded it.

HAY AND HAY-MAKING.

So many gardeners having to include hay-making among their multifarious duties, we make no apology for bringing under their notice a valuable pamphlet published at a cheap rate by Stanford, of Charing Cross, entitled, "The Relative Feeding Value of Grass Cut at Different Periods of Growth." The authors are Mr. Martin J. Sutton, F.L.S., and Dr. J. A. Voelcker, F.C.S. Mr. Sutton has a very old pasture near his house, Kidmore Grange, Caversham. and last year (1891) divided the field into five plots, each containing one-twentieth of an acre. The produce of each plot was most carefully cut with the scythe and hand-shears, and was at once weighed in the green state. The first cutting of Plot I. was made on June 3rd; the other plots were cut at intervals up to July 29th. The second cutting of Plot I. (the aftermath) was cut on September 2nd, and the other plots were cut a second time at different dates, the last being mowed on October 29th. A third cutting was made of Plot I. only, and that was on October 29th. The conclusion arrived at by Mr. Sutton is as follows:—"Strongly as I have always written and spoken on the importance of early cutting, I was quite unprepared to find, as these experiments prove, that hay can be made with advantage when the grass is only seven inches high, and that even at the flowering stage meadow hay has passed its best. Had I cut my 200 acres of grass land surrounding these plots simultaneously with the cutting of plot No. I., instead of waiting until plot No. IV. was cut (July 15th)—the time when hay-making had become general in the district—I should have secured grass, weight for weight, of far greater intrinsic value than the crop I actually mowed, and I should have had the advantage of splendid haymaking weather. The subsequent feed and aftermath, instead of being injured by the half-made hay lying about on the turf nearly the whole of July, would have benefited by the downpour of rain in that month, which made hay-making so difficult and expensive." Dr. Voelcker's part of the pamphlet deals with the chemical results obtained. Mr. Sutton asked him to decide two questions: Firstly, what is the feeding value of aftermath? Secondly, what are the relative food-producing powers of a meadow, when cut at various times? Dr. Voelcker's answers are as follows:—"The first question may be answered, so far as this experiment goes, by saying that it would appear that an early cut aftermath is as good as an early first cut, but that a later aftermath is inferior to a late first cut. Therefore the earlier an aftermath is cut the better it is." "The second question is hereby answered by this experiment. The earlier the meadow be cut the more and better produce will it yield throughout the year; the later it be left the smaller and poorer will the out-turn be."

ORCHID NOTES AND GLEANINGS.

Variability of Cypripedium Lawrenceanum.

Several of the species of Cypripedium are liable to vary in some particular or other, but the variation is generally a doubling of the lip, or the petals are inclined to simulate the lip. C. Lawrenceanum shows variability in the sepals; and when imported in quantity as is done by Messrs. Hugh Low & Co., Clapton, some variation may frequently be noted not merely in colour but in form. At present the upper sepal in one case has a lobe on each side near the base. Close by is another specimen in which the lower sepal is separated to the base into two pieces representing in fact the two lateral sepals of which it was originally made up by combination. Occasionally the lower sepal simulates the upper one both in size and colour, and which must be considered as another case of reversion, an attempt to resume an ancestral condition.

Oncidium Lanceanum.

It is seldom we get so decidedly away from the usual type of Oncidium as in this case. The leaves are oblong, channelled, and leathery, doing duty for pseudo-bulbs which are here absent. In this respect it agrees with several others; but the flowers are large, strikingly distinct, and richly coloured. The sepals are elliptic, the upper one being richly blotched with brown and reticulate with yellow, while the lateral ones are more nearly of a uniform brown slightly marked with yellow. The petals are oblong ovate and coloured like the upper petal. The lip is three-lobed, the side lobes being small, rounded, and deep purple, while the middle lobe is oblate and of a soft purple slightly tinted with violet. The leaves are spotted with purple as in O. Papilio, and O. Krameri. We noted a fine piece of it flowering the other day in the nursery of Messrs. H. Low & Co., Clapton.

Lælia superba splendens.

The dwarf habit, the relatively large and richly-coloured flowers of this Lælia are strong recommendations for its addition to collections which do not already contain it. The sepals are oblong and rosy-purple, but the petals are oblong-elliptic and several shades darker. The three-lobed lip is a rich dark purple, the middle lobe bifid, with a median-yellow ridge and several shallower white ones forming a white blotch on the disc. The pseudo-bulbs are club-shaped, moderately strong, and about 6 in. in length. The whole plant is compact, requiring but little space for its accommodation, and is very distinct from the other kinds now in bloom. A flowering piece of it may be seen in the nursery of Messrs. H. Low & Co., Clapton.

SOCIETIES.

Royal Horticultural, *June 7th.*—The principal features of the meeting on Tuesday last were Orchids, hardy herbaceous plants, and Rhododendrons. A group of Orchids was exhibited by Walter Furze, Esq. (gardener, Mr. E. Coombe), Roselands, Teddington, including Cattleyas, Lælias, Odontoglossums, Cypripediums, and Masdevallias, set up with Caladiums, Maidenhair Fern, &c. A Silver Flora Medal was awarded. Some Orchids, including Cattleya Arnoldiana, C. Forbesi, Sander's variety, and others, were shown by Messrs. F. Sander & Co., St. Albans. J. W. Temple, Esq. (gardener, Mr. E. Bristow), Leyswood, Groombridge, showed Cattleya Warneri Leyswoodiensis, a curious form of C. Mossiæ and some others. Warscewiczella Lindenii, Coryanthes leucochoris, Cynorchis peruvianum and several other interesting things were shown by Messrs. J. & L. Linden, Leopold Park, Brussels, Belgium. Cattleya Mendelii Shawiana was exhibited by H. Shaw, Esq. (gardener, Mr. J. Cliffe), Ashton-under-Lyne. He also had cut flowers of several other Cattleyas. Cut flowers of Cattleyas were also exhibited by the Rt. Hon. Joseph Chamberlain, M.P., Highbury, Birmingham; as well as by R. B. Cater, Esq. (grower, Mr. W. Tanser), Westfield, Bath. Cut flowers of Lælia purpurata superbiens were shown by Mr. J. Hudson, gardener to the Messrs. de Rothschild, Gunnersbury House, Acton. The 24 flowers shown were from one plant. Oncidium loxense, Odontoglossum Pescatorei Prince of Orange, Dendrobium Parishi albens and some others were shown by Sir Trevor Lawrence, Bart., M.P. (grower, Mr. W. H. White), Burford Lodge, Dorking. G. Ingram, Esq. (gardener, Mr. T. W. Bond), Elstead House, Godalming, showed a fine piece of an Orchid under the name of Cymbidium Loisechauvierii, with green and black flowers somewhat resembling the colours of Cœlogyne pandurata, and also Cattleya Canhamæ, a bigeneric hybrid between C. Mossiæ and Lælia purpurata. Some finely flowered pieces of Dendrobium MacCarthiæ, Lælia grandis tenebrosa, and Promenæa xanthina were shown by C. J. Lucas, Esq. (gardener, Mr. G. Duncan), Warnham Court, Horsham. A Cultural Commendation was accorded to the last named on account of the great quantity of flowers produced by it. A small group of Orchids was also shown by F. Wigan, Esq. (grower, Mr. W. H. Young), Clare Lawn, East Sheen, including a fine piece of Cypripedium Rothschildianum, Dendrobium Falconeri, Cattleya Schilleriana, and others. A group of Cattleya Mossiæ was exhibited by Messrs. Hugh Low & Co., Clapton. Amongst the plants was a variety named C. M. Cynthia, with a white tube to the lip. A photograph of Cattleya citrina as grown at Hildenley was shown by Sir Chas. Strickland, Bart. A Bronze Flora Medal was awarded to His Grace the Duke of Northumberland (gardener Mr. G. Wythes), Syon House, Brentford, for a group of a fine variety of Cypripedium barbatum, some plants of Miltonia vexillaria, and others set up with Maidenhair Fern. A fine piece of Dendrochilum latifolium was shown by Mr. F. Bridger, Penshurst, Kent. Some fine racemes of bloom of Odontoglossum crispum Rex, O. c. Walstentalum and O. Dellense were shown by Baron Schroder (gardener, Mr. Ballantine), The Dell, Egham. Some prizes were offered for twelve trusses of cut flowers of Orchids, and the first prize was awarded to Mr. G. Wythes, who had a fine lot of flowers, but was the only exhibitor. The first prize for a new Orchid was awarded to Messrs. F. Sander & Co., who had Cattleya Arnoldiana. The second prize went to G. Ingram, Esq. A hybrid Masdevallia named M. Weathersiana, was shown by Messrs. Seager & Tropp, Lordship Lane, East Dulwich.

A Silver Gilt Flora Medal was awarded to Messrs. Kelway & Son, Langport, Somerset, for a large collection of cut flowers, including Amaryllis, single and double Pyrethrums, and herbaceous Pæonies, both single and double. A Silver Flora Medal was awarded to Messrs. Wm. Paul & Sons, Waltham Cross, for cut flowers of a large collection of hardy Rhododendrons grown on loam. A silver Banksian Medal was awarded to Messrs. Dobbie & Co., Rothesay, Scotland, for a large collection of bedding Violas, in fine condition, including such distinct things as Vernon Lee, Ariel, P. Barr, Columbine, Blue Cloud, Peacock, etc. They also had Sweet Peas and fancy Pansies. Some Gloxinias and a Carnation named Yellow Queen were exhibited by J. Donaldson, Esq. (gr. Mr. T. Bones), Tower House, Chiswick. A Silver Banksian Medal was awarded to Messrs. Paul & Son, Cheshunt, for a collection of Irises, Ramondia and other herbaceous plants. The Kelway Silver Medal for single and double Pyrethrums was awarded to Mr. T. H. Crasp (gr. to Lord Wimborne), Canford Manor, Wimborne. The first prize for 12 varieties of Rhododendrons was awarded to Mr. G. Wythes; Mr. G. Sage (gr. to the Earl of Dysart), Ham House, Richmond, was second. A fine stand of Ixora Westi and I. Fraseri was shown by Mr. J. Hudson.

At a meeting of the Fruit Committee a Silver Banksian Medal was awarded to Mr. J. Hudson for a grand sample of Lord Napier Nectarine. A new Peach named Amsden June was shown by Mr. Wythes. Melons were shown by Mr. J. Bowerman, Hackwood Park, Basingstoke; by Mr. Heavers (gr. Mr. S. Ely), Henley-on-Thames; by T. W. T. Drake, Esq. (gr. Mr. J. Thomas), Amersham, Bucks; by Mr. Robert Frisby, Worden Hall, Preston; and by A. Pears, Esq. (gr. Mr. F. Idlebaum), Spring Grove, Isleworth. The latter received a Cultural Commendation for a dish of Dr. Hogg Peaches. A box of Cucumbers was shown by Mr. W. H. Castle, The Gardens, Castlemans, Twyford. Some Rhubarb, Spinach, and Turnips were brought up from the gardens at Chiswick.

Manchester Botanical and Horticultural.—The annual Whitsuntide show of the Royal Botanical and Horticultural Society was opened at the Botanical Gardens, Old Trafford, on the 3rd inst. The large annexe, adjoining the old exhibition house, is one mass of colour, and the show altogether forms an interesting addition to the old America Exhibition at present located in the Gardens. Some of the Rhododendrons had not yet attained their full beauty, but in a day or two would show to the best advantage.

The annual dinner of the society was held in the Palm House, Mr. Samuel Barlow presiding. Mr. E. J. Broadfield, proposing "Success to the Society," said he ventured to predict that before many years were over there would be a new development in the society. He could not understand why, inasmuch as funds were granted by the County Council for helping technical education of so many kinds, that nothing was done for that important branch of technical instruction carried on in those Gardens. He hoped that the members of the Town Council and the Legislature present would see that this important branch of education was not neglected. Manchester owed much to the Botanical Gardens for its help in solving the question of providing healthy summer recreation for the people of the neighbourhood.

The CHAIRMAN, responding to the toast, said they hoped the County Council were awakening to a proper sense of their responsibilities in this matter. He had had many talks with the members of that body upon the advisability of rendering assistance to the society, and he thought he would ultimately be able to bring them over to his way of thinking. Horticulture was a very important science, and as the County Council seemed to be voting sums of money for dairy and agricultural purposes, he thought the Royal Botanical Society should have a share. They had a claim on the community. They ought not to be ignored, and the claim should be accepted cheerfully. There was no commercial element in the gardens. The proprietors could not earn a single shilling, but they could be out of pocket to the extent of £20,000 or £30,000.

Mr. J. W. MACLURE, M P, proposed "Success to Old America," which was acknowledged by Councillor GIBSON. Mr. J. H. P. LERESCHE proposed the health of Mr. Findlay, the curator of the gardens.

Mr. FINDLAY, acknowledging the toast, said that was the twenty-sixth Friday preceding Whit-Sunday that he had been privileged to perform that agreeable duty. The conditions were somewhat different now, still none the less agreeable. He was proud to belong to a guild older than Old America; older than any institution associated with ancient Greece or Rome. Being a professional son of Adam, he traced his pedigree to the Grand Old Gardener and his wife. The gardener's business from an ancestral point of view had certainly the stamp of ancientness upon it, since it was the calling of the first parent of us all, and moreover until the days of the last man we should be dependent upon the gardener's energies. Its business combined in itself more of the useful and beautiful than any other calling in the world. By the sweat of his face mankind was fed; by the taste of his calling the earth was beautified; and there is a direct donation to the benefit of man in all his works.

WHAT TO DO IN THE GARDEN.

Ixoras.—Small plants of Ixoras are now frequently grown either for decorative purposes or for cut flowers. In either case it is necessary to pay close attention to the plants to see that they do not get infested with mealy bug. When the trusses make their appearance it will be seen that the insects settle themselves amongst the branches till it becomes almost impossible to dislodge them. Syringing with clear water directed amongst the branches with some force will prove sufficient if taken in time, otherwise a strong solution of soft soap or Gishurst Compound may be employed, laying the plants on their sides so that the water may not run into the pots.

Allamandas in pots. — Specimen plants of Allamandas that were intended for late flowering by pinching them back about two months ago will again be showing for bloom or will soon do so. The stems may be tied in if intended to flower on a trellis or framework of any kind, observing always to keep the shoots in an ascending direction, otherwise they often fail in vigour and the flowers do not attain perfection. Assist the plants with liquid manure if the soil is at all crowded with roots.

Peaches.—With the fine weather we have been enjoying there should be no complaint as to the colouring of Peaches and Nectarines, especially if care has been taken to expose the fruit as previously advised. Keep the atmosphere of the house dry while the fruits are attaining their last stages of maturity, and ventilate freely during the day, not omitting to leave some air on all night. As soon as the fruits are all gathered in the earliest house get the garden engine to work and thoroughly syringe every part of the trees, using some force to wash away red spider and other vermin.

Melons.—For the northern and colder parts of the country make a sowing now of one or two well-known and well-tried sorts to come into use during October and November. Those that succeed in the early part of the year are also suitable for late work. In pits and frames heated with fermenting dung, less water will be necessary on cold and dull days, otherwise growth will be considerably checked. All water should be given when necessary early in the morning so that the foliage and atmosphere will be dry when shutting up early in the afternoon.

Bedding Out.—All but the most tender subjects should now be in the beds, and kept well watered in dry weather till they begin to get established. Dahlias, Heliotropes, Alternantheras, and Coleus, are amongst the most tender and should always be reserved to the last; but should the weather continue as good as that in the latter part of May there will be no danger even for these subjects provided they have been well hardened off.

Vegetable Seed Sowing.—Sow late varieties of Peas to come into use during the latter part of September, and when the soil is light and sandy it would be advisable to take out a trench 10 in. or 12 in. deep, into which a layer of well-rotted manure should be placed and covered with soil. The Peas may be sown on the top of this and covered without however filling up the trench. This will facilitate watering, also incline rain water to drain there and serve in every way to encourage a healthy vigorous growth in the Peas. Sowings may also be made of Veitch's Autumn Giant Cauliflower, as well as Walcheren, Dwarf or French Beans, Broad Beans, Lettuce, Radishes, and Turnips, to succeed those already coming on. The seed beds will have to be protected from birds.

Borecole or Kale.—The present is a good time to plant out good breadths, according to requirements, of dwarf or tall curled Greens, whichever is found to be most suitable for the place. Cottagers' Kale is also very useful for furnishing a supply of useful and delicious sprouts towards the end of spring, when green vegetables generally have run short. Dwarf curled greens should be planted in rows 2 ft. apart, and 18 in. to 20 in. in the row. Tall curled greens and cottagers' Kale grow much taller and require 6 in. or 8 in. more each way.

Broccoli.—Make plantations of the different varieties of Broccoli in ground that has previously been well prepared as for other plants of the Brassica tribe. The plants should be inserted at 2 ft. apart each way to give them ample room for the large leaves they make. A good deal of the success depends upon the way the seedlings have been prepared. To sow thickly and allow the seedlings to get crowded before removal from the seed bed are great mistakes. When they come up thickly they should be thinned out and the seedlings transplanted to temporary beds until fit to put in their permanent quarters.

QUESTIONS AND ANSWERS.

MUSHROOMS.—*Athos*: Wright's *Mushrooms for the Million*, published at 171, Fleet Street, price 1s., is the best work on the subject. All respectable nurserymen and seedsmen now sell spawn of the best quality. A first-rate article is advertised in our columns by the Messrs. Cutbush of Highgate.

IBERIS SEMPERVIRENS FLORE PLENO.—*Quis*: We are afraid other growers' experience of this much belauded novelty is the same as your own. Some examples, brought up to the meeting of the Floral Committee on Tuesday by a member, sufficiently proved its rubbishy character.

WINTER FLOWERING CARNATIONS.—*J. Allsop*: How can you expect large flowering plants for blooming next winter if you layer or cut off the grass now? Pot the plants on as they are, and the young growths now made will be those that will bloom when you want them. Propagate next season's stock early in the spring. Pot them in a free, open compost, and be careful in the matter of watering. Over watering is the great evil to guard against with tree Carnations.

BEETLE ON RASPBERRY FLOWERS.—*John Holmes*: The insects you sent us were the Raspberry Beetle (Byturus tomentosus), which had been busy laying their eggs in the flowers to hatch later on into the grubs which are well known all over the country for the damage they do to the fruit just when it is getting ripe. When present in large numbers as they seem to be with you they totally destroy much fruit if their attack was begun early, and if they do not entirely destroy it, they render it unfit for use, which amounts to the same thing. The most effective remedy is to shake the beetles in to or on to something which will prevent them from flying away. In some cases the canes have been shaken over guano bags, or something of that nature soaked in paraffin oil. At other times wooden trays or boards covered with fresh tar have been employed, so that when the beetles are shaken down upon them they are held fast. This operation should be performed early in the morning, when the insects are sluggish, for they quickly take wing if disturbed during the day, especially in bright weather. If this is assiduously carried out during the month of June you cannot fail to greatly reduce the numbers of the destructive pest. As the full-grown maggots change into the chrysalis state hidden away under loose bark and in sheltered places upon the Raspberry canes, you ought to clear away and burn the old wood as soon as the crop is gathered. It is not enough merely to cut them away, as burning alone will destroy the chrysalis hidden upon the old stems.

NAMES OF PLANTS.—*J. Souza*: 1, Please send when in fruit; 2, Asplenium marinum var.; 3, Adiantum pedatum; 4, Blechnum occidentale probably, no fruit; 5, Pteris quadriaurita; 6, Aspidium coriaceum; 7, Polypodium Billardieri; 8, Onychium japonicum; 9, Pteris tremula Smithiana. Five of them were entirely without fruit and not in character. —*Dingwall*: 1, Davallia Mariesii; 2, Davallia elegans apparently but no fruit. The flowering plant is Habrothamnus elegans.

COMMUNICATIONS RECEIVED.—J. W.—J. C.—W. Clibran & Son—R. D.—C. W. S.—J. R. C.—R. W. —C. R.—C. L.—R. M.—H. G. R.—W. M.—J. S.

COVENT GARDEN MARKET.

June 8th.

No alteration in prices of Fruit and Vegetables since last week.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, per doz.	6 0	9 0	Fuchsia, ...per doz	4 0	9 0
Azalea Mollis, per dz.	18 0	36 0	Genista .....per doz.	6 0	10 0
Begonias ...per doz.	6 0	12 0	Heliotrope, per doz.	4 0	6 0
Crassula ...per doz.	6 0	10 0	Ivy Pelargoniums, per doz. pots	5 0	8 0
Cyperus .....per doz.	4 0	12 0	Lilium Harrisii, doz.	15 0	30 0
Cineraria ...per doz.	4 0	8 0	Lobelia, ...per doz.	4 0	6 0
Dracæna term., doz.	24 0	36 0	Marguerites, per doz.	6 0	12 0
Dracæna viridis, doz.	9 0	18 0	Mignonette, per doz.	5 0	10 6
Echeveria Pyramidalis.....	9 0	18 0	Musk,.....per doz.	2 0	4 0
Erica various per doz.	9 0	24 0	Palms in variety, each	2 6	10 0
Evergreens, invar. doz	6 0	24 0	Palms, Specimen ...	15 0	63 0
Ferns, invar., per doz.	4 0	18 0	Pelargoniums, per doz.	8 0	15 0
Ferns, small, per 100	8 0	12 0	—scarlet .....per doz.	3 0	6 0
Foliage Plants, doz.	12 0	60 0	Spiræas.....per doz.	8 0	12 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Anemone various, doz. bun.	2 0	4 0	Narciss, double, doz. blooms	0 6	0 9
Arum Lilies, 12 blms.	2 0	4 0	Pelargoniums, 12 sps.	0 9	1 0
Bouvardias, per bun.	0 6	1 0	— scarlet.....12 bchs.	4 0	6 0
Carnations, 12 blooms	1 0	3 0	Primula, double, bun.	0 9	1 0
Eucharis ...per doz.	2 6	4 0	Pinks .....doz. buns.	3 0	6 0
Gardenias 12 blooms	1 6	4 0	Pansies, doz. bchs ...	1 0	2 0
Gladioli...doz. buns.	6 0	12 0	Polyanthus, doz. bchs.	2 0	4 0
Heliotropes, 12 sprays	0 6	1 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Iris (various), dz. bn.	6 0	9 0	Roses, yellow, dozen	2 0	6 0
Lilac, French, per bunch	4 0	5 0	— Red..... doz. blms.	2 0	4 0
Lilium Harrisii, doz. blooms	2 0	4 0	— Saffrano...per doz.	1 6	2 6
Liliums var., dz blms.	1 6	3 0	— Tea ..... per dozen	0 6	2 0
Lily of the Valley, doz. bunches	3 0	9 0	Spiræas...doz. bnchs	4 0	6 0
Maidenhair Fern, 12bs.	4 0	6 0	Stephanotis, dz. sps.	1 6	2 6
Marguerites, 12 bun.	2 0	4 0	Sweet Peas, dz. bns.	6 0	9 0
Mignonette... 12 bun.	3 0	6 0	Sweet Sultan, dz. bn.	4 0	6 0
Myosotis or Forget-me-not, doz. bnchs.	2 0	4 0	Tuberoses, per doz	0 6	1 6
Moss Roses, (French) doz. blooms	1 0	2 0	Tulip, doz. bchs	2 0	6 0
			Wallflowers, doz. bunches	3 0	4 0

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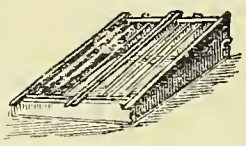

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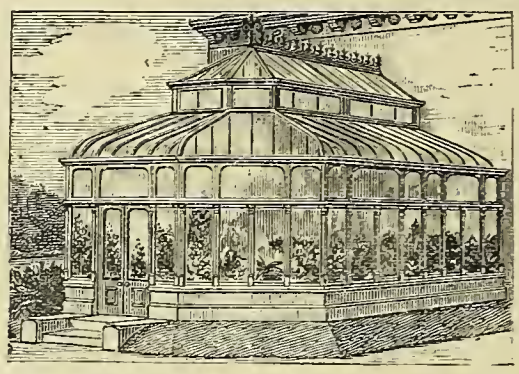

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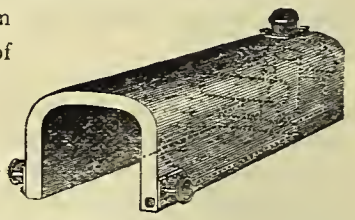

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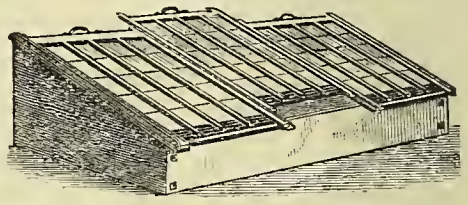

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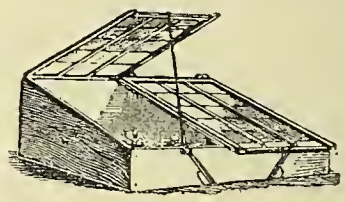

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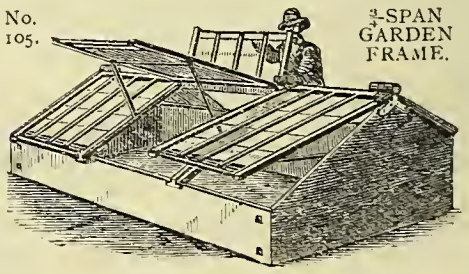

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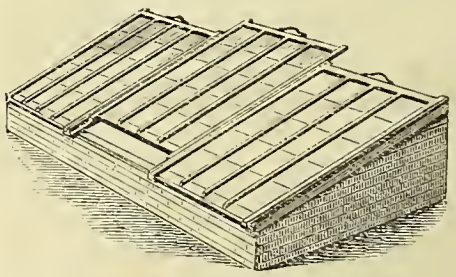

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For Index to Contents see page 666.

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NEXT WEEK'S ENGAGEMENTS.

TUESDAY, June 21.—Royal Horticultural Society: Meeting of Committees at 12 o'clock. National Rose Society's Show.

WEDNESDAY, June 22.—Royal Botanic Society's Floral Fête.

FRIDAY, June 24.—Sale of Orchids at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, JUNE 18th, 1892.

METROPOLITAN MARKETS.—The opening of the new Fruit and Vegetable Market in the City on Monday is an event fraught with considerable interest alike to growers and consumers. Public markets of every description are sadly needed all over the metropolis for the victualling of the five millions of people living within its area, and to no industry is this matter of the provision of markets of greater importance than to that of gardening. We note with great satisfaction the issue of a circular by the Association for the suppression of street cries and nuisances, which puts in a nutshell the difficulty the Association has to contend with in promoting its end. That difficulty naturally is found in the want of many and suitable markets, which cannot be established because a few privileged bodies or persons possess charters which prevent the establishment of public markets within seven miles of the City.

Of course an evil or giant monopoly of that nature can only be dealt with by Act of Parliament. It stands to our shame as evidence of our patient tolerance of evils that we have made no appreciable effort to get rid of this monopoly, and have allowed the metropolis to grow, to expand, and multiply without seeking in any way to grapple with so serious a matter as the cheap and convenient provisioning of the mass of the people to whom we have referred with fresh fruit and vegetables.

This matter now assumes a more hopeful case. We shall have in the next Parliament, let us hope, one that will not be indifferently tolerant of flagrant monopolies and abuses, and for reasons given elsewhere cannot doubt but that when called upon to deal with the question of market monopolies it will deal with the subject nationally and not locally. Then, so far as the metropolis is concerned, we have now a popular body—the County Council—than which none is more fitted to become the market authority and which will work to that end. Finally we have the Association referred to, a powerful body which can help to beneficial action.

COSTERS' MARKETS.—Without doubt the street nuisances to which we have before referred are found chiefly in what are called costers' markets. These are of a somewhat impromptu kind, based on no official status or charter but have gradually grown up in various localities, from small beginnings, until they have become serious, if not intolerable nuisances. They serve the poor cheaply and fairly well without doubt, and they supply a great number of articles not always obtainable elsewhere. Still there has arisen a strong movement for the suppression of these street markets, and where attempted with the high hand of official authority, much hardship and suffering has resulted.

The official element has simply striven to suppress without offering any substitute. That of course cannot be tolerated, but because of the charter monopolies we have referred to, it has been found impossible to furnish the only proper substitutes, in the shape of public retail markets. It is important that the costers—the Uhlans of the retail trade—should be made to see that only in the direction named is any satisfactory solution of their difficulty possible. It is important that their poor customers, their mortal enemies, the vestry officials, the resident traders, whom the costers so much annoy, and indeed all intelligent people, should see the same, and thus bring to the aid of the County Council, whether of London or elsewhere or of corporations, that force of public opinion which shall compel Parliament to pass measures abrogating market monopolies, and placing the control of all markets free and unfettered in the hands of the bodies named. The poor costers, after all, if a nuisance in a crowded thoroughfare, are none the less an important factor in trade, and demand, as they certainly deserve, full and fair consideration.

COUNTRY MARKET MONOPOLIES.—A case came under our notice recently which illustrates in a remarkable way at once the evils attendant upon even municipal monopolies in provincial towns, and the way they harmfully effect other rising towns in their neighbourhood. There is an old-established public market for all sorts of commodities, held in the borough of Kingston-on-Thames under a charter which, as we learn, prevents the establishment of any similar market within a given radius, and that radius includes the rising towns of Richmond and Wimbledon.

The coster element, it appears, has become a growing trouble in both these places, and just recently the Wimbledon Local Board applied to the Kingston Town Council for leave to establish a proper Public Market in their town, into which the costers might be forced, and thus at once promote a public benefit and get rid of a public nuisance. The request surely was a reasonable and proper one, yet we learn with disgust that the Kingston Corporation have, with a real dog-in-the-manger spirit, refused to consent to it. To assume that a small market at Wimbledon, some five miles away, could affect the fortunes of the Kingston Market is to assume anything, however stupid and absurd. That, however, seems to have been the basis of this monstrous act of refusal.

This case, as we previously said, illustrates in the most forcible way the importance of calling upon the new Parliament when it shall assemble to carry measures dealing with the question of market monopolies throughout the whole Kingdom. It is so utterly monstrous that in such a matter Kingston should dominate Richmond, Wimbledon, or any other town, that it seems only needful to have the matter discussed to bring about a clean sweep of all such monopolies.

THE GOLDEN LILY OF THE NILE.—It has been the lot of very few specially new plants of late to create greater interest than has Captain Elliott's golden Richardia, the entire stock of which will be sold by Messrs. Protheroe & Morris on June 17th. There have been very many new and beautiful plants from time to time put into commerce, but not all have the same interest which attaches to the yellow Nile Lily, for the obvious reason that Richardias seem to be specially adapted for popular sale, and hence, in their season, are in universal demand. No doubt Mr. Sander's new Dipladenia, of which we give an illustration in another page, is a beautiful plant truly, and finds hosts of admirers, still it does not belong to the same popular class as the Richardia, and hence will never get into universal growth or become in the same way a great market plant.

It was perhaps not a matter for surprise that we should have obtained a comparatively dwarf or miniature white-spathed Richardia, as we see in Little Gem, because such breaks are in plants by no means unfrequent. To have got a really good yellow-spathed variety, however, creates now almost as much of interest as would that floral *rara avis*, a blue Dahlia or a scarlet Chrysanthemum. It is not enough to say that florally this novelty is a good thing, for the spathes, besides being really yellow, —and a very soft, creamy yellow too—are of good size and form, whilst the plants are of robust growth and have leaves somewhat splashed with white, which gives to the whole emphatic distinctness.

We may well hope to learn that whilst no prohibitory reserve will be put upon the stock of this interesting novelty, it will get into the hands of many members of the trade, as once widely dispersed there can be no doubt but that we shall in a few years see it almost universally cultivated.

The International Horticultural Exhibition.—The attendance at the International Horticultural Exhibition during the first thirty-one days that it has been opened reached on Saturday night 506,833. These returns are far greater than at any previous exhibition at Earl's Court at this time of the year.

The Cardiff and Chrysanthemam Society has issued a schedule of prizes for their show to be held on the 9th and 10th of November.

The National Rose Society's Show at Chester has been postponed from July 14th to Saturday, July 16th.

Royal Horticultural Society.—The next meeting of the society in the Drill Hall, James Street, Westminster, will be held on Tuesday, June 21st, and, we understand, promises to be of more than ordinary interest. In addition to the plants and flowers usually to be seen, there will be competitions among amateur growers of Pæonies, Delphiniums and Pinks. The National Rose Society will also hold its first show of the season, and the display promises to be a fine one. At 30 'clock Mr. W. T. Thiselton Dyer will deliver a lecture on "The Management of Trees in Parks and Gardens."

The weather at Bingley, in the West Ridings, writes a correspondent, was during Whit week (up to Friday) everything that could be desired, "but it has since changed to cold showers and wind, and although fair to-day (Monday) still keeps threatening. All outside fruit crops (excepting Gooseberries) promise an average return. Cherries, both on walls and standards, look like carrying a heavy crop, while Strawberries are showing good strong blooms." We had a cold rain in London on Sunday, and the temperature since has been very low for the leafy month of June.

The Rhododendrons at Heron Court.—The Earl of Malmesbury has given public notice that he will throw open to the public for three months the famous Rhododendron forest at Heron Court, near Bournemouth, but expresses the hope that visitors will pay attention to the rules, especially in regard to the prohibition of smoking. Serious fires have often been caused by careless and inconsiderate smokers, and if such conduct be repeated, he will be compelled to close his woods.

Scottish Horticultural Association. — A largely attended meeting of this association was held at 5, St. Andrew Square, on the 7th inst., Mr. W. M. Welsh, president, in the chair. The principal item of business was a paper by Professor M'Alpine entitled "The Germination of Seeds." The Professor minutely explained the process of germination, stating that the three principal agents in the production of healthy plants were water, air, and heat, and showed, by means of a model, his mode of germinating seeds. Several fine specimens of Hydrangeas, Calceolaries, etc., were exhibited.

The Sweet Briar a Pest.—Our Australian cousins are unfortunate in sundry of their imports from the old country. Everybody knows the mischief done by the prolific rabbit, but to hear complaints against the Sweet Briar is something new. Nevertheless, the fragrant Rosa rubiginosa has increased and multiplied to so great an extent as to have become a serious nuisance, and it is proposed to place it and furze in the list of plants to which the provisions of the Thistle Act apply. That means that the duty of eradicating these weeds will be thrown upon the shire councils.

The Gardeners' Royal Benevolent Institution.—The Committee of this institution regret to announce that, in consequence of the lamented death of Lady Goldsmid, the 53rd Anniversary Festival Dinner, at which Sir Julian Goldsmid had kindly consented to preside on the 29th inst., is unavoidably postponed to a date which will be duly notified. Meanwhile the committee earnestly trust that the many friends who have supported the institution in the past will not relax their efforts, but rather increase them on behalf of its funds, and thus endeavour to make this year's annual collection worthy of the cause for which it was promoted. A sum of nearly £700 is required on the 1st July to meet the quarterly payments then due for pensions alone, and the committee therefore sincerely hope that the institution will not be allowed to suffer from any diminution in the amounts collected on account of the unforeseen and regrettable circumstances which have led to the postponement of the festival for a short time. All monies should be remitted to the secretary, Mr. George J. Ingram, 50, Parliament Street, London, S.W., who will be pleased to send collecting cards to any who may desire them.

An Historic Elm Tree.—The *Western Mercury* says that everybody who knows anything about Devonshire knows Moreton-hampstead, and up to last year there was one thing in Moreton which all pilgrims to the heart of Devon desired more than any other thing to see. It was the historic Elm which grew in the centre of the town. The Elm is still there, but is shorn of the glory that had been its own for centuries. The tree was a magnificent specimen of its tribe, as the photographer has been able to show. It had a curious history. The branches were trained in the form of a cup, leaving a big hollow in the centre, and on certain great occasions this hollow received a plank floor, and music and dancing were carried on by the festive inhabitants high above the earth. Last winter a storm almost destroyed the tree, and it is now nothing more than a stunted pollard. The timbers that were blown down, however, have been carefully stacked close by, and the relic hunters have this year been seized with a mania for taking away pieces of bark and twigs. Periodical depredations will soon leave nothing but dust, and those who desire to have a fragment of the true Elm should not delay.

A use for Water Thyme.—Everyone who lives near fresh water, whether that be rivers, ponds, lakes, canals, watercourses, or ditches, knows what a nuisance the American water weed (Elodea canadensis or Anacharis alsinastrum) has become within recent years. This is more especially the case in the more stagnant or sluggish watercourses or ponds, especially if not peopled by swans and other water fowl, which serve largely to keep it down. In pieces of ornamental water it becomes an eyesore, because, having in itself no ornamental effect, it spoils the appearance of a clean sheet of water, besides

impeding the passage of whatever pleasure boats or other vessels may be there. Cultivators, says *L'Illustration Horticole*, easily get rid of it by dragging, and they make an excellent compost of it, or even use it as a green manure. In slowly running streams the weed might be dragged against the course of the current, as the slender stems more readily break or get rooted up in that way.

Market Gardening in the Neighbourhood of Paris.—There are, says *L'Illustration Horticole*, about 1,500 market gardeners working each about 5,000 to 10,000 square yards or from half a hectare to a hectare (nearly 2½ acres). The material of culture varies in the same proportion and returns about 20,000 francs per hectare. It consists of 3,000 to 4,000 cloches to begin with, 400 to 500 frames or boxes with glass sashes, 1,000 mats; of a system of watering, a pump, workings for it, a reservoir, channels for conducting water, numerous stop-cocks, india-rubber pipes, stand pipes; of a horse and a waggonette for taking vegetables to the market. At least thirty cubic yards of water per day are consumed on each hectare; that quantity is doubled in time of drought. Horse manure is generally employed; the market gardener does not make it; every arc (119½ square yards about) receives the manure of a horse. The capital required by market garden culture is much greater than that necessary for agriculture, but likewise the produce in vegetables have a much greater commercial value. A vegetable or market garden of a hectare gives a return of 18,000 to 20,000 francs per annum; the soil is constantly occupied, and the cultures are quickly grown, planted, and transplanted without relaxment.

FERNS AND FERN CULTURE.*

This is the title of an admirable small octavo volume on Ferns and their allies, running to 128 pages. It treats on all manner of subjects, their relation to Ferns and their methods of culture, and is evidently intended for amateurs and others desirous of making a practical acquaintance with them, and the different uses to which they may be put in stoves, greenhouses, ferneries proper, Wardian cases, rockwork, etc. The book is copiously illustrated, showing not only the form of the fronds and habits of the plants, but also the various ways of planting them under the different conditions above mentioned.

The book is divided into eleven sections, most of which deal with cultural directions in some form or other, so that no attempt is made to constitute it a descriptive handbook or text book. The modes of growth are illustrated, showing the tufted, creeping, and upright habited or tree Ferns, as well as the various modes of division of the fronds contrasted with those that are entire or undivided. The various materials used as composts for Ferns are described, and their mode of preparation. At one time peat was supposed to be an indispensable article in the culture of most kinds of Ferns, including Adiantums, which were mostly grown in peat; but more recently it has been conclusively demonstrated that they can not only be grown in good fibrous loam, but that they do better in it and are more durable. The use of sphagnum for chopping up and mixing with the compost is also mentioned. In some parts of the country this is largely used and might more commonly be adopted by amateurs, especially by those who have not much time to attend to watering at the proper time. It retains the moisture much better than loam and if mixed at the same time with broken crocks, the compost remains open and allows the escape of superfluous moisture. Lists of those genera are given, the members of which do well in certain defined composts.

Certain Ferns have to be potted, basketed, or grown in certain ways according to their natural habits, and this is not only described but illustrated as far as practicabble. Some are grown in pots or pans, others in baskets, on blocks of cork, or on walls furnished with cork or tile pockets. Old tree Fern stems can be utilised to advantage by planting a Fern of drooping or spreading habit on the top, and other smaller kinds on the stems by means of a little compost covered with moss and fastened on by wires.

The operations of potting and basketing are detailed in such a way that the intelligent amateur can hardly fail to grasp them. The construction of outdoor ferneries and rockwork is detailed at some length with illustrations of several different methods of constructing the same and planting on the level ground, on mounds, and in excavated places. Shading, ventilating, the temperatures of different houses, watering, Ferns in dwelling houses, window boxes, window cases, and select lists of Ferns, Filmy Ferns, Selaginellas, etc., are all dealt with in their turn. The modest price of the book is a shilling.

* Ferns and Fern Culture. Selections of Ferns, Insect Pests, and their eradication, etc, by J. B rkenhead, F.R.H.S. (Published by the author, Fern Nursery, Sale, Manchester.)

THE LONDON AGRICULTURAL SEED TRADE ASSOCIATION.

We regret to find that the accidental omission of a few words in Mr. Sherwood's speech, reported on p. 628 of our issue for June 4th, has given rise to some misapprehension among the members of the general seed trade, and therefore hasten to make the needful correction. What Mr. Sherwood said was that he would refuse to buy Clover and Grass seeds from merchants who would not trade under the terms of the London Agricultural Seed Trade Association; so that the remark has no bearing whatever on the general conduct of business in the seed trade proper, as what we originally reported would seem to imply.

As this particular association does not appear to be much known we may take this opportunity of giving a few particulars respecting it. It was established some twelve years ago "To promote uniformity in the terms of bargains and sales of agricultural seeds; to settle, determine, and publish rules and regulations upon which contracts shall be based; to provide for the speedy determination of disputes arising under contracts; and for the determination and adjustment of other matters that may from time to time arise in the carrying on of the seed trade."

It is governed by a committee of twelve members, including a chairman, two vice-chairmen, and a secretary (Mr. David Allester, 6, Market Buildings, Mark Lane, E.C.), who are elected annually; and the committee is called together as often as occasion requires. The annual subscription of members is one guinea, due on the 1st of May in each year.

The association has two sets of special rules, the one regulating the conduct of arbitration, and the other the terms under which English and Foreign seeds are bought and sold, the latter having special reference to such matters as quality, time and place of delivery, payment, weights and measures, re-weights, time and mode of shipments, &c., and all of which are designed to promote the main object of the association, viz., uniformity of action in the conduct of business.

The arbitration committee consists of ten members of the association, who retire annually, but are eligible for re-election; and all disputes arising between members of the association, must be referred to the association for settlement, unless the parties to the dispute can agree upon a settlement. Should a dispute come before the association three members of the arbitration committee are chosen by mutual agreement between the claimant and defendant, and if their award should not be acceptable to either party, they have the right of appeal within seven days to the committee of direction, whose decision is final and binding upon all.

Always considering the special objects of the association there is certainly nothing in the rules that any fair dealing man can object to, and we may add also that they in no way favour "protection" as that term is usually understood.

SMILAX ARGYREA.

The species of Smilax are very numerous and all belong to the tropical and warm temperate regions of both hemispheres. Kunth, in his *Enumeratio Pla - arum*, has described about 180 of them, and since then only about a dozen have been added. The species under notice comes from the eastern side of the Andes of Peru, from whence the collectors of *L'Horticulture Internationale* sent it to Brussels last year. Some of our readers may recollect seeing it at the Temple Show in the latter end of May last. It seems to have some affinity with S longifolia, but is distinct. The leaves are oval-lanceolate, drawn out to a long point, about 4 in. to 6 in. long, strongly three-nerved, and of a rich dark green, variously marked between the nerves with large irregular blotches of a silvery-grey. It is hardly necessary to add that it is a climber with somewhat prickly stems and requires to be attached to some support or trained round stakes in pots in the stove. There is a beautifully coloured illustration of it in *L'Illustration Horticole*, pl. 152.

THE CHICAGO EXHIBITION.

Horticultural Department.

A carload of choice ornamental plants and trees, about 1,000 in all, was received the other day for the horticultural exhibit. Large donations and loans of plants are coming in daily now, as is necessary for the future success of the department. Mr Robert Craig, President of the Society of American Florists, has been here, accompanied by Mr. J. Coates Walker, Chairman of the Committee on Horticulture for Pennsylvanian World's Fair Board. The latter is an enthusiastic amateur.

They expect to make a splendid display with the aid of private collections, and have secured splendid specimens from many sources, including Mr. Childs, already mentioned, and Mr. Drexel. Mr. Childs intends to grow specially the finest collection of new Caladiums ever shown in America; these are a specialty at his fine country home, and will be forwarded in July. The nurserymen intend also to give a good account of themselves.

The superintendent of the Allegheny Park purposes making in front of the State Building an immense portrait in growing plants of some one of Pennsylvania's distinguished men. Mr. Drexel will exhibit a Pritchardia grandis, 3 ft. by 4 ft., which he values at 600 dollars, also a fine Gleichenia, 4 ft. to 6 ft. in diameter.

The far territory of Arizona has applied for 2,000 feet of space inside the horticultural hall, and 5,000 feet of outside space in the general horticultural department. Arizona intends to make a splendid exhibit of fruit, the growing of which will soon be a leading industry there. 100,000 dollars of plants have been donated outright, partly from foreign countries; 20,000 dollars will be saved by the tendered free use of lawn mowers and rollers. Economy in such matters is an important factor in the financial success of the undertaking, and is rigidly adhered to in all departments.

An enthusiastic lady in South Kansas has had a large Catalpa tree cut from her garden, and after the wood is seasoned, will have it cut into panels, to be carved for the women's building. A conventional design has been selected, the Sunflower, emblematic of the State. Several fine Virginia Creepers from the entrance to the famous Luray Caverns in Virginia will decorate the same building. Messrs Nanz & Neuner, Louisville, Kentucky, have forwarded a fine consignment of choice Roses.

Wisconsin proposes devoting a quarter of an acre on the wooded island to a Cranberry display in growing bushes. This is a leading industry in the Badger State.

Japan promises great things in the way of a horticultural display. The leading Japanese artists will direct the landscape gardening, which will of itself be worth a long journey to see. This is no idle prophecy when we consider Japan's ancient reputation in art and in horticulture. They will make the finest display possible of the flora of their country, and will collect from all parts of the kingdom.

Forestry Department.

Exhibits of woods (native) in the forestry department will be received by Chief Buchanan after Nov. 1st, 1892, and not later than April 20th, 1893. Sections of trees must not exceed 42 in. in length. Ornamental woods may be shown so as best to display their special adaptablities. Accurate information as to locality, amount of similar wood standing, and general history is requested. Models of mills, lumbering methods, transportation facilities, etc., will be shown. Ceylon will make a very fine display of ornamental woods in the construction of their buildings, in the Singhalese architecture of 2,000 years ago.

The plans include a Kandian dagoba. Ebony, satinwood, calamander, tamarind, and palm woods will be used. All the products of the island will be shown, and Ceylon tea, ready for drinking, will be served free to visitors. Three columns will be furnished for the forestry building by the State of New York. For the first column, has been selected Balsam, black Spruce, and Tamarack, each 12 in. in diameter. For the second column, red, and black, or yellow Birch, each 12 in., and white Ash 20 in. For the third column, black Cherry, and red Beech, each 12 in., and Sugar Maple, 20 in. Each tree will be 25 ft. high, when set up, and each column will consist of three trees, the 20-in. ones in the centre of the cluster.—*C. Macquarie, Chicago.*

A NEW USE FOR BAMBOO.

A NEW application of the stems of the larger-growing species of Bamboo has recently been adopted in China for the manufacture of small trays and ornamental articles for export to Europe. It is known in China as Bamboo sheeting, and it is said to be carried on at present only to a limited extent at Wenchow, where, notwithstanding that it is quite a new trade, about ten firms are now engaged in it. The process adopted is as follows:—A length of Bamboo is cut off, and then pared with an axe till it is of the thickness required. It is next planed with a spokeshave, and the thin cylinder so obtained is slit up, so that, on being opened out, it forms a sheet. A number of these cylinders, placed one inside the other, are immersed in boiling water for a few minutes, to render them flexible, and they are then unrolled and flattened out, by being subjected to pressure under heavy stones. These sheets are sometimes used for making fretwork and carved screens, fans, &c.; and the small, pale, straw-coloured pin-trays for toilet tables, which appeared in the London shops last season, are apparently made from this specially prepared Bamboo. It seems to adapt itself extremely well for moulding into many forms, and might be made available in this country for various kinds of veneering. The Bamboo now appears to be the Dendrocalamus latiflorus, and specimens of the sheeting, and articles made from it, may be seen in Museum No. 2 of the Royal Gardens, Kew.—*Society of Arts Journal.*

FLORICULTURE.

The National Tulip Show.

THE Tulip grower becomes accustomed to all kinds of weather on the occasion of the annual shows, and he is therefore surprised at nothing. Essentially a philosopher, he adapts himself to any vicissitudes, however startling their contrasts. The flower he cultivates with so much loving care is pregnant with surprises, and so the cultivator becomes accustomed to the arbitrary decrees of fate, and whether under burning skies, drenching hailstorms, or amid cold so intense that his finger tips are frozen, he stages his flowers, and with stoic calmness patiently awaits his fate. Last year the annual show was held at Old Trafford under circumstances of a depressing character—a puzzling season, and cold dull weather affected the show; this year, under a tropical heat and in a Whitsun week almost unrivalled for the brilliant splendour of the weather, he staged his flowers in a temperature of something like 90° with a sense that anything like garment was a superfluity; and an inward drought that could not be satisfied.

No better place for a Tulip show could be selected than the annexe in the Botanical Gardens at Old Trafford when the weather is pleasantly cool; but on the 8th inst. the sun shone out with unusual fierceness from an unclouded sky, and the glare, increased by the glass in the roof, fell upon the Tulips, and ere they were judged not a few were lamentably out of it. The unexpected advent of tropical summer heat some weeks before it was anticipated upset all calculations; flowers in perfect condition on the morning of the day took on a blasé appearance before noon, and went down before the pressure of the high temperature like ninepins. Many a confident expectation withered like the Tulips, as the chariots of the sun reached the meridian; growers ruled out of the competition by the rude interference of the elements, with commendable resignation to the inevitable, sat in the shade and partook of cooling drinks.

Tears ran down their manly foreheads, but their eyes were dry and showed no traces of sorrow—physical endurance demanded that the throat be kept constantly moist. Who wonders that at one period of time, while the judicial work was being carried on, the judges were missing! They had become so shrunken by exposure to the heat that no one was able to witness the departure of their wasted forms. It was said they had melted away to nothingness, and such a catastrophe seemed more than possible. At last they were found at the foot of the Eddystone lighthouse cooling themselves in the spray thrown up by the storm-tossed waves of the ocean. Eventually they finished their heroic task, perspiring martyrs to a noble cause.

The show fell behind the anticipations formed of it a month ago, but was much better, regard being had to the exhausting conditions of the weather, than was expected a week previously. Those were the fortunate exhibitors whose flowers were late. The hero of the day was Mr. James W. Bentley, of Stakehill, the hon. secretary of the Society. He was the floral Cæsar of the occasion. He staged, he surveyed, and he conquered. The son of a worthy Tulip grower dead and gone—the nephew of the president, Mr. Samuel Barlow—Mr. Bentley has, by devotion to his pet flower and the unceasing attention he has given to his beds, deservedly won his way to the proud position he took on this occasion. Out of five competitors he took the cup for 12 dissimilar Tulips, two feathered and two flamed in each class; with flowers, that though in a few instances weakened by stress of weather, were yet worthy of the cup awarded them.

Of feathered bizarres Mr. Bentley had John Mills and Sir Joseph Paxton; flamed, Sir J. Paxton and Dr. Hardy; feathered roses, Mabel and Alice; flamed, Annie McGregor and Aglaia; feathered byblœmens, King of the Universe and Violet Amiable; flamed, Talisman and Perfection. From this stand the premier feathered and flamed flowers were afterwards selected; the former was byblœmen King of the Universe, a beautiful bloom raised by W. Dymock, of Stockport; and the flamed bizarre, Dr. Hardy, very richly coloured. Mr. James Knowles, Stalybridge, whose position on the hillside is one of the coldest and latest in Lancashire, was second; also with some good blooms which ran those of Mr. Bentley somewhat close. Mr. Knowles had of feathered bizarres, Sir J. Paxton and Robert Guest, the latter very fine in colour; flamed bizarres, Sir J. Paxton and Prince of Wales; feathered roses, Julia Farnese and Modesty; flamed roses, Lady C. Gordon and Queen of England; feathered byblœmens, Adonis and Mrs. Hepworth; flamed byblœmens, Talisman and Adonis. Third, Mr. Samuel Barlow, J.P., Stakehill House, Castleton.

With six flowers Mr. Bentley took the first prizes also, having feathered bizarres, William Wilson and flamed, Sir J. Paxton; feathered roses, Heroine; flamed, Annie McGregor; feathered byblœmen, King of the Universe; and flamed, Talisman. Mr. Knowles again came second with feathered bizarre, Lord F. Cavendish; and flamed, Dr. Hardy; roses, Modesty, flamed, Triomphe Royale; feathered byblœmen, Mrs. Hepworth; and flamed, Adonis.

Mr. J. Knowles was first with three feathered Tulips, having bizarre Sir J. Paxton; rose, Lizzie, and byblœmen, King of the Universe. Second, Mr. Bentley with bizarre Garibaldi, rose, Mrs. Collier, and byblœmen, Agnes. With three flamed flowers Mr. Bentley was again first, with bizarre Sir J. Paxton, rose, Mabel, and byblœmen, Talisman. Second, Mr. C. W. Needham, Royton, with bizarre Sir J. Paxton, rose, Aglaia, and byblœmen, Duchess of Sutherland. It is scarcely necessary to go into particulars of the minor classes, as the foregoing afford an idea of the leading flowers staged on this occasion.

The Breeder Tulips were as usual very attractive. Mr. James Bentley was placed 1st with six breeders, two of each class, having of bizarres, Sir J. Paxton and Sulphur; roses, Annie McGregor, as usual very bright, and Miss Burdett Coutts; byblœmens, Glory of Stakehill and Talisman. Mr. Samuel Barlow was 2nd, with bizarres, Sir J. Paxton and Sulphur; roses, Annie McGregor and Miss Burdett Coutts; and byblœmens, David Jackson and Hepworth Seedling. With three breeders, Mr. James Bentley was 1st, with bizarre, Sir J. Paxton; rose, Annie McGregor; and byblœmen, William Parkinson. 2nd, Mr. W. Mellor, Wakefield, with bizarre, Sir J. Paxton; rose, Thomas Parker; byblœmen, Queen of May. 3rd, Mr. Samuel Barlow, with bizarre, Sir J. Paxton; rose, Miss Burdett Coutts; and byblœmen, Nimbus. The premier feathered flower was byblœmen, King of the Universe; and the premier flamed, Dr. Hardy, both shown by Mr. J. W. Bentley in his first prize pan of twelve flowers; and it is not usual for both to be found in one stand.

The premier bizarre breeder was Richard Yates, shown by Mr. Bentley, and awarded the 1st prize in the class for bizarre breeders. It will thus be seen Mr. Bentley exhibited the three premier flowers.—*R. D.*

The Butley Tulip Show.

ON Thursday, two days after, Wednesday having intervened as a day of preparation both for individuals and flowers, was held for the sixty-seventh consecutive year, in the Orange Tree Inn, at Butley, a village near to Macclesfield, the above show, and, though the bloom had suffered severely, yet a very commendable display took place. Formerly a number of small growers lived at Butley, but they are now reduced to one or two, and by reason of the competition in the classes being thrown open, some of the leading competitors at Old Trafford brought blooms, and added materially to the interest of the gathering, and the early train from Manchester and Stockport brought a Tulip-loving contingent, while other growers drove to this pleasant Cheshire village.

If one would see a Tulip show conducted upon the old traditional lines, they should visit the Butley Exhibition, where they would see much to interest and gratify. The schedule is published in the form of a handbill; it sets forth that any person bringing flowers to this meeting can be put upon his oath if required, to show they are his own property and blooming. Growers are requested to send the names of the flowers they intend to exhibit to the secretary three days before the show, that the flowers will be judged before dinner, and that non-subscribers are admitted to the show on payment of silver at the doors.

Considerable interest attached to this show because Mr. Samuel Barlow, J.P., Stakehill House, being the president for this year, had generously presented a handsome silver cup, value ten guineas, for the best pan of six flowers, one feathered and one flamed in each class. The vice president is Mr. W. Kitchen, of Marple, who was born in the house, and whose family were proprietors of the Orange Tree Inn from the commencement of the show down to last year, when the then landlady and treasurer to the show, Miss Kitchen, his sister, died. That position is now occupied by Miss Brown, the present occupier, and a relative of the Kitchen family.

The flowers were staged for judging in a long room used for club and other purposes, and when ready only the judges and stewards were allowed to remain in it. In another room were assembled the secretary and his assistants, and the exhibitors. As soon as the award was made in one class, the flowers all staged in ginger beer bottles with wooden tubes in their necks were placed upon a tray and carried by the stewards to the secretary, who recorded the names of the winners as well as the winning flowers in a book, and placed the prize cards upon the bottles. They were then carried back by the stewards and placed in due order upon a sloping stage of nine narrow shelves at one end of the room, the prize flowers in the middle, and the others flanking them on either side; this went on until the record was complete.

There were four competitors for the cup, which was awarded to Mr. James W. Bentley, the nephew of the president, and hon. secretary to the Royal National Tulip Society. Of bizarres he had feathered, Lord F. Cavendish; flamed, Sir J. Paxton; roses, feathered, Alice; flamed, Annie McGregor; byblœmens, feathered, King of the Universe; flamed, Queen of May. Mr. James Knowles, Stalybridge, came next in point of merit, with finely marked flowers, but a little too young and therefore not sufficiently expanded. He had of bizarres, feathered, Lord Lilford; flamed, Dr. Hardy; byblœmens, feathered, Queen of May; flamed, Beauty of Litchurch; roses, feathered, Lizzie Dymock; flamed, Mr. Bright. Mr. W. Kitchen came next, and Mr. Samuel Barlow, whose flowers had suffered from the great heat, was 4th. As only the cup was awarded in this class, the other stands were broken up and the flowers placed in the various classes for single blooms.

The awards in these classes ran as follows: Feathered bizarres: Mr. James Knowles 1st and 5th, with Lord Lilford, 4th with Sir J. Paxton, and 6th with Typho; 2nd, Mr. W. Kitchen, with Sulphur; 3rd, Mr. J. W. Bentley, with Lord F. Cavendish. Byblœmens, feathered: 1st, Mr. W. Kitchen, with Violet Amiable; 2nd, Mr. Knowles, with Mrs. Hepworth, and 4th with Violet Amiable; 3rd, Mr. J. W. Bentley, with Violet Amiable, and 6th with Queen of May; 5th, Mr. W. Kitchen, with Lord Denman. Roses, feathered: 1st and 2nd, Mr. Knowles, with Lizzie Dymock, 4th with Heroine, and 5th with Annie McGregor; 3rd, Mr. J. W. Bentley, with Mabel, and 6th with Julia Farnese.

Bizarres, flamed: 1st, Mr. Knowles, with Sir J. Paxton, and 4th with Dr. Hardy; 2nd, Mr. J. W. Bentley, with Sir J. Paxton; 3rd, Mr. W. Dymock, with Typho; 5th, Mr. S. Barlow, with Sulpbur; 6th, Mr. J. Hague, unnamed. Byblœmens, flamed: 1st, Mr. J. W. Bentley, with Queen of May, 2nd with Adonis, and 5th with Seedling; 3rd, Mr. Knowles, with Beauty of Litchurch, 4th with Lord Denman, and 6th with Queen of May. Roses, flamed: 1st, Mr. R. Chadwick, with Aglaea; 2nd, Mr. W. Kitchen, with Madame St. Arnaud; 3rd, Mr. J. W. Bentley, with Alice Grey, and 6th with Mabel; 4th, Mr. Knowles, with Lady C. Gordon, and 5th with Mrs. Telford.

The premier feathered Tulip was byblœmen Violet Amiable, shown by Mr. W. Kitcben, and the premier flamed, Sir J. Paxton, shown by Mr. J. W. Bentley.

Of Breeder Tulips, the best pan of three came from Mr. J. W. Bentley, who had bizarre, Dr. Hardy; byblœmens, May Queen; and rose, Rose Hill; 2nd, Mr. Samuel Barlow, witb bizarre, Dr. Hardy; byblœmen, Martin's 117; and rose, Annie McGregor; 3rd, Mr. C. W. Needham. The prizes in the classes for breeders ran as follows:—Bizarres, 1st, Mr. J. W. Bentley, with Dr. Hardy; 2nd, with Sir J. Paxton; 3rd, with Royal Standard; 4th, Mr. Samuel Barlow, with Lord Delamere; and 5th, with Dr. Hardy. Byblœmens, 1st, Mr. J. W. Bentley, with Seedling; 2nd, Mr. C. W. Needham, with Seedling; 3rd, Mr. J. Hague, with Alice Grey, and 5th, with King of the Universe; 4th, Mr. S. Barlow, with Miss Hardy. Roses, 1st, Mr. J. W. Bentley, with Hepworth Seedling; 2nd, with Lord Derby; 3rd, Mr. S. Barlow, with Tbomas Parker; 4th, with Miss B. Coutts; and 5th, with Annie McGregor.

At Butley prizes are offered for selfs. There can be but two classes only of these; in one case the ground colour of the bizarre has flooded the whole of the flower, and the ground of the rose or byblœmen the otber. Mr. S. Barlow was the only exhibitor, and was placed first with Buttercup in one class, and with Cygnet in the class for a white self. Tbe former is very deep in colour and handsome in build.

The usual dinner took place during the afternoon, Mr. Samuel Barlow presiding, when the Silver Cup, won by Mr. Bentley, was presented to him by the chairman accompanied by appropriate musical honours.—*R. D.*

PANSY SHOWS.

Midland Counties' Pansy Society.

THE second annual exhibition of this society was beld in the Central Hall, Birmingham, on June 9th, tbe day being a very hot one, as the previous two or tbree days and nights had been also. The flowers suffered from this cause, and many of the midland growers knew to their sorrow what the great heat had done for them. Still there was an excellent display, and a good competition throughout. In the classes for amateurs residing in the eight home counties, the awards were as follows: For 24 fancies, dissimilar: 1st, Mr. J. Egginton, Wolverhampton; 2nd, Mr. A. C. Christie, Shifnal; 3rd, Mr. Geo. East, Leicester; 4th, Mr. George Maundrill, Rothwell Haigh, Leeds. For 18 fancies, dissimilar: 1st, Mr. J. Egginton; 2nd, Mr. Tbos. Field, King's Norton; 3rd, Mr. A. C. Christie; 4th, Mr. G. East. For 12 fancies, dissimilar: 1st, Thomas Egginton, Wolverhampton; 2nd, Mr. Wm. Fletcher, Sbifnal; 3rd, Mr. J. Hughes, Birmingham; 4th, Mr. Joseph Barratt, Dudley Port. For 6 fancies: 1st, Tbomas Egginton; 2nd, Mr. Wm. Fletcher; 3rd, Mr. Henry Pattison, Shrewsbury; 4th, Mr. Joseph Barratt. For 6 blooms of any one variety: 1st, Mr. J. Egginton; 2nd, T. Egginton; 3rd, Mr. Thomas Field; 4th, Mr. A. C. Christie. Six new fancy Pansies, dissimilar: 1st, Mr. T. Field; 2nd, Mr. A. C. Christie.

In the classes for show Pansies, Mr. J. Egginton was 1st for 12, and Mr. George Maundrill for 6; and for 12 varieties of Violas, 6 blooms of each, Mr. Pattison won the Silver Medal. Four classes were set aside for maiden growers who have never won a prize, and brought out good competition from four to six entries in a class. Five classes were allotted to the trade growers in the eight midland counties. For 36 fancies, dissimilar, Mr. Wm. Sydenham was 1st; Messrs. Pope & Sons, 2nd; and Mr. Pemberton, 3rd. For 24 blooms: 1st, Messrs. Pope & Sons; 2nd, Mr. Wm. Sydenham; 3rd, Mr. Pemberton; 4th, Messrs. Kimberley & Sons, Coventry. The same exhibitors were winners in the other classes.

Mr. George McLeod, Chingford, Essex, gave good prizes for respectively 12 fancy Pansies and 12 sprays of Violas for growers south and east of Reading, but only one competitor entered, Mr. E. J. Pether, Walthamstow, Essex; his Pansies were small, showing the effect of the great heat, but he had a good lot of Violas. The great interest, however, was centred in the classes open to all growers in the United Kingdom, and besides the midland county growers, Messrs. Irvine, Campbell, Smellie and Bailey were in great force from the north.

OPEN CLASSES.

In the class for 48 fancies, dissimilar, the first prize was awarded to Mr. J. Smellie, Florist, Bushy, Glasgow; the second to Mr. M. Campbell, Florist, Blantyre; the third to Mr. Andrew Irvine, Florist, Tighnabruaich; and the fourth to Mr. A. Bailey, Junr., Florist, Sunderland. For 24 fancies, dissimilar, Mr. Smellie was again first; Mr. Irvine, second; Mr. Campbell, tbird; and Mr. Bailey, fourth. For 24 show varieties, dissimilar, some superb blooms were to be seen amongst those staged, and it was a great treat to tbe midland florists to see such blooms. Mr. Irvine was first; Mr. Smellie second; Mr. Bailey third; and Mr. Campbell fourth. For six blooms of any one variety, Mr. Smellie came in first; Mr. Campbell, second; Mr. Bailey, third; and Mr. Irvine, fourth.

In a class for "24 new fancies sent out in the Autumn of 1890, and may include seedlings to be sent out in the Autumn of 1892 or Spring of 1893, but must be named and owned by the Exhibitor," the handsome Gold Medal given as the first prize was won by Mr. Andrew Irvine; second, Mr. Smellie; third, Mr. Campbell. Mr. Smellie also won Mr. Wm. Sydenham's Silver Medal for 6 new fancy Pansies; and Mr. Andrew Irvine won Messrs. Dobbie & Co.'s Silver Medal for 12 new and distinct varieties of Violas, amongst them H. M. Stanley and Dorothy Tennant being both very fine. Several special prizes were offered by various friends, one a Silver Medal, for 3 blooms each of "James S. Irvine" and Dorothy Emily Irvine," being won by Mr. Wm. Frater, Linlithgow, N.B.

NEW VARIETIES.

A few First-class Certificates were awarded to seedlings, viz.:—Fancy, John Knox, and show, Winnie Irvine, both from Mr. Andrew Irvine. Fancy, Andrew Frater, exhibited by Mr. Wm. Frater, Linlithgow. Fancy, Mrs. B. Smellie, and fancy, Wm. Watson, and fancy, Mrs. D. Johnson, all from Mr. J. Smellie, Bushy, Glasgow. Show Pansy Winnie Irvine, is a beautiful Primrose self, faultless in every way. It is a model flower of great excellence. A very beautiful seedling Viola was staged again this year by Mr. J. Hutton, named Duke of Clarence, under which name it was shown last year. The lower petals are of a rich glossy satiny black colour with blue lilac clouded top petals of fine form, and the writer of these notes has seen it growing. A First-class Certificate was awarded to it.

Some of the finest flowers in the stands generally throughout were Mrs. D. Johnson (Smellie), a fine back row flower of great size and fine form, a greatly improved James Swan style. William Watson (Smellie), rich blue violet top petals, excellent clean solid blotch on a small primrose belting to lower petals. Mrs. B. Smellie, Miss French style, and a fine flower; Arthur Frater, clean, solid and rich in colour, deep primrose belting in lower petals, and deep blue lilac clouded top petals. Irvine's Seedlings, also Mr. David Allan, Kate McArthur, Maggie A. Scott, Agnes Mormon, Mrs. R. S. Niven, Wm. Adam, Lady Duff, Maggie Douglas, Louise Werter, Bella Johnson, Betsy Kelly, James S. Irvine, Lord Tennyson, David Rennie, Jennie Paterson, Mrs. Train, an improved Maggie A. Scott, with more solid blotch; Henry Eckford, Maggie Douglas, Tom Travis, and James Campbell.

Mr. Irvine sent also a great lot of blooms not for competition, as also did Mr. Wm. Sydenham, of Tamworth, including a large stand of 72 blooms of his new variety Duchess of Portland. Messrs. Thomson & Co., Birmingham, contributed three dozen or more pots of admirably grown Violas of hardy sorts, showing what charming things they are for indoor decoration, also in a cut state in bunches, and a nice lot of herbaceous cut blooms, Palms, etc. Messrs. Hewitt & Co., Solihull, also sent a fine lot of cut herbaceous plants and other plants in pots, and a lot of fine tuberous Begonia blooms, and Mr. R. H. Vertegans, Chad Valley Nursery, a box of the lovely Cytisus Andreana in full bloom, and cut examples of the superb herbaceous plant Rhomnya Coulteri.

Leicester Pansy Society.

LEICESTER and the surrounding counties have for a long number of years brought to the front a great number of cultivators of our old Florists' flowers, and very recently a few cultivators of the Pansy determined to form a society with the intention of holding an annual exhibition of this flower, the first taking place on Saturday, the 11th inst., in the Lecture Hall of the Liberal Club. Four or five days previously of almost tropical heat had upset the flowers, and the calculations of some of tbe exhibitors; still there was a goodly display of blooms and a fair number of competitors, and everything tended to the encouragement of the committee to expand their schedule in the future.

In the class for 24 fancy Pansies, dissimilar, Mr. Wm. Whitehead was 1st, amongst his best being Donald Morrison, Neil McKay, Tom Travis, Archie Buchanan, David Rennie, Lord Randolph Churchill, in excellent character, with deep solid cleanly cut blotch; 2nd, Mr. George East, his most striking blooms being Maggie A. Scott, May Hynd, Neil Gillies and Tom Travis. Eighteen fancy Pansies, dissimilar: 1st, Mr. George East. Twelve fancy Pansies, dissimilar: 1st, Mr. Hy. Yeomans, with fine blooms of Tom Travis, Neil McKay, Lord Hamilton, Betsy Kelly and others; 2nd, Mr. Dingley, amongst his best being Mrs. Hugh Weir, Mrs. J. McCombe, Neil McKay, David Strachan and some fair seedlings; 3rd, Mr. John Bowles. Six fancy Pansies, any one variety, well-filled class: 1st, Mr. Dingley, with a bright yellow seedling fancy with good blotch and promising if it can be grown larger; 2nd, Mr. Yeomans; 3rd, Mr. J. Bowles. All the above classes were confined to amateurs in tbe neighbourhood of Leicester.

In a class for 12 fancy Pansies, dissimilar, open to the United Kingdom, Messrs. Biddles, Loughborough, were 1st, and in this stand were fine blooms of Mrs. John McConnell, Lord Hamilton, Allan Ashcroft, and Tom Travis; 2nd, Mr. Yeomans; 3rd, Mr. G. East. For 24 fancy Pansies, open to all growers: 1st, Mr. Wm. Sydenham, Tamworth, of whose flowers scarcely any were named; 2nd, Messrs. Biddles & Co. Mr. Sydenham also sent, not for competition, 72 blooms of his Duchess of Portland, and a collection of others, Tom Travis, George Anderson, Lord Randolph Churchill, Maggie A. Scott, and Lord Hamilton being very fine.

NEW VARIETIES.

Mr. Andrew Irvine, Tighnabruaich, attended on his way to York from the Birmingham Pansy Show, and set up a wonderfully fine stand of 24 new sorts, many of them not yet in commerce. Almost all sbould be in every collection, for all are so fine, some wonderfully fine, and they richly deserve recording as follows:—

James S. Irvine, a rich-coloured flower with superb large solid blotch, and of the finest form and substance; Mrs. John McConnell, Lord Hamilton, Mrs. W. Dean, a beautiful attractive light flower, very fine as shown; Donald Morrison, Lizzie Irvine, very rich in colour and fine; Robert Jamieson, of Donald Morrison type, very rich in colour and a superb flower; William Scott, a very fine flower with claret top petals, grand blotch, smooth and of fine form; Tom Travis, George Anderson, rich gold with bright bronzy-brown top petals and superb dense clean cut blotch; Maggie McPhail, a charming and distinct flower of fine form and substance; W. H. Gabb, bright rich yellow with dark bronzy-violet top petals and grand blotch and extra fine; Alexander Duncan, somewhat resembling Lord Hamilton, but distinct and very fine; Archie Scott, style of J. J. Ashton, with very fine lower petals and side petals shouldering high and close, a first-class flower; Mrs. D. Pinkerton, the best white we have with very dense cleanly cut blotch; Allan McCrossam, of Allan Ashcroft style but brighter, a grand flower in size, form, and substance; Helen Valance, a very fine flower, witb a touch of Lord Hamilton in it, a very fine thing; Nina Scott, mucb brighter than Archie Buchanan, a grand flower in form, substance, and blotch; T. Morton, a distinct grand flower deeper in colour than James S. Irvine; George Irvine, a rich velvety-crimson, tinted flower, of the finest form and substance; and Captain Steel, another rich-coloured fine flower.

Messrs. Biddles & Co. contributed a fine display of cut herbaceous blooms, twenty-five varieties, which took the first prize easily, large bunches of good things well displayed; second, Mr. John Bowles. The Abbey Park authorities sent also a large collection of cut flowers, and there was a large display of Ranunculus, and Anemone and Iris blooms from Mr. Rootzen.

A VISIT TO CLAREMONT.

The committee of gardeners of Kingston and Surbiton, who recently conducted a successful concert at the former place in aid of the Gardeners' Orphan Fund, upon the invitation of Mr. E. Burrell and with the sanction of H.R.H. the Duchess of Albany, paid a visit to Claremont, Esher, on the afternoon of Friday last. The party enjoyed a very delightful ride through the beautiful country which intervenes between Kingston and Claremont, being conveyed in a large brake which had been chartered by the secretary, Mr. A. Dean, who also furnished the needful comestibles.

Reaching the royal demesne about 3 p.m , the party were taken through the various glass-houses and kitchen gardens first, then took tea together with Mr. and Mrs. Burrell and family, under what is perhaps the noblest tree of its kind, a magnificent spreading Pterocarya caucasica, which has a breadth of some 80 feet, and stands on a lawn near the gardener's house. After having thus rested and refreshed, the splendid pleasure grounds were visited, and these fully justified the term applied by one of the visitors that they "resembled a scene from fairy-land, or a portion of paradise." The visit was well timed to see the myriads of gigantic clumps of Rhodedendrons in the grounds at their best, and although these consist chiefly of the soft mauve purple tinted Ponticum, yet it would seem as if other and gaudier kinds would in such a scene have been an improper introduction.

The fine mansion, built by Vanbrugh, is of the Grecian style of architecture, and is a bold though somewhat bald building. It commands some grand views as well as much of the surrounding grounds. These are remarkable for their lofty elevations, dells, glades, and undulations, for their noble and varied trees, the wealth of evergreen shrubs, the numerous and beautiful views of the surrounding country seen from them, and for the great capacity shown in the laying out of such a situation which must be regarded as amongst the finest efforts of that great landscapist Capability Brown. The party were led up a steep incline just after passing the mansion, to a lofty quadrangular tower built probably as an observatory and landmark in 1714. The first floor of this building is now used as a gymnasium for the royal children. From its summit the outlook is singularly varied and beautiful, and well was the exercise in reaching it repaid.

Thence, a little farther on, stands a large Camellia house, quite alone, but having in it two large clumps of trees, some fifty years planted, and which are in the rudest of health, and bloom superbly every year. Fronting this house is an elevated terrace, down from which the onlooker gazes into vistas of beauty below, that command the warmest admiration. The noble trees, the masses of evergreens, the extreme wealth of bloom all serve to create what could hardly be characterised as other than lovely scenes. Then on through the masses of the shrubs, amidst which run numerous soft grassy glades, the visitors came upon the pretty Gothic memorial chapel erected in honour of the mourned Princess Charlotte, who was regarded as the heiress to the throne of Great Britain, and died at Claremont soon after her marriage to Prince Leopold of Belgium. This is a singularly pretty building and stands on a high elevation, from which again were obtained other views of the foreground and lake in the distance, so beautiful as to excite the liveliest admiration, excelling all other previous scenes for floral beauty, variation of outline, and vegetable luxuriance.

Then passing by devious ways amidst the huge clumps of bloom on every hand the party, conducted by Mr. Burrell and the courteous house steward, were led round by the charming lake, thence through other glades, rich with noble trees, to the mansion again, thence back to the gardener's house, whence, after an hour's rest and some needful refreshment, they set out on their return home, loud in praise of all they had seen, of the exceeding kindness and hospitality shown them, and of the delightful nature of the outing they had enjoyed.

The glass-houses show in the vineries abundant crops of Black Hamburgh, Foster's Seedling, Mrs. Pince's Black Muscat, Lady Downes, Gros Colmar, and Alicante Grapes. There are capital crops of Peaches and Nectarines in other houses, and very good crops on the walls outside, and also of Cherries, Cucumbers, Melons, Tomatos, etc.—all doing finely and carrying heavy crops. On the back of a long, low house, devoted to Tomatos now, is a row of Bougainvillea glabra, the which could hardly be excelled for beauty or for robust growth. The kitchen gardens are extensive and well cropped. William Hurst, first early Pea, is fruiting abundantly. Gooseberries on trellises are fruiting freely also. In the surrounding grounds are several fine specimens of the "Jamaica Coffee trees," also a fine one of the Maidenhair tree, Salisburia adiantifolia, beautiful in its characteristic leafage; and also of the Virginia Bay, Sassafras officinale. The gardens at Claremont are always delightful, but perhaps never more lovely than early in June.

THE INTERNATIONAL HORTICULTURAL EXHIBITION.

The Rhododendrons.

Some of the larger beds in the open air gardens at Earl's Court are very appropriately filled with Rhododendrons. Owing to the large number of varieties in each bed a full display at any one time could not be expected. Some are early, others late, and as some are only yet in bud a continuous display has been the result. Messrs H. Lane & Son, Berkhamstead, have done the planting in the middle garden, where some very beautiful varieties may be noted. We were particularly struck with one having pink flowers with a broad almost carmine edge. A semi-double or hose-in-hose lilac variety was very floriferous. Others are pink, rose, or white, more or less spotted or blotched on the upper segment. A large undulating bed in the western garden was planted by Messrs. Wm. Paul & Son, Waltham Cross. Here again the range of colours was considerable. A crimson-red variety was notably conspicuous, as well as a dwarf blush-coloured sort having a large crimson blotch on the upper segment. The dry spring and the unusually dry weather of last week has been very prejudicial to recently-moved Rhododendrons.

In the main building the beds are chiefly made up of Palms, Conifers, and various flowering shrubs, but the plants surrounding the margins of the beds are renewed from time to time with flowering plants in season. At present Rhododendrons constitute a great part of the display, and having been grown in pots they have not been influenced prejudically by the dry weather. Several beds are garnished or brightened in this way by Messrs. B. S. Williams & Son, Upper Holloway, who have used Indian Azaleas and hardy Rhododendrons. A variety of the latter with pale purple flowers and a black blotch is fine, as are some others with rose and mauve flowers, the latter having a large crimson blotch. A narrow horse-shoe shaped bed is entirely filled with Indian Azaleas and hardy Rhododendrons. Four beds are furnished by Messrs. Wm. Cutbush & Son, Highgate. Some of the varieties are very pretty, such as those with large, intense rose flowers, rose with a carmine edge, and white with a greenish-yellow blotch, and floriferous. The variety named Oculatum nigrum is characterised by a blackish-crimson blotch on a soft purple ground.

Some little time ago two large beds were edged with Roses in pots by Mr. C. Turner, Slough. Rhododendrons are now the leading feature, and most of the varieties are of very choice kinds, particularly a large rose sort with a pale yellow blotch. A curious arrangement of colours is seen in a sort with white flowers and a black blotch, while the buds are of a deep lilac just before expansion

Insectivorous Plants.

Some time ago we stated that a house was to be fitted up and filled with insectivorous plants by Messrs. B. S. Williams & Son, Upper Holloway, in the grounds of the Horticultural Exhibition. This has been done and filled in a most attractive way with various subjects independently of the insectivorous plants. In the centre is a piece of rockwork built of Derbyshire tufa with a fountain in the middle. The rockwork is furnished with a great variety of plants, including Vriesia hieroglyphica, Caladiums, Anthuriums, Ferns, and Ficus repens.

The Nepenthes suspended from the roof include N. Mastersiana, N. Rafflesiana, and N. Hookeriana. Other plants of this class are Darlingtonia californica, Drosera capensis, D. dichotoma, Sarracenia Chelsoni, S. Maddisoniana, and various others, most of which have just made their young leaves but are not yet very highly coloured.

Several groups of Venus fly-trap (Dionæa muscipula) are distributed round the sides of the house and protected by means of large bell-glasses. Many of them are in bloom, while all appear to be in robust health making young leaves. They constitute a source of attraction to visitors as the house is nearly always filled during the afternoon. Around the sides of the house a fine collection of Orchids in bloom adds much to the general appearance of the whole. They include a large piece of Cymbidium Lowianum, Vanda tricolor, V. suavis, Miltonias, Cattleyas, Lælias, and Dendrobiums. A case of the fine leaved Bertolonias and Sonerillas also add a feature to the house.

AZALEODENDRONS.

Notwithstanding the affinity between Azaleas and Rhododendrons, and which has now been established for many years in this country, the two names are still kept up in gardens, and will be for many years to come. Botanically speaking, no generic difference can be shown to exist between the so-called Azalea indica and Rhododendron ponticum. *L'Illustration Horticole* has an article on some new hybrids between Azalea mollis and hardy Rhododendrons, presumably the garden hybrids of R. ponticum, R. catawabiense and others. In spite of the recognised botanical affinities of the two kinds, M. Emile Rodigas does not hesitate to form a new genus, namely, Azaleodendron, compounded of the names of the two parent genera, according to the rules of the new nomenclature.

It is no new fact to state that Rhododendrons and Azaleas will readily hybridise with one another, for that was demonstrated by the Rev. Dean Herbert many years ago, and who was the first to show that no valid distinction existed between the so-called species of Rhododendron and Azalea. The hybridist in the present case was M. Gustave Vander Meulen, of Ghent, one of the veterans of Ghent horticulture, and who is now on the point of retiring from business and wishes to give up his stock of plants. M. E. Rodigas considers that several of the hybrids are extremely distinct, but says that the flowers have the fault, if it may be considered one, that they are smaller than those of their pollen parents, namely, Rhododendron Prince Camille de Rohan and Leopard.

He describes four of them, one of which has lively violet-rose flowers, pale towards the sinus of the lobes, which are imbricated; the upper lobe is marked with numerous brown spots, and the back of the flower is of a uniform hue except that all the principal nerves are of a darker hue. Another type has fleshy carmine rose flowers, the centre being darker; the dark brown spots marking the upper lobe are disposed in rows along the secondary nerves. The reverse of the flower is lively rose and more highly coloured along the nerves. The third type has flowers no larger than those of Azalea amœna. They are creamy white with a beautiful rosy lilac margin. The lobes are fringed on the margin, and the pistil lilac all over the summit. The whole corolla, however, is puny. The fourth type has white flowers margined with a lively flamed rose, which is darkest at the sinus of the lobes. The external face is darker, and the style is rose. A leading feature of these hybrids is that the pistil is greatly elongated as in the Rhododendrons.

The same horticulturist has effected a reciprocal cross, that is, he fecundated the flowers of Rhododendron with pollen of the Azaleas. In this case the seedlings obtained are less varied. The pistils are very short as in Azalea. Pollen is very scarce in the hybrids and sometimes entirely absent. The colours of the novelties are also rather fugacious. Besides, the plants obtained from Azalea mollis fertilised by Rhododendrons are more delicate than the seed parent itself. They easily withstand ordinary winters, and preserve their foliage, but in such a winter as that of 1890 and 1891, the foliage mostly drops. The flowering period, however, is the same as that of the seed parent. But when the plants are placed in a temperate house after the first cold or frosty weather, they flower freely in four or five weeks.

These hybrids have, moreover, great merit, especially when grafted upon Rhododendron stocks. By this means they can be completely pruned, leaving only the strong wood, and in spite of this pruning, all the shoots of the season form buds and flower as well as if the plant had not been subjected to pruning. M. G. Vander Meulen has grafted these hybrids both upon Rhododendron ponticum and Azalea mollis, with successful results in both cases, but R. ponticum as a stock has given the best results.

NEW & RARE PLANTS.

THE undermentioned plants, flowers, and fruits were exhibited at the meeting of the Royal Horticultural Society on the 7th inst., and were accorded certificates according to merit.

DIPLADENIA ATROPURPUREA CLARKEI.—Although a relatively old introduction, we very seldom see D. atropurpurea in cultivation, a fact which is the more to be regretted, considering the beauty and distinctness of its flowers, though it be but a shy bloomer. The leaves are relatively small, oblanceolate-oblong, and deep green. The stems are slender and twining, but of very moderate length, so that a plant can be grown for a long time in pots of a convenient size to be used in stoves where space is a consideration. The flowers of the variety illustrated below are somewhat funnel-shaped, with a five-lobed lamina of a rich maroon-crimson; the tube is suddenly widened a little above the base, and the wider portion is white and rose externally, and striped with orange-red and yellow internally. The effect is all the more striking when the sun is shining upon the flowers. A flowering plant was shown by Messrs. F. Sander & Co., St. Albans, when a First-class Certificate was awarded.

IXORA WESTII.—When well grown, as were those specimens of cut flowers shown by Mr. J. Hudson, gardener to the Messrs. de Rothschild, Gunnersbury House, Acton, this Ixora is one of the most attractive on account of its large trusses of delicate, rosy-pink flowers, which are, however, almost pure white on first expansion, but gradually deepen to pink. As the flowers on a truss open at different times we generally get a pleasing mixture of white and pink flowers. The flowers are large for an Ixora, with spathulate segments and a slender pink tube. The foliage is ample, and fine. Several large trusses were shown, and a First-class Certificate was awarded.

PYRETHRUM MARIE.—The flowers of this garden variety are single, with relatively broad white rays narrowing to a point, and arranged about two layers deep. The disc is prominent and golden yellow. On the whole the flower may be compared to the single Chrysanthemum named Mary Anderson. Award of Merit.

PYRETHRUM ALFRED KELWAY.—The heads of this variety are double and not unlike the style of an Anemone Chrysanthemum, while the colour would also correspond. The rays are long and flat, while the florets of the disc are tubular with a short slightly oblique and toothed mouth. All are of a deep purplish-red, and the disc florets form a high and conspicuous crown, to which the ray florets form a guard. Both varieties of Pyrethrum were shown by Messrs. Kelway & Son. Langport, Somerset, and received Awards of Merit.

CARNATION YELLOW QUEEN.—This tree variety appears to be a vigorous grower with stems about 2 ft. high, well furnished with perfectly double clear yellow flowers of medium size. The petals are broad and rounded, and by no means overcrowded. The leaves are narrow and glaucous.

GLOXINIA THE BEACON.—The oblong dark green leaves of this variety are of good form and substance. The flowers are of a rich crimson-scarlet and of the usual approved form, although only moderate in size. The tube is spotted at the base internally and rosy-white externally.

GLOXINIA ENSIGN.—The flowers of this Gloxinia are of great size with seven reniform overlapping lobes which are purple at the base, with a band of blue immediately inside the white margin with which it runs parallel, and therefore forms an arch. The white tube is spotted with purple. Awards of Merit were accorded both the Gloxinias and the Carnation, all of which were exhibited by J. Donaldson, Esq. (gardener, Mr. T. Bones), Tower House, Chiswick.

GLADIOLUS BYZANTINUS ALBUS.—The segments of this albino are white with exception of a yellow line running along the midrib of five of them. The upper segments is considerably the broader, and pure white. The leaves are of the usual sword-shaped type. An Award of Merit was accorded the variety when shown by the Rev. W. Wilks, Shirley Vicarage, Croydon.

NEW FRUITS.

PEACH AMSDEN JUNE.—The trees from which the fruits shown were gathered, were planted in 1891, and furthermore were ripened on trees about fifteen weeks after the time of starting. The Peaches are of medium size and almost of a uniform soft orange-red, while the pubescence is by no means prominent. The tree crops heavily A dish of fruit was shown by Mr. G. Wythes, gardener to His Grace the Duke of Northumberland, Syon House, Brentford, and received an Award of Merit.

MELON RITCHING'S PERFECTION.—The fruit of this Melon is of medium size, regularly pear-shaped, and therefore strikingly distinct. The rind is yellow, netted with grey, and relatively thin. The flesh is very pulpy, juicy, melting, rich in flavour, and of a dark green. The variety is the result of a cross between William Tillery and Read's Scarlet. A fruit was shown by Dr. Frankland, F.R.S., F.R.H.S., Reigate Hill, Surrey, when an Award of Merit was accorded it.

DIPLADENIA ATROPURPUREA CLARKEI.

TRANSATLANTIC "NOTIONS."

THE latest in bridal bouquets is a pot of white Azaleas carried by the bride; novel if *outré*. "Spring-time" dinners were the correct thing during Easter. The *menus* were vernal, and the decorations green, with early spring flowers. A pretty sight last season was a wire trellis covered with Hops and large, white Moon flowers. Scarlet Salvias grew in front, and the border of the bed was of white Ageratum, the whole producing an unique effect.

Easter decorations were very fine despite the inclement weather. One church had its altar solidly banked with Daffodils, and the cross surmounting it was of Daffodils and white Roses, with a heavy wreath of the latter about the base. In four brass vases on the altar were placed large bunches of Annunciation Lilies and Roses. Pyramids of Palms and Lilies were on either side of the altar. A wreath of Catherine Mermet Roses and Hyacinths hung on the reading desk. Round the pulpit was festooned a heavy wreath of Bon Silene Roses, and the entire chancel rail was fringed with white and pink Azaleas, Lilies, Roses, and Carnations. Half wreaths of Annunciation Lilies and leaves surmounted memorial tablets on either side of the chancel.

A white cloth bordered with Smilax was stretched across the front of the organ, and before it was a hedge-like row of yellow, red, and white Tulips, The windows were decorated with banks of Roses, Tulips, Primroses, Ferns and Spiræas. The back of the font was filled with Palms, having Azaleas round the base. Lilies and Evergreens were grouped about the entire enclosure. The church was literally filled with blossoms.

In another church Easter and Calla Lilies predominated. Blossoms and creepers almost hid the chancel. A prayer desk was buried beneath Smilax and white Lilies. A large silver urn in the font had a magnificent cluster of Easter Lilies; and a white and gold tipped cross stood on the altar with a fine bouquet of Easter Lilies tied with white ribbon at its base. Another beautiful decoration was that of a dove surmounting a cross having in its bill a long spray of Smilax, lost in a base of Lilies.

Many thousands of Americans visited California lately to see Santa Barbara's State Floral Fair. A floral procession and battle of flowers were in the programme presented. A large pavilion seating 3,000 had the interior arranged as a forest of semi-tropical plants and flowers. Spanish moss in trailing festoons of grey hid lofty arches, while masses of tree mosses and Pampas plumes covered the supporting pillars. Orange and Palm trees lined the building, and an infinite variety of Roses in masses was displayed against the walls.

A novelty to be shortly introduced here is a roof garden and summer residence on the top of an eight-storey apartment house. There will be nearly an acre of roof space converted into a garden, 150 ft above the din of the streets, commanding magnificent views of Lake Michigan and Lincoln Park.

At Mr. Wm. Astor's funeral in Paris the other day wreaths and crosses of Pansies tied with purple ribbon were the leading floral feature. There was also a lovely cross of yellow Roses and Violets, and one of white Lilac, Gardenias, and Violets. Handsome boxes are exclusively used for sending gifts of cut flowers, and the combination often is a king's ransom. All bunches are tied with the finest ribbon Violets are entwined with narrow violet-coloured satin ribbon, and laid in a white lace handkerchief in a violet coloured box. Boutonnieres for gentlemen are packed in that best of all packing material, tissue paper, in a horse-shoe shaped box.—*C. Macquarie, Chicago.*

PÆONIES AT LONG DITTON.

The Siberian Pæonia albiflora was originally introduced in 1548, and for many years retained its primitive condition; but within recent times a host of new varieties have been obtained by seed raising chiefly in continental gardens. The double varieties of ten or twelve years ago would not hold their own with the fine varieties of to-day. Whether for garden decoration or for cut flowers, they are simply gorgeous, and hold a high rank amongst summer flowering plants. In the cut state they last in water for a week, and even if cut in the half-expanded state, they open beautifully. They should be planted in rich soil, ameliorated every autumn or winter with some good manure to encourage vigorous growth, for by that means only can large and perfect flowers be obtained, and good sized clumps have always a telling appearance. Some prefer single kinds, while others like the doubles; and while both sorts have much to recommend them, the latter are if anything more durable while in bloom. The undermentioned kinds are picked varieties from an extensive collection in the nursery of Messrs. Barr & Son, Long Ditton, Surrey, where last week some 50,000 blooms might have been seen. The European varieties were mostly over, being earlier than the Siberian P. albiflora.

Single Varieties.

For some years the best single white was Whitleyi, but the Bride is a great improvement upon it; both have about ten white petals, but those of the Bride are purest, and form a more cup-shaped flower owing to their greater substance. The yellow stamens form a mass in the centre, and the flowers are fragrant; both varieties flower at the same time. Queen of May is a satiny rose variety flaked with a darker shade externally. Victoria is deep crimson-red. Another beautiful variety is Sophia, which has rose flowers flaked with pink towards the edge. A large number of single-flowered varieties and species natives of Europe are now mostly out of season.

Double Varieties.

Anyone paying a visit to the grounds of Messrs. Barr at this season must acknowledge that the double kinds are the most effective. The darkest variety we noted was Reine Pottard, with flowers of medium size, deep blood red and smelling like Hawthorn. Here it may be remarked that most of the dark kinds flower late, so that relatively few of them were in bloom at the time of our visit. The flowers of Madame Benard are of a deep rose and as fragrant as a Monthly Rose, the odour being very similar in both cases. The blooms of Madame Calcot are of huge size and flesh coloured with white edges to the petals, and the outer ones being longer form a guard. A dwarf, erect or self-supporting variety is Etendard du Grand Homme with close, bright rose flowers and satiny pink edges; they are also fragrant. Some varieties on the other hand, although they possess an odour, are not particularly agreeable, while others have no smell at all. One of the most distinct is Zoe Verniory with huge flowers and much interlaced, or crumpled petals resembling a mass of finely crumpled paper. They are white tinted with pale purple or lilac and the outer guard petals are pink. The odour is particularly sweet and agreeable.

One of the largest and most conspicuous is Grandiflora Carnea, with huge white flowers soon changing to flesh while the guard petals are blush pink. Grandiflora nivea differs by being pure white except that when expanding the inner petals are creamy yellow. The stems are dwarf and self-supporting. One of the choicest in our opinion is General Bedeau, with broad, soft lilac-pink guards that fold up at night even in water, compressing the inner petals and giving the whole a cup-shaped appearance. The inner petals are narrow and close exhibiting a mixture of white, lilac, pink and a few red coloured ones. Alice Julvicourt has a full white centre, slightly shaded with creamy yellow at first with a delicate blush guard. The double form of Whitleyi has blush guards and a dense, creamy white centre changing to pure white. The flowers of H. M. Stanley are large and full, with broad guard petals giving the bloom somewhat the appearance of a Hollyhock, and all are rose-coloured with satiny edges. The guards of Josephine Parmentier are rose, and the inner petals fade to a satiny edge, while they are much interlaced or wavy. Very different is Elegans Superbissima, with a broad pure white guard and a close centre of narrow white petals opening of a creamy hue at first. Rubra Triumphans grows about 2 ft. high, and has glowing crimson-purple flowers. Compared with the last Superbissima is a giant with stems 3 ft. to 3½ ft. high, and large, rich crimson flowers very freely produced. The earliest buds only were expanding at the time of our visit, so that it may be considered a late variety. An old sort is Pottsi, with deep-crimson-purple flowers. The stems attain a height of only 18 in., but flower very freely, and in this respect the variety differs from many other old kinds which cannot now hold their own against the newer sorts, which are in most cases very floriferous.

ROCK PLANTS IN BLOOM.

In the early spring time the dwarf subjects, whether from lowland or alpine habitats, and that are suitable for the rockery or Alpine garden, flower in comparatively small numbers, but as spring gives place to summer a host of subjects claim the attention of the cultivator or plant lover. The Saxifrages are particularly numerous in June, but for that reason the individual species are overlooked in the mass of bloom, by all except the connoisseur, or the collector, bent on making fresh additions to those he already possesses.

Saxifraga muscoides atropurpurea.—There are several sub-varieties of this Saxifrage, differing in the form of the petals and the shade of colour; but there is a richly coloured one with reddish purple flowers, that is also notably dwarf forming a dense carpet of mossy foliage just surmounted by a charming profusion of flowers. All the forms are of the easiest culture and very hardy.

Saxifraga Cymbalaria.—The flowers of this lowly growing species are of a clear bright yellow, and produced in great profusion on pale green brittle stems that only rise above the ground to a height of one or two inches. The leaves are reniform, seven to eleven lobed, and of a pleasing light green. The species is a native of the Himalayas, and may be seen under various names such as S. Sibthorpii, and S. Hueti. It likes a cool, and rather moist situation where it will perpetuate itself from seeds.

Ramondia pyrenaica.—The lilac purple flowers of this plant have a charm of their own, more especially by their association with a tuft of rough, woolly leaves, forming a rosette upon the ground. The plant naturally grows in mountainous places inserted in crevices amongst stones, and should so be planted in this country with the object of keeping the leaves dry in winter. A cool, slightly moist or half shaded position suits its requirements best, for if planted in dry, sunny, and exposed positions, it gets burned up. There is a white variety, but except in association with the type, it is less attractive.

Linaria alpina.—The dwarf tufted habit of this species and the richly coloured flowers, make it a gem amongst Alpines. The stems attain a length usually of 6 in., but are somewhat decumbent, bearing short, capitate racemes of flowers on the top. These are of a rich bluish-violet with a lively orange blotch on the palate, and on the whole are very charming. The plant may be grown on the higher and more exposed portions of the rockery. It may be increased by seeds.

Silene acaulis.—The leaves of this Catchfly are arranged in dense cushions covering the surface of the ground like a carpet, and on that account well merits the popular names of Cushion Pink and Moss Campion. The pink flowers are half an inch across and merely rise above the surface of the foliage, being thus stemless as the specific name implies. It roots deeply, however, and should be planted where its roots can penetrate to a considerable depth and thus supply moisture to the plant during the droughty periods of summer. When once established it should not be disturbed.

Dryas octopetala.—Being a mountain plant, this delights in a peaty soil when attempts are made to grow it upon the rockery. Peat has the property of retaining moisture, and is not liable to get heated to the same extent as loamy or sandy soil. The stems are procumbent, woody, long lived, and furnished with oblong, cut leaves, fancifully compared to those of the Oak, hence the generic name. The white flowers have generally about eight petals, and offer a beautiful contrast to the dark green foliage.

Veronica rupestris.—Botanically this is considered to be a form of V. Teucrium, but with exception of V. prostrata, another closely allied form, no Veronica is capable of producing a finer display of dark blue flowers on short stems. It can readily be increased by cuttings or divisions, and for that reason may be considered common; but some years will elapse before it gets overdone in gardens.

Phlox subulata nivalis.—There are two or more white forms of the species, but that under notice is the purest in colour. That named P. s. Nelsoni has five purple spots round the eye, and may not be considered inferior from a garden point of view, yet the two are in this respect distinct. A broad patch of the plant in question forms a sheet of white during the month of June. Although it will grow in an ordinary border, it certainly looks best when elevated upon rockwork.

Dianthus alpinus.—Notwithstanding its introduction in 1759, this charming Alpine Pink has never become so common in gardens as might be expected. The plant itself is diminutive in size, but the flowers are larger than many of the stronger growing kinds, and of a deep rose, spotted with crimson towards the base of the segments. The flower stems seldom exceed 3 in. in height, and the leaves are small and deep green. It is a real gem amongst Alpines.

GARDENING MISCELLANY.

ERODIUM MACRADENIUM.

The species of Heron's Bill in most cases are dwarfer than the Geraniums or Crane's Bill, and, botanically, they hold an intermediate position between the latter and Pelargonium. Although generally quite distinct and easily recognisable, even by the untrained eye, there are several species of Erodium and Pelargonium which approach one another very closely in general appearance, and the species under notice is one of them. The flowers are usually considered regular, but in some cases slightly irregular, and when the two upper petals are differently coloured from the rest, they recall some of the Pelargoniums very forcibly. The Erodium under notice has the two upper petals pink, with a large livid black blotch with darker veins near the base; the lower petals are blush with red veins. The leaves are greyish-green and two or three times pinnatifid, so that on the whole the plant is highly ornamental, forming a dwarf and compact tuft about 6 in. high with three flowers on each stalk borne well above the foliage. The plant is perfectly hardy when planted on a sunny well-drained part of the rockery, and increases but slowly so that it never over-runs its neighbours. In case of accident a few cuttings should be struck and kept in pots in cold frames.

A BLACK FRITILLARY.

Many of the Fritillaries have brown flowers of various shades, but the flowers of Fritillaria kamtchatica are of a blackish maroon, and therefore almost black. They are terminal, drooping, bell-shaped, and the inner face is covered with elevated ridges or plates. In most species there are only two plates confined to the centre, so that the species all round is very distinct as it is rare. The stems are 12 in. to 18 in. high, and furnished with lanceolate, ribbed leaves in whorls of three to five. A cool situation in a peaty soil and slightly shaded from the midday sun suits its requirements very well. It is flowering in Messrs. Barr & Son's nursery at Long Ditton.

THE WOOLLY HAWKWEED.

The flower heads of Hieracium villosum are of large size but yellow as in most other species. The species is, however, deserving of culture on the rockwork for the sake of its hoary, woolly leaves alone. All parts of the plant are covered with long, white hairs making it very conspicuous; and this is the more marked when grown in a dry situation. In rich soil or in the herbaceous border half its beauty and natural characteristics would be lost. Those who have a rockery would find it a distinct and by no means a common plant. We noted it in Messrs. Barr & Son's nursery.

APPLE ANNIE ELIZABETH.

Amongst the Apples that receive attention for their late keeping qualities, Annie Elizabeth should find a

place or even be planted largely. It is both a showy and well flavoured fruit of large size, somewhat flattened and broadest at the base, with a clear yellow skin more or less heavily suffused and streaked with crimson on the exposed side, more particularly in some soils and localities. The flesh is white, tender but crisp, and of very agreeable flavour. It may be used with equal propriety both for dessert and culinary purposes till a very late period. Those who have the convenience of a suitable fruit room could keep it in good condition till the month of June, for I have kept it till the beginning of the present month in a room fully exposed to the varying atmospheric conditions and temperature. Till the very last the skin remained plump and shining, and more presentable than those kinds that get dried up and shrivelled. It was first brought before the public twenty-four years ago, and is slowly gaining in favour. When the British fruit grower comes to realise its merits, it will be more extensively planted to furnish a late supply of fruit.

ASTER ALPINUS SPECIOSUS.

ALTHOUGH the bulk of the Asters flower late, and grow very tall, we have the opposite extremes in this species, which flowers in May and June, and is very dwarf with large blooms. The variety under notice grows about 6 in. high and has flower heads ranging from 2 in. to 3½ in. across, differing in this respect from the type. There can be little doubt that it would meet with more favour were it not for the wealth of hardy flowers so universally plentiful during the months of May, June and July. Owing to its dwarf habit it is well adapted for rockwork, and because of its compact and tufted nature it is not liable to overrun its neighbours. It is easily propagated by division during the early spring months, or by seeds; but it is a question whether the variety A. a. speciosus would come true from seeds. That however is a matter of small regret, seeing that there is no difficulty in getting up a stock sufficient for the requirements of any private establishment in a few years with generous treatment, Those who intend getting up a stock of it might plant it in rich ground in the reserve garden, and if the soil is at all inclined to be dry a mulching of well-rotted manure should be given. The variety as well as the type is flowering freely in the nursery of Messrs. Barr & Son.

CIRRHÆA SACCATA.

ABOUT six species of Cirrhæa are known to science, and it is to be regretted that their flowers are not possessed of more attractive colours, for they are certainly highly interesting and even pretty. A correspondent sent us the other day a fine specimen of the species under notice, and which is anything but common. The piece consisted of a pseudo-bulb with its large, lanceolate, plaited leaf, and two long racemes of bloom. The great number of flowers compensates for their lack of size, but had the colours been more attractive, the species would be highly popular with growers on account of its floriferousness. The sepals are brownish-green, and the petals and lip greenish yellow, except the middle lobe of the latter, which is saccate and of a uniform deep purple brown. The specimen figured in the *Botanical Magazine* shows this curiously shaped organ to be spotted with purple instead of being equally suffused with that hue. The habit of the plant strongly reminds one of a Gongora, and the odour is comparable to that of newly varnished furniture, strong but not disagreeable. The plant should be grown in small baskets or pans, and suspended from the roof to show off the pendent racemes of bloom to advantage.

MECONOPSIS NEPALENSIS.

THIS Himalayan representative of the genus to which the Welsh Poppy (M. cambrica) belongs is very different in habit from the latter, but unfortunately is only of biennial duration, and therefore requires to be propagated every year from seeds in order to secure a constant succession of plants. The foliage is however rather striking in its way, the leaves being oblong, pinnatifid, and thinly covered with long rusty hairs. It naturally looks best at the end of the first year as in the case of most other biennials, and is fine in proportion to the vigour with which the plants have been grown. In the spring of the second year the flowering stems rise to a height of 2 ft. to 5 ft. according to the strength of the plants, and are erect with short lateral branches bearing flowers of various shades of yellow on different individuals. A cool shady place, but not overhung by trees, is the best position for it, and the soil if somewhat peaty will help to keep the plants cool in summer when throwing up their stems. Some plants have been flowering for weeks past in the nursery of Messrs. Barr & Son.

THE WELSH GOLDEN ROD.

THOSE who live in hilly districts are generally well acquainted with the common Golden Rod, which grows from 1 ft. to 2 ft. in height, but the Welsh variety (Solidago Virgaurea cambrica) is much dwarfer, more branched and floriferous. The flowers are of a bright yellow and abundantly produced on stems that are somewhat flattened at the top, and 10 in. to 14 in. high. The lower leaves are spathulate, the upper oues lanceolate and dark green. Most of the species of Solidago come from America, and flower late in autumn in company with the Asters, or, in most cases, just preceding the bulk of them, so that the present instance is an exception. It has been flowering in Messrs. Barr & Son's nursery for some time past.

MYOSOTIS AZORICA.

THE Forget-me-not coming from the Azores has flowers about as dark as any in cultivation, and while they resemble those of M. alpestris they are larger and of an intense blue with a minute yellow eye when they first expand, but the yellow fades to a pale dusky hue and is then hardly noticeable. The stems usually grow about 6 in. to 8 in. high, according to the soil in which it is grown, and is perfectly erect like the garden variety Imperatrice Elizabeth, better known in some parts of the country than the type itself. The latter, owing to its habit of flowering on most of the stems, requires to be propagated generally once a year from cuttings. A large bed of M. azorica in full bloom may be seen in Messrs. Barr & Son's nursery.

PÆONIA BROTERI.

IN addition to the flowers of this Pæony, the stems are highly ornamental, not merely when young and developing, but all through the season so long as they last. Both the stems and the petioles are of a deep red, not the crimson of P. albiflora when pushing up in spring, but a bright, almost coral, red. The flowers are single, and, when they expand, are of a deep purplish-red, with a mass of yellow anthers in the centre, but as they get older they go through a series of transformations, changing to rose and then to a rosy-pink, variously splashed or veined with purple. The plant is relatively dwarf, varying from 1 ft. to 2 ft. in height. We noted a quantity of it in the nursery of Messrs. Barr & Son, Long Ditton.

ACHILLEA MONGOLICA

THE habit of this species is very similar to that of our native A. Ptarmica, with foliage almost identical, but the flower heads are much larger, with longer and purer white rays. Although the blooms are what are popularly termed single, they would be suitable for cut flower purposes. The plant is neat in habit and varies from 1 ft. to 2 ft. in height according to the conditions under which it is grown. In pots or on rockwork it is relatively dwarf, but in rich ground it behaves similarly to A. Ptarmica. A large bed of it in the grounds of Messrs. Barr & Son, Long Ditton, will keep in bloom for many weeks to come. By growing it in pots, sheltered in a cold frame, it comes into bloom early, and may be used for various purposes.

DOUBLE-FLOWERED RHODODENDRONS.

OUR (*Manchester Guardian*) botanical correspondent writes:—"Why there should be so few double-flowered Rhododendrons is part of the vastly larger and hitherto unanswered question, Why do certain genera and certain families of plants show a decided disposition to produce double flowers, while in others living under similar conditions they occur rarely or not at all? While, for example, in the Ranunculaceæ there are upwards of forty species that produce double flowers, among the Labiatæ there does not appear to be a single instance. It is noteworthy that the great majority are natives of the northern hemisphere. In Australia they are scarcely known, and in Polynesia, it is said, not at all. Civilised man having long taken a fancy to them when found growing wild (as seems to happen not infrequently in wet seasons with Buttercups), they are at once transferred to the garden and there propagated. Hence it is that in countries celebrated from time immemorial for their devotedness to floriculture most double flowers appear to be found. Witness the queen of all, the Japanese Camellia. In the *Journal of Botany* for 1864, vol. ii., p. 176, the late Dr. Berthold Seemann gave a list of all the double flowers which had come under his observation, amounting to 279 different species, 234 of the exogenous class and 45 endogens. Eleven more are specified on p. 318, raising the total to 290; and since then, 28 years having passed, doubtless the list has been still further enlarged. In the same periodical, vol. iii., p. 27 (1865), Mr. Leo Grinden dealt in detail with the general subject, citing many curious facts in readiness for those who may be ingenious enough to frame a theory or offer an explanation, which, of course, to be substantial must be one that will cover all the phenomena."

ARNEBIA ECHIOIDES.

OF the yellow Borageworts few are more interesting than the species of Arnebia, of which that under notice is undoubtedly the finest in cultivation. Popularly it is known as the prophet flower, but for what reason is not apparent unless a fancy name given on account of the fading of the maroon blotches on the petals and which are very dark when the flower first expands, but soon fade until they become indiscernible, leaving the flower of a uniform bright yellow. It is a native of Armenia, and proves perfectly hardy in this country if grown in an elevated and rather dry position during the winter, and at the same time cool during summer. The leaves are linear-spathulate, mostly radical, including all the larger ones. The stem leaves are few and small, and the stems themselves do not as a rule exceed 6 in. or 8 in. in height. If the plant does not prove long lived in any particular soil, a reserve stock of young plants may always be kept in frames. Propagation may be effected by means of seeds, by cuttings of the larger and fleshy roots inserted in sandy soil and placed in heat, or by taking off some of the shoots that have not flowered with a heel of the old wood, and putting them in sandy soil in pots stood in a cold frame in late summer and in autumn.

THE SPARROW.

I QUITE agree with E. V. B. (p. 642) that "the careful gardener need fear nothing so very dreadful from him, (the sparrow) with all his wicked cleverness." We may regard him as an ever-restless but wonderfully industrious little fellow, who has to make a living, so to speak, by the sweat of his brow. That he is successful beyond measure, and above all his kindred, his universal presence wherever a cottage or a palace rears its head throughout the land, amply testifies. His power for multiplication and the colonisation of new lands appears to be co-extensive with the Saxon race, for being introduced as a pet and in remembrance of old associations in the mother country, he has overrun the new countries to such an extent that his erstwhile protectors have in not a few cases declared war to the hilt against him. In America, he is nicknamed the English Sparrow, the Americans forgetting that they themselves are Yankees, the Indian name for English against whom the Indians were even more the sworn foe than the Americans against the sparrow.

Much has been said about the fighting inclinations of the sparrow, but their feuds are more amongst themselves than against other birds. The real fact of the case seems to be that the comparative scarcity of other birds is due to their shyness near the abodes of man, and their inability to make a living, especially in winter when their particular kind of food is scarce. Birds generally have not acquired the instinct of laying past a store of food when it is plentiful, but sparrows in particular can live on a great variety of materials, and living near the abodes of man, they have learned to appropriate whatever comes in their way, and have thereby aroused the hostility of man, farmers and gardeners in particular, whether professional or amateur. When the sparrow appropriates anything which is the object of man's care he is accused of being thievish, and because he pulls the Crocuses to pieces he is mischievous. He eats the leaves of Carnations, Lettuces, young Peas, and many other tender and nutritive vegetables,

the buds of Gooseberries, Currants, Primroses, &c., in winter and early spring, but in all this he is only obeying a natural instinct in making a living when other natural food is scarce. With the precautions usually recommended, however, the gardener can protect himself. The sparrow is in many ways an undoubted friend of the gardener and farmer, and if his foraging instincts in winter and spring, bring him under the law as a thief and a rogue, it must be remembered that food is as necessary then as at any other time, and if at any time of the year the sparrow may be considered a benefactor surely he deserves a bill of fare.

E. V. B. would like to verify the theory that "Sparrows feed their young, after the first week, upon Peas and young Wheat." I have watched the sparrows in a suburban garden, for a considerable length of time, amongst young Peas, and I failed to see them peck at a single leaf, and although the Peas in question are at least 8 in. high, not a leaf has been eaten by anything. No attentive observer can fail to see what business the sparrow has amongst the Peas, simply from his behaviour; I ought to say she as well as he, for cock-sparrows and hen-sparrows alike are extremely active in catching insects for their young. The Pea quarter merely forms a happy hunting ground; and it is interesting to note the activity they display amongst and around the stems and foliage, and the rapidity with which they go for an insect shows that no inanimate object would require such hot haste to catch it. The sides, eaves, and crevices of brick walls are also searched in the same way, the sparrows often hovering on the wing while catching their prey. Each stay amongst the Peas is very short, but the number of times they come there during the course of a day is amply testified by the trodden down state of the ground. The soil had been drawn to the Peas forming a sharp-edged ridge on each side, but in a few days these ridges had been trodden down by the sparrows till they were perfectly rounded on the top.

Newly-planted and tender Lettuces do, however, come in for a little share of attention, but whether for the old sparrows themselves or to feed their young I have not yet determined. A line or two of black thread stretched about 3 in. or 4 in. above the soil affords ample protection, and that being the case the suburban or town dweller has little cause to complain. If other evidence were wanted of the insectivorous nature of the sparrow at this season of the year, it was furnished by the action of some boys, who, whether from motives of cruelty or inquisitiveness, I will not say science, had robbed a nest of young and had cut open the maws of the young birds, disclosing a mass of insect vermin, both of a creeping and flying kind.—*J. Fraser.*

THE NEW CITY FRUIT AND VEGETABLE MARKET.

THE new Central Fruit, Vegetable and Flower Market, recently erected by the Grand Markets Committee of the City Corporation, was opened at one o'clock on Monday by the Lord Mayor, in the presence of a large number of citizens and members of the ancient Corporation.

The building, the foundation-stone of which was laid in October last by the then Lord Mayor, completes the series of markets erected under the Act of Parliament of 1875 by the Corporation of the City of London, at an expenditure of about £1,794,000. It is situated at the junction of Charterhouse Street and Farringdon Road, and has a frontage to the former thoroughfare of about 370 feet, and to the latter of some 184 feet. Of this area, representing about 54,000 feet, the building now erected occupies 30,000 feet super, thus leaving ample room for extension when required. The total cost of the works beyond the value of the site (£50,000), which is the property of the Corporation, has been about £70,000, made up generally as follows: For the substructure and basement works, under agreement with the Great Northern Railway Company, £41,000; for the superstructure, £22,000; other expenses, £7,000. The building, which, although light in appearance, is thoroughly substantial, is designed of iron and glass, and rises to an extreme height of 46 ft. One most important feature in its construction, is the manner in which all the goods consigned to the market will be delivered direct to the salesman from the railway. It must be understood that the basement under this and the adjoining markets, an area of about 100,000 feet, will be occupied by the Great Northern Railway Company, whose lines of rail and platforms will traverse the entire length from Charles Street to Snow Hill. Large hydraulic lifts are designed to raise the produce brought by the railway to the markets above, while inclined roadways for horse traffic are provided as means of access from the basement to the street level.

It was explained, by the Chairman of the Grand Markets Committee, for the benefit and encouragement of those traders who desired stalls, that the rent of standings, as provided by the bye-laws and approved by the Board of Trade, would be 1½d. per foot super per week; but that by a special order of the Corporation a rebate would be allowed for the first year of one-half, and for the second year one-third of that sum; so that the full rental named would not come into operation until the commencement of the third year of occupation. The Corporation were obliged to levy tolls, but although the committee had purposely made them very light, some persons had been found, who, although anxious to set up stalls, demurred to having to pay any such dues at all, but there is no justification for such a contention, unless those persons expect the Corporation to find them offices and appliances with which to carry on their businesses for nothing, which of course is out of the question.

The Lord Mayor pointed out that the capital sum expended by the City of London in markets amounted to something like £3,300,000. That this expenditure was required for providing means of distributing the enormous and ever-increasing food supply of London he showed by figures. At the Central Market the number of tons of meat delivered during the past year was roughly 307,500; at Billingsgate the total number of tons of fish was 127,700; at the Metropolitan Market something approaching 1,000,000 animals were disposed of; while at the Foreign Meat Market the number of animals reached 350,000. The average daily delivery into the Central Markets during the year had been 1,005 tons, and reached on one day the maximum yet attained of 2,936 tons. While congratulating Londoners on the acquisition of a new means of distributing such immensely important supplies as fruit, vegetables, and flowers, he felt bound to say that their thanks were due to the City of London in providing it. He further expressed the opinion that if it had been brought into being simply for the purpose of introducing new markets, that would in itself have been quite sufficient to justify the *raison d'être* of the Corporation. As it was, that body had many other important duties, and by the way it carried them out showed that it was by no means standing still, but was always ready and willing to meet the growing requirements of the community generally. He then declared the market open, an announcement which was received with loud cheers.

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.

COOL HOUSES.—The sudden fall in temperature on Saturday, accompanied by rain on Sunday, necessitated the use of fire heat in these divisions to keep the minimum up to 50° during the night. It is said that the temperature at night where Odontoglossum crispum is found often goes down to or near the freezing point. Perhaps it does, but we must remember that all plants grown under natural conditions are better able to withstand sudden changes than those grown under glass. Should the temperature outside keep low, syringing overhead in all the houses will be curtailed.

CATTLEYA HOUSE.—The early forms of Mendeli as they go out of flower will be thoroughly cleaned, and if they require it be repotted; also any Gigas varieties that may have missed flowering, as these will be ready before the flowering plants which again promise to be fine. We use for these the best fibrous peat that can be procured, and use it in rather large lumps, being particular to have all the fine particles shaken out. Very little sphagnum moss is required, but a plentiful use of broken pots worked in with the peat helps to keep the latter sweet and porous. The roots too adhere to these. The old material should be carefully removed and all the decayed or bruised roots be cut away. Pot as firm as possible without damaging the roots; no water will be required to be given directly to the plants, if they are placed in a position where the atmospheric conditions are favourable to root action.

LÆLIA ANCEPS.—These will be greatly benefited if watered once a week with weak guano water. I would ask those who do not agree with feeding Orchids to try one or two as an experiment and report the result to you. I shall be greatly surprised if the report is not favourable to the feeding system.

CALANTHES growing in the stove or warm division will be making rapid growth, and should be encouraged as much as possible. A good liquid manure for these is made by placing a bag containing horse droppings and a little soot into a tub of water, which at first may be diluted to about the colour of weak tea, gradually increasing the strength as the plants get used to it. Clay's fertilizer is a good manure, but its strength is not easily determined unless procured direct from the manufacturers; then of course it is fresh and at its full strength, and should be applied in small quantities as directed by the makers, when no harm will be done.

ANGRÆCUM FALCATUM.—What a charming little Orchid this is? It is of easy culture, too, and takes up but a small amount of space in the Cattleya house, wherein it does well grown in small baskets suspended close to the glass. Ours are just pushing up their spikes of pure white flowers. In the same house we have A. sesquipedale growing. It flowers annually, but of course does not make such rapid growth as when grown warmer; but it shows that amateurs not possessing a stove or East India house are not debarred from growing this, the finest species of the genus. We grew a small plant of the spring flowering variety into a nice specimen in this house, and a good price being offered for it, it has passed into the hands of a leading Orchid grower.—*C.*

Rodriguezia secunda.

THE habit of this plant and the colour of the flowers strongly recal those of some Cochlioda such as C. sanguinea, but the flowers are of a much darker rose-red even than in that case notwithstanding the significance of the specific name. It comes from Trinidad, and is very far from being common in cultivation although originally introduced in 1820. The pseudo-bulbs are compressed and of small size. well furnished with lanceolate, leathery leaves, somewhat similar to those of an Odontoglossum. The flowers are borne on a one-sided, arching raceme, more closely arranged than those of Cochlioda sanguinea, and certainly pretty. We noted a flowering specimen the other day in the nursery of Messrs. H Low & Co., Clapton.

THE undermentioned new Orchids were exhibited at the meeting of the Royal Horticultural Society on the 7th inst., and received awards according to merit.

Zygopetalum (Warscewiczella) Lindeni.

THE leaves of this Zygopetalum are lanceolate, relatively broad, and of a grass green. The one-flowered scape is drooping, and the flower of great size for the genus. The sepals are oblong, and white, the upper one being reflexed, and the lateral ones revolute along one edge. The petals are somewhat broader and oblong. The lip is nearly orbicular, somewhat scooped, of great size, and white with nine to eleven mauve-violet lines along the centre; the sides are undulated, somewhat crenate, and there is a prominent crest at the base. First-class Certificate.

Cynorches peruvianum.

THE pseudo-bulbs of this curious, interesting, and most remarkable Orchid are fusiform, bearing several lanceolate, two-ranked, and ribbed leaves. The raceme is pendulous, nearly terminal, and many flowered. The sepals are linear-oblong, the petals lanceolate, and all are variously twisted pale green spotted with brown. Interest however centres in the column and lip. The latter has a long claw, then a twelve fringed white lamina, having an additional white fringe near the centre, and just below the subulate apex; the whole of this fringed lamina is white. The column is long, curved like a swan's neck, slender, purple downwards, and green just below the clavate apex. Botanical Certificate.

Oncidium auriferum.

THE pseudo-bulbs are ovoid and short, bearing lanceolate, channelled leaves, above which the branching flower scapes rise to a height of 18 in. to 2½ ft., bearing a profusion of small, but bright yellow flowers. The sepals are linear, the petals oblong,

and the lip three-lobed, and darker around the white toothed crest. Botanical Certificate.

Coryanthes leucocorys.

THE short pseudo-bulbs of this singularly curious Orchid are ovoid and ribbed, bearing lanceolate, terminal leaves. The scape bears a solitary flower of great size. The upper sepal is small, but the lateral ones are of great size, oblique, and pale yellow, lightly suffused with brown. The petals are of a different form and much smaller, falcate, oblong, and creamy, slightly spotted with pale brown. The flower being reversed the lip is upside down; it has a horizontal, purplish claw; then the pendent hood is white, and furnished beneath with some curious transverse plates; the main body of the lip forms a large bucket into which a liquid distils from a nectary on each side of the base of the column. The bucket is shortly trifid at the apex, and is reddish-purple more or less spotted on both surfaces with a slightly darker hue. The column is clubbed, winged above, and closes up the apical end of the bucket. Botanical Certificate. All of the above four were exhibited by Messrs. J. & L. Linden, Leopold Park, Brussels, Belgium.

Odontoglossum crispum Walstenholm.

THE sepals of this handsome variety are furnished with a few large, pale brown blotches suffused with pale purple. The petals are ovate and toothed with one large and a few small blotches similar to those of the sepals. The lip has revolute, fimbriated white sides, while all the central portion is of a bright brown variegated on the disc with yellow. Award of Merit.

Odontoglossum crispum Rex.

NOTWITHSTANDING the similarity in size and form of this with the last-named variety, the colours or rather their arrangement are strikingly different. The sepals and petals have each one large purple-brown blotch in the centre; and the lip has a large bright brown blotch in front of the crest, and a yellow disc. The column also has a large reddish-brown blotch on the back. Award of Merit. Both were shown by Baron Schroder (gardener, Mr. H. Ballantine), The Dell, Egham.

Bulbophyllum elegans.

THE leaves of this neat species are lanceolate-oblong, coriaceous, deep green, and relatively small like those of some of the Masdevallias. The one-flowered scape is only one or two inches long. The lateral sepals are broad and so united by their edges as to form a large hood or boat-shaped piece lying over the rest of the flower, and are of a rich brown. The flower itself being upside down, the odd sepal lies below the flower, is somewhat concave, and yellow with nine longitudinal purple lines. The lip is tongue-like, pale purple, dotted, and the petals are adnate to its sides. It was exhibited by Sir Trevor Lawrence, Bart., M.P. (grower, Mr. W. H. White), Burford Lodge, Dorking, and received a Botanical Certificate.

Lælia grandis tenebrosa Warnham Court var.

THIS fine variety is admitted to be one of the finest of L. grandis tenebrosa that has ever appeared. The scape bore three flowers of large size and rich colour. The oblong sepals are of a deep shining brown. The petals are oblong-elliptic, much broader and of the same rich hue. The lip has a maroon-crimson lamina with exception of a small, pale purple blotch at the apex; the tube externally is purple, and beautifully lined with crimson internally on a pale ground. It received an Award of Merit when shown by C. J. Lucas, Esq. (gardener, Mr. G. Duncan), Warnham Court, Horsham.

Cymbidium Loise-Chauvierii.

THERE are some doubts as to whether or not this is a Cymbidium at all, seeing that the habit of the plant more resembles a Grammatophyllum or some other member of that group; so that the above name may be considered as provisional. The pseudo-bulbs or stems are fusiform, and furnished upwards with long, linear, two-ranked, leathery leaves. The scape is basal, 3 ft. high, and branched, bearing very numerous flowers. The sepals are oblong, pale green, the upper one flexed and the lateral ones falcate. The petals are lanceolate elliptic, and pale green with a few black blotches near the base. The three-lobed lip has a curious crest at the base; the lateral lobes are triangular, pale creamy-yellow, and spotted with black; while the terminal lobe is ovate, revolute, and much coloured with black markings on a pale ground along the centre, and edged with black near the apex; a yellow ridge runs along the centre. A Botanical Certificate was awarded it when shown by G. Ingram, Esq. (gardener, Mr. T. W. Bond), Elstead House, Godalming.

Cypripedium Alice.

THE seed parent of this Orchid was C. Spicerianum fecundated by C. Stonei. The influence of the latter is seen in the increased number of flowers on the stem, as two flowers and one bud were borne by the young plant exhibited. The upper sepal is roundly-obovate, revolute at the sides, white with a purple midrib and suffused with purple on the back. The lower sepal is almost white The drooping petals are 3 in. to 4 in. long, greenish yellow, spotted with brown especially on the upper longitudinal half. The lip is somewhat like that of C. Stonei, but slightly altered in form, and brown with darker veins, while the claw is pale or yellowish. The hybrid was shown by Drewett O. Drewett, Esq., Riding-Mill-on-Tyne, when an Award of Merit was accorded it.

WHAT TO DO IN THE GARDEN.

Clerodendron fallax.—If bushy plants are desired for autumn flowering, keep the leading shoots well pinched at the present time, otherwise one or two stems will take the lead, getting tall but only producing one or two trusses of bloom accordingly. Feeding can be resorted to later on when the pots become filled with roots.

Specimen Crotons.—As the young shoots grow, they should be looked after in the way of tying before they get weighted down by their own foliage; otherwise they soon turn up at the points and are then difficult to regulate so as to look well.

Stephanotis floribunda.—Old plants from which an early crop of bloom was obtained should now be thinned out and encouraged to make fresh growth. If they have been previously kept dry for a time and are now subjected to more moisture they will make strong growth and form their flower buds before going to rest, and bloom early in spring according to the temperature at which they are kept.

Heaths.—All those which have finished flowering and partly made their growth may be stood out of doors to complete growth and ripen their wood. If any sign of mildew makes its appearance, have the plants forthwith dusted with sulphur, or the latter may be mixed with water and syringed amongst the stems with some force. If neglected for any length of time the foliage will drop, causing the plants to look unsightly for years in proportion to their size.

Camellias.—Plants in pots or tubs, and which have completed their growth, may be gradually hardened off, innured to sunshine and stood in the open air, on a bed of ashes, choosing a cool situation, but not where they will be much overhung by trees.

Annuals for Conservatory Decoration.—In order to have them in flower by autumn the present is a good time to make a sowing of Mignonette, Rhodanthe Manglesii, Scabiosa atropurpurea, Cornflower, and Browallia elata, the latter requiring some time to complete its growth, and flower freely. Avoid crowding as much as possible while still maintaining sufficient to furnish the pots.

Selaginellas for Decorative Purposes.—Where Selaginellas are much used for decorative work, fresh batches will have to be made up from time to time of those species and varieties which grow quickly, but which are liable to damage by being frequently moved about and put under unfavourable conditions. Some of these that might be mentioned are S. Kraussiana, and its several varieties, also S. apus, S. Martensi, and its numerous beautiful forms, S. uncinata (S. cæsia), S. caulescens, and its forms, grown under different names.

Vineries.—As the fruit in succession houses commences to colour, keep the evaporating pans dry, and do the damping down early in the day so that the atmosphere of the house may get dry before night. Those vines from which the crop has been cut may be allowed to grow freely so long as the foliage is properly exposed to sunlight and air; syringe rather forcibly occasionally to keep down red spider, using the garden engine so that the water may be applied with some force. Also supply the roots with clean water when in need of it so as to keep the plants in health.

Orange Trees. — When Oranges require potting use a compost of good fibrous loam, mixed with well fermented or decayed stable dung, and finely crushed bones or even bone meal. The drainage should be good and the compost rammed home rather firmly, because as a rule the trees have to remain in the same pots for a number of years.

Bedding Out.—There should be no delay now in planting out all tender bedding plants and even sub-tropical subjects if they have been properly hardened off. It is a mistake however to take plants from warm pits and stoves to place in the open ground however warm the weather may be. The leaves are not adapted even to resist sunshine unless they have been gradually hardened by exposure night and day. Eucalyptus turned out of pots will succeed well enough, but Ailantus glandulosa, Rhus typhina, and things of that nature should have been planted out before starting into growth if good foliage is expected. The watering of many things will have to be attended to till they get thoroughly established.

Arabis, Myosotis, Aubrietia, &c.—These hardy subjects, which did duty as spring-bedding plants, will now have to be cared for in the reserve garden. They may be broken up into suitable sized clumps and planted out in rows in preparation for next autumn planting. Hyacinths, Tulips, Narcissi, and similar bulbous kinds will simply have to be laid in soil till the foilage dies away, then lifted, cleaned, and stored. Seeds of Myosotis sylvatica, Wallflowers, Pansies, and things of that nature which may be required, should be sown now or at least this month, so that they may attain a good size and flower well next spring.

Cherries.—In some district more than others, Morello Cherries upon walls are very subject to the attacks of black-fly. The trees should frequently be washed with clean water forcibly applied by means of the garden engine; and if that fails to keep down the pest, use washes of strong soapsuds to which a little tobacco juice has been added. If this is done at sunset the trees may be washed with clean water in the morning May Duke Cherries on walls will be beginning to colour, and if birds are troublesome, which is generally the case, cover the trees with a double layer of netting to keep the enemy at bay.

QUESTIONS AND ANSWERS.

**** *Correspondents are requested, in order to avoid delay, to address all communications to "THE EDITOR" or "THE PUBLISHER," and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa, London."*

ASPHALTE.—*J. Brown*: A cheap form of asphalte is made by sifting coal ashes through a half inch sieve, and mixing them up with coal tar to the consistency of mortar. Make the bed of the walk level and solid, and lay on the mixture to the depth of an inch. In three or four days afterwards roll it well, give the surface a coating of tar, and then sprinkle sand all over it.

VINES.—*Anxious*: We could not find any trace of the Phylloxera on the roots, and do not think it is the cause of the mischief, which is more likely to be a cold, wet border.

NAMES OF PLANTS.—*J. M. K.*: A species of Brassavola; but which one we cannot say without better materials.—*E. W. M.*: 1, Selaginella caulescens minor; 2, Sedum Sieboldi medio-variegatum; 3, Gnaphalium lanatum; 4, Sedum spectabile; 5, Selaginella uncinata; 6, Selaginella Kraussiana Brownii; 7, Selaginella apus; 8, Selaginella Kraussiana aurea; 9 Selaginella Martensii variegata. You had transposed the names of 5 and 6.—*J. Gold*: Cirrhæa saccata of Lindley. — *Stella*: Saxifraga Geum.—*Omega*: 1, The Guelder Rose (Viburnum Opulus); 2, Cock's-spur Thorn.—*D.*: 1, Pyrus fennica, otherwise known as P. pinnatifida; 2, Menziesia cœrulea; 3, Ulmus campestris; 4, Abies balsamea; 5, Abies Nordmanniana; 6, Disandra prostrata; 7, The English Blue Bell (Scilla nutans), the monstrous flower consists of a number grown into one.—*A. D.*: 1, Tradescantia virginica; 2, Achillia macrophylla; 3, Spiræa discolor eriæfolia; 4, Eucomis sp., but cannot say further without flowers; Boussingaultia basselloides.

MIMULUS —*Westgate*: We have seen similar specimens (hose-in-hose) before, but they are by no means common.

NATIONAL ROSE SOCIETY.—*Cestrian*: The notice of the change appears in our present issue, and you must please not consider the delay in making the announcement in these columns as due to any "feeling" on our part. The fact is the Society's notices are only sent to those journals which are specially favoured by the Secretary, and THE GARDENING WORLD is not one of them.

LAURELS DEAD.—*A. R.*: Your complaint is a very common one this year, and might have been expected

after such a dry season. We should not root them up at once, as the lower portion of many of them will still be alive and may yet push away vigorously during the course of the summer. That they are unsightly there can be no question, but you may cut down the stems almost to the ground line, or to what appears to be live wood. If they do push tney may be expected to grow away vigorously at least next year, and soon replace the stems that have died.

GALLS ON GROUND IVY.—*W. J.*: The Galls found on the Ground Ivy (Nepeta glechoma) are those of Aulax glechomæ, one of the Cynipidæ (or Gall-flies) which we are informed is not very uncommon, although we had not ourselves seen it before.

PLANTING POLYANTHUS.—*Omega*: The usual plan is to lift, divide and replant Polyanthus immediately they have done flowering, because they have not very much foliage at that time, and are about to make their growth. You do not give us any particulars as to whether the plants are in the ground now or not. If so they could be transplanted, but you would have to do it carefully, and keep them well watered and even shaded in bright sunshine till they take fresh root. If in pots, pans, or boxes, all you have to do is to well prepare the ground, using decayed leaves or old hot-bed dung as manure, then plant and water till established. In such dry weather as the present, we should defer planting till September or October when the ground is moist.

COMMUNICATIONS RECEIVED.—W. J.—R. McL.—J. A.—G. J. I.—N. S.—J. C. & Co.—A. D.—S.—W. C. B.—G. S. D.—X.—

TRADE CATALOGUES RECEIVED.

JOHN LAING & SONS, Forest Hill, S.E.—Tuberous Begonias and Hardy Perennials, &c.

WM. CUTBUSH & SON, Highgate Nurseries, N.—Select List of Strawberries.

LONDON SEED TRADE.

June 14th, 1892.

MESSRS. HURST & SON, 152, Houndsditch, 39, Seed Market, Mark Lane, report a small demand for Mustard and Rape at full prices. Supplies of Mustard are small. Clovers and Rye-grasses steady. Canary Seed dull.

COVENT GARDEN MARKET.

June 15th.

No alteration in prices of Fruit and Vegetables during the present week.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.	d.	s.	d.
Arum Lilies, per doz.	6	0	9	0
Begonias ...per doz.	6	0	12	0
Crassula ...per doz.	6	0	10	0
Cyperus .....per doz.	4	0	12	0
Dracæna term., doz.	24	0	36	0
Dracæna viridis, doz.	9	0	18	0
Echeveria Pyramidalis	9	0	18	0
Erica various per doz.	9	0	24	0
Evergreens, invar. doz	6	0	24	0
Ferns, invar., per doz.	4	0	18	0
Ferns, small, per 100	8	0	12	0
Foliage Plants, doz.	12	0	60	0
Fuchsia, ...per doz	4	0	9	0
Genista .....per doz.	6	0	10	0
Heliotrope, per doz.	4	0	6	0
Ivy Pelargoniums, per doz. pots	5	0	8	0
Lilium Harrisii, doz.	15	0	30	0
Lobelia, ...per doz.	4	0	6	0
Marguerites, per doz.	6	0	12	0
Mignonette, per doz.	4	0	8	0
Musk, ...per doz.	2	0	4	0
Palms in variety, each	2	6	10	0
Palms, Specimen ...	15	0	63	0
Pelargoniums, per doz.	8	0	15	0
—scarlet .....per doz.	3	0	6	0
Spiræas.....per doz.	8	0	12	0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.	d.	s.	d.
Anemone various, doz. bun.	2	0	4	0
Arum Lilies, 12 blms.	2	0	4	0
Bouvardias, per bun.	0	6	1	0
Carnations, 12 blooms	1	0	3	0
Cornflower doz bnchs	2	0	4	0
Encharis ...per doz.	2	6	4	0
Gardenias 12 blooms	1	6	4	0
Gladioli...doz. buns.	6	0	12	0
Heliotropes, 12 sprays	0	6	1	0
Iris (various), dz. bn.	6	0	9	0
Lilac, French, per bunch	4	0	5	0
Lilium Harrisii, doz. blooms	2	0	4	0
Liliums var., dz. blms.	1	6	3	0
Maidenhair Fern, 12bs.	4	0	6	0
Marguerites, 12 bun.	2	0	4	0
Mignonette... 12 bun.	3	0	6	0
Myosotis or Forget-me-not, doz. bnchs.	2	0	4	0
Moss Roses, dz bchs	6	0	12	0
Pelargoniums, 12 sps.	0	9	1	0
—scarlet.....12 bchs.	4	0	6	0
Primula, double, bun.	0	9	1	0
Pinks .....doz. buns.	2	0	4	0
Pansies, doz. bchs ...	1	0	2	0
Polyanthus, doz. bchs.	2	0	4	0
Pyrethrum doz bnchs	2	0	4	0
Orchid Bloom in var. per bloom, from	0	3	1	0
Roses, doz bunches	4	0	12	0
Roses, yellow, dozen	2	0	6	0
— Red..... doz. blms.	2	0	4	0
— Saffrano...per doz.	1	0	1	6
— Tea ..... per dozen	0	6	2	0
Spiræas...doz. bnchs	4	0	6	0
Stephanotis, dz. sps.	1	6	2	6
Sweet Peas, dz. bns.	6	0	9	0
Sweet Sultan, dz. bn.	4	0	6	0
Tuberoses, per doz	0	6	1	6
Wallflowers, doz. bunches	3	0	4	0

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, June 28.—Maidstone Rose Show.
Sale of Orchids at Protheroe & Morris' Rooms.

WEDNESDAY, June 29.—Farningham Rose Show.
Ipswich Rose Show.
Richmond Flower Show.

THURSDAY, June 30.—Eltham Rose Show.
Canterbury Rose Show.
Bury St. Edmunds Flower Show.
Winchester Rose Show.

FRIDAY, July 1.—Brockham Rose Show.
Sale of Orchids at Protheroe & Morris' Rooms.

SATURDAY, July 2.—National Rose Show at the Crystal Palace

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, JUNE 18th, 1892.

TULIPS AND PANSIES.—Southern readers no doubt perused last week with amused interest the reports furnished to us of the various Tulip and Pansy shows held in the north recently. Probably there has been since the holding of these shows some sad reflections as to how things might have been had they fallen into the cooler weather of a few days later, when there was so little to provoke fervid perspiration, and so much to provoke growling over the winterly weather. But we here, in the south, perhaps regard almost as infatuation the favour shown by the northern florists for Tulips and Pansies, because no such exciting sensations are felt here

Why we do not grow florists' Tulips and Pansies in the south it is difficult to say, except, perhaps, it be that we lack the needful faith and are too indifferent. Sometimes we are told that ordinarily our southern spring time is too warm for the successful culture of these flowers and for the production of good exhibition blooms. It may be so, although satisfactory proof that such is the case has not been adduced. There have been splendid Tulips grown in the south, and as evidence of that we may refer to the splendid blooms which the late Mr. Charles Turner once produced at Slough, to carry the memory no further back. Indeed his fine bed was in its day one of the glories of the nursery that he made so famous. The same able florist used also

to grow Pansies for exhibition well, and so did the late Mr. James when at Isleworth. We should look a long way now it is feared for either show Tulips or Pansies southwards.

It can hardly be that skill or means are lacking. Rather it seems as if the florists' fire were wanting, for there must be great divergence between that fire which seems in relation to florists' flowers to burn so brightly in the north, and the comparative coldness which exists this way. It is we fear useless to invite readers to take up the culture of high-class Tulips and Pansies southwards. There is no lack of appreciation for beautiful flowers, but only for those which will make ordinary garden displays, and for that taste we can find no fault.

JUNE FROSTS.—From four to five degrees of white frost in the middle of June is indeed a serious trouble, and shows to all concerned in gardening how great are the difficulties by which it is surrounded. If tender plants are not safe at that time of the year, when will they be? Were it but a phenomenal freak of the weather we should regard such a cold depression lightly, but so far from that being the case we are finding now that such incursions of cold into June are far from being infrequent, and leads to the impression that in a few years we may find June absorbed into that so-called spring season which is so treacherous, and renders early gardening, especially in relation to tender plants, exceedingly difficult.

There can be no doubt whatever but that the very sharp wave of cold which passed over the south and west of England on the morning of the 15th was productive of grave harm. We have heard of Runners and French Beans, Tomatos, Vegetable Marrows, Potatos, Peas, Strawberry blossoms, being cut, and in some district near to water or low lying almost blackened. Even such comparatively hardy material as the common Bracken has been killed to the ground over large areas in places where the vapour hung and hoar frost was exceptionally dense.

Very tender plants in flower gardens, of course, have also greatly suffered. We can but hope that the mischief done is no worse than we have so far indicated. Where the soil was very dry, and the plants on it fully exposed to an active atmosphere, very little harm has been done. In the case of summer vegetables we cannot possibly dispense with those of a tender nature. In our flower gardens we may do so to some extent, but to ignore tender plants entirely would even then necessitate a revolution in summer bedding.

JUDGES AND THEIR DUTIES.—The season which demands the interposition of horticultural judges is at hand, and will be with us up to the end of next November. Whatsoever the weather or other possible impediment, flower Show dates are fixed and the shows have to be held. This year those Committees who have arranged for their shows to come off between now and about the 20th of July, naturally have considerable misgivings as to the probable effects upon th ir exhibitions of a General Election contest with all its feverishness and excitement. Social functions which make such a considerable demand upon the general public as floral fêtes do, may suffer materially during such times, indeed it is very possible that some disadvantages may result to all shows more or less during the present summer because of the Election contest.

But amidst all this excitement and distraction those members of our profession who are called upon to discharge the duties of the office of judge at these exhibitions will find that no relaxation of labour or lessening of responsibility to them will follow. It may be that sometimes when judges cast their eyes on the very lengthened list of classes in which they are called upon to adjudicate that they may well wish success to the reduction of the hours of labour movement, for the prospect of having to deal with perhaps 80 classes, as is sometimes the case, and within a couple of hours, is one sufficient to appal any intelligent man.

If automatic judges could be found who could grind out a class judgment at the rate of one every minute the labour might be possible. It is not so with flesh and blood. Committees are almost invariably half-an-hour late with their preparations, and yet the unfortunate judge is expected to get through his tremendous duties in the usual limited time. Specially this year must the judge keep his head clear of all political excitement, or at the most must he only express sympathy with the short time movement.

POTATOS.—Where the tender Potato tops escaped the recent sharp white frosts, and in many districts they were very much cut, there seems to be excellent promise of a good crop. It does happen that while ample rains always help to produce a heavy crop of tubers, the average quality of the sample is rarely so good as is the product of a drier season. We have so far had little rain, and where there have been heavy falls the soil is none too wet. If we could have a season of occasional showers which kept the tops fresh and clean, yet not gross in growth, we should secure a better class of tuber than we have had for some two or three years.

It is not a matter for wonder that much fault should be found with our Potatos, because it is long since the decease allowed the tops to fully mature, and when these are as it were cut off in their prime, it is but natural that the average quality of the tubers should be low. A season that is moderately dry and warm whilst lessening the effects of the disease, especially by deferring its attacks, would also in promoting greater warmth in the soil conduce to the maturation of good sound starchy tubers.

It seems to be utterly impossible to furnish artificially any conditions which shall conduce to that end if the weather be unpropitious. The best we can do is to have the soil deeply worked, so that all moisture may pass away from the roots very freely, and also have the plants well and sharply earthed up, so that the tubers are in that way further protected from excessive rains. July is usually the test month for Potatos, and if that time be safely weathered then there is not much to fear for the crop.

The National Chrysanthemum Society's Annual Outing will take place on Friday, July 22nd, when a visit will be paid to the charming gardens at Redleaf and Penshurst, Kent. Further particulars will shortly be communicated to the members.

Manchester Rose and Pink Show will be held on July 23rd, instead of July 16th as previously announced.

The International Horticultural Exhibition.—We understand that the authorities at Earl's Court have arranged to hold a grand fruit show in the last week of August, independent of the other shows already arranged for. About £200 will be given in prizes and the special feature will be Peaches and Nectarines.

Frost in the middle of June.—Mr. Fulford, writing from the Gardens, Trafalgar Park, Salisbury, on the 15th inst., states that a frost was experienced in that district on the previous night sufficiently severe to destroy dwarf and runner Beans. Potatos, Vegetable Marrows, and ridge Cucumbers are also much cut up.

The Bishop Stortford Horticultural Society will hold its annual exhibition at The Grange, Bishop Stortford, on August 31st.

A Steam Lawn Roller is numbered among the latest American inventions. It is described as a miniature of the Steam Road Roller, being 30 ins. wide, 3 ft. in diameter, with a small chimney stack, 6 ft. high, near which the man stands who runs the machine. It is said to be easily handled.

Extensive destruction of the Potato Crop.—The Lincolnshire and Cambridgeshire Potato crop—the chief Potato-growing district of England—has been mown down and blackened in enormous breadths, extending over hundreds of acres, by the severe frosts of last week. It is stated that it is eighteen years since any thing of a similar kind occurred. The crops on the Fen lands have suffered most severely, and the yield will necessarily be effected disastrously.

The New Golden Richardia —The stock of this fine new plant was disposed of at Protheroe & Morris' Rooms last week and realised about £416. Several noted market growers were present, but the competion for the various lots was by no means keen. The original plant realized seventeen guineas, and the next best specimens sixteen guineas and ten guineas respectively, and the remainder nearly all went into the hands of leading London nurserymen. Another, and a very beautiful yellow variety of the green-leaved form, came before the Floral Committee on Tuesday.

Veitch Memorial Medals were presented to Mr. John Heal, of Messrs. James Veitch & Son's nursery, Chelsea, and Mr. William Watson, of Kew, at the meeting of the Royal Horticultural Society on Tuesday.

Seeds Imported to America.—It is stated in an American exchange that of the seventy or more kinds of vegetable seed used in America over half the varieties are imported. The foreign sources of seed are Canada, England, France, and Germany. The importations from Canada are confined to Peas. From England are obtained most of the Mangel Wurzel seed, some early Cabbage seed, some varieties of Carrots, Celery, frame varieties of Cucumber, Leek, Kohl rabi, Parsley, Peas, Radish, and Turnips, and a portion of flower seeds. From France and Germany come, as a rule, the choicer varieties of vegetable and flower seed. When they want something rather extra in purity, or the finest strain in the vegetable or flower seed line, such as Cauliflower, Celery, Lettuce, Egg-plant or Radish. American seedsmen are very apt to turn towards France or Germany, rather than the mother country, even though they may sometimes have to pay rather a higher price for their purchase

Lee and Blackheath Horticultural Society.—We understand that the committee of the Lee, Blackheath and Lewisham Horticultural Society have decided to have two popular evenings this year, instead of one as hitherto, and have reduced the prices of admission for the first day from 2s. 6d. to 6d. after 6 o'clock, thus giving the Early Closing Association in the neighbourhood a chance.

A Monstrous Blue Bell.—A correspondent near Glasgow sends us a remarkable form of the English Blue Bell (Scilla nutans) from a clump of the ordinary kind. Instead of a raceme of drooping flowers subtended by bracts, the scape bore a single erect flower of huge dimensions. There were about sixteen perianth segments of the ordinary colour, and some of them measured 2 in. in length, even after they were partly shrivelled up, so that no doubt they were longer when fresh. The scape was very stout, quite devoid of bracts, and having about three pale blue lines running down it. There were 20 or more stamens; but many of the segments had developed from stamens, as they bore anthers at the apex. Five or six ovaries occupied the centre of the flower, so that on the whole it may be considered a great freak of nature. The energy of the bulb had been concentrated in the production of a single bloom. Luxuriance of growth has possibly been the factor, and the agent responsible for this state of affairs. It would be interesting to mark the bulb, so that its behaviour next June might be noted. The same form of infloresence cannot be expected again, but something out of the usual might turn up.

THE HERBACEOUS BORDER.

Choice Plants in Flower.

SIDALCEA CANDIDA.—The comparative scarcity of this plant in gardens would seem to indicate a difficulty in growing or preserving it, but such is not really the case. Planted at the proper season and allowed to get established before the dry weather sets in, it grows rapidly, and throwing up a stem about 2 ft. high flowers freely from June onwards. The stems are furnished with deeply-lobed leaves of a rich green and terminate in a lengthening raceme of white flowers. The petals of the latter are traversed by strong nerves, while the tissue between is almost transparent.

DICTAMNUS ALBUS.—There are white and purple flowered varieties of this plant of various shades of colour, and they are generally grown under different names. The whole plant, but the flowers especially, give off a balsamic odour that is agreeable to most people unless too powerful by being bruised. The irregular disposal of the petals is a noticeable feature of the flowers. The foliage is highly ornamental from its being cut like the leaves of the Ash. The rootstock grows very slowly, but propagation may be effected by means of seeds, which are plentifully produced.

LYCHNIS VISCARIA SPLENDENS PLENA.—There are several species of Lychnis with double flowers, but that under notice is a great favourite with many hardy plant lovers. The stems are about a foot in height and slightly branched upwards, bearing numerous large, fully double flowers of a beautiful carmine-rose. The plant is easily propagated by division in early spring, and forms a striking feature either in the herbaceous border or on the rockery when grown in clumps of some size.

SENECIO DORONICUM.—With many of the Senecios is associated a rankness of growth, but that under notice is dwarf and of comparatively slow growth. The stems terminate in one large flower-head of a golden yellow resembling a Doronicum, hence the name. The leaves are lanceolate and serrate. It is a native of south Europe, perfectly hardy and easily propagated by division.

ACHILLEA BIEBERSTEINI.—There are numerous species of Achillea, which, from their dwarf habit, beautiful foliage, and neat interesting flowers, are very suitable for garden purposes, either in the herbaceous border proper or on the rockery, the latter perhaps being the most legitimate place for it. The silky leaves are two or three times divided with linear segments. The scape bears one flower only of large size, with golden-yellow rays and a broad darker-coloured disc. It does not exceed a foot in height.

CAMPANULA GLOMERATA DAHURICA.—In a wild state C. glomerata enjoys a wide distribution, and we cannot be surprised that it varies considerably. The variety here noted has flowers of a rich dark blue, those of the type being paler. When once established in the border it requires no special attention, but flowers every year with great freedom in soils of various character.

THALICTRUM AQUILEGIFOLIUM PURPUREUM.—Of the numerous species of Thalictrum some are grown solely for the sake of their foliage, and others for the flowers and foliage combined as in the present instance. The foliage is of a beautiful and glaucous hue, resembling to some extent that of an Aquilegia. The beauty of the flowers depends upon the length and number of the stamens, which are creamy-white in the species, but pale purple in the variety here noted. As it is a strong grower in rich soils, the back row in the border is the position for it.

INULA GLANDULOSA.—The stems of this handsome perennial vary from 1 ft. to 3 ft. in height, according to the richness of the soil and the nature of the season; and, although they bear only a single bloom each, we would rather prefer to see them of that size because the blooms are larger, measuring 3 in. across, with long, slender, golden-yellow rays.

AQUILEGIA CHRYSANTHA.—The golden-flowered Columbine of the Rocky Mountains is one of the most sprightly and one of the most easily grown. It may not be long lived, but that is of small consequence considering how easily it is raised from seed which is freely produced.

PHLOX OVATA.—The flowers of this Phlox are purple and as large as those of many of the autumn flowering garden varieties. The leaves are unusually broad for a species that seldom, if ever, exceeds 1 ft. in height under ordinary conditions of culture. Being perfectly hardy it is matter for wonder that the florist has not taken it in hand for improvement.

ABOUT TASMANIAN APPLES.

WHEN I arrived in Hobart from New Zealand, early in April, the wharves were crowded with immense piles of cases of Apples. The eye could take in 30,000 of these cases at once, and these are swallowed up weekly, as the mail boat and other steamers call for them for the English market. Something like 250,000 cases will be shipped this season. We seemed to have dropped down into a land of Apples. What Cotton is to Lancashire Apples are to Tasmania. Apples are everywhere. You are constantly meeting loads of empty and full cases on boats and carts wending their way to and from the fruit growers, of whom there are more than a thousand within thirty miles of Hobart. Over three hundred of these orchardists have formed themselves into an association—the Tasmanian Fruit Growers Association—to faciliate the shipping and financing of these immense quantities of Apples.

One of the chief leaders in the organisation and development of this fruit industry has been Dr. Bengafield, who practised in Manchester and Stockport about twenty years ago. He is an enthusiastic fruit grower himself, and is looked up to as an authority, not only in the colony of Tasmania but far beyond it. He cultivates over 100 acres of fruit himself, chiefly Apples, of which he has twenty-five varieties, and also Pears of fifty varieties, every tree of which is catalogued by name in a ledger kept for the purpose. His rows of Plum trees are three-quarters of a mile long. All the hardier English fruits are grown in perfection in Tasmania. The crops seem prodigious, and the climate would certainly be healthier for Englishmen than Mildura in Victoria, of which we hear so much.

The Apple orchards, as you travel through the country, are a sight to see. The trees are pruned on the inverted umbrella principle, so that the air and sun have free access to the blossom and fruit. The trees are not allowed to grow to a large size, but the beautiful coloured Apples, now so familiar in our shop windows at home, hang like ropes of Onions, and bend their branches down so that it needs no ladder to gather them. Some trees have produced eighteen bushels (of 48lbs), and I was told 500 bushels to the acre is a common production. A measured acre in a favoured situation produced 1,000 bushels! Apple cultivators reckon on ten crops in twenty years from the time of planting. A farmer showed me over a magnificent orchard he planted ten years ago of 1,500 Apple trees just in their prime. The orchard covered ten acres. It is said to be the finest orchard of the kind anywhere to be seen, and nets its owner £1,000 a year.

People at home may judge of the climate and soil of Tasmania when Chrysanthemums grow out of doors nine feet high. Geraniums and Fuchsias are as large as our Willow trees, and are covered with flowers. I measured some Onions twenty-two inches in circumference, and six of these weighed seventeen pounds. The English Thorn grows forty feet high, and I travelled along miles of hedges made of Sweetbriar.

It is a lovely trip in the little river steamer, Monarch, up the Derwent, past Hobart, along some twenty miles of romantic mountain and bush scenery, and the water so clear and smooth that the river banks and overhanging foliage were mirrored so perfectly you could not tell where the reflection and the reality divided. This little steamer goes three times a week up the river as far as New Norfolk, and has been doing it for thirty-seven years. Before this it was running on the Clyde. We passed large flocks of wild ducks; there are also native hens, quails, and mocking birds. The Government have established salmon hatching beds for stocking the rivers, and the ova is imported from Ireland on trays of moss. I saw some brown trout two feet long; also some Californian and Loch Lomond trout ready for turning out from the beds into the river.

All this fruitful and pleasant land like New Zealand can scarcely be called inhabited, and is waiting for the conqueror in the shape of the industrious workman who knows how to clear and plant. To show how industrious labour is rewarded here, I will mention one case of a man I know and conversed with—quite a rough, unskilled sort of a man, worth his pound a week at home. This man is employed by an owner of land, and receives for his services—from seven to five in winter, and seven to six in summer—the following perquisites, besides 36s. a week:—House rent free, one cow pastured free, wood for fuel free, all the fruit and vegetables he and his family need, and his fowls and ducks kept free. Good agricultural labourers and gardeners and outdoor workers of all kinds would be certain to find plenty of remunerative work, besides many other advantages of the free and healthy life that this and other four Australian colonies present.—*H. Faulder, in the Manchester City News.*

THE GREAT YORK GALA.

THE 34th annual exhibition was held June 15, 16, and 17, and kept up its prestige as a great horticultural gathering. The first day of the exhibition was very fine, and 1,200 more persons attended on that day than on any previous first day, but owing to unsettled weather and much rain falling on the two subsequent days, there was a falling off in the number of visitors. Still the attendance on the second day was close upon 24,000. Stove and greenhouse plants were good as usual. Mr. Letts, gardener to the Earl of Zetland, Aske, being first in the large collection; Mr. Cypher, Cheltenham, second; and Mr. Mould, Pewsey, third. In the class for six stove or greenhouse plants, Mr. Nicholas, gardener to the Earl of Zetland, at Upleatham, was first with a fine lot; and Mr. Mould a good second. Some splendid Ericas were staged, also Azaleas and Crotons, a great lot of ornamental plants, and plenty of fine examples of Exotic Ferns and also British. There was a falling off in the numbers of groups, but Mr. McIntyre, gardener to Mrs. Gurney Pease, Darlington, was first in both classes for artistic arrangement and quality of plants used.

Orchids were a marked feature, and Mr. Cypher took first honours with fine specimens; and Mr. Townsend, gardener to C. B. Faber, Esq., Harrogate, was a good second in each class for ten and six plants. Mr. Wright, gardener to D. Wilson, Esq., Cottingham, was first for four Orchids; and Mr. Nicholas first for a specimen Orchid, a superb Calanthe veratrifolia. Messrs. Charlesworth, Shuttleworth & Co., Bradford, staged a large collection in which were a number of plants of Oncidium macranthum, and examples of the lovely Lælia grandis tenebrosa. A great lot of specimen Fuchsias were staged, in which excellent culture was perceptible. A good lot of Gloxinias, a fair lot of Tuberous Begonias, some good Coleus, some nice lots of bedding plants, and other things invited in the schedule were staged.

The Pelargoniums in some cases were very fine as usual, but not quite so many as we generally see. Mr. Eastwood, gardener to Mrs. Tetley, Leeds, was a strong first for twelve show varieties with grand plants in his usual style. Mr. McIntosh, gardener to J. H. Hingston, Esq., was a good second; and Miss Steward third. For six specimens, Miss Steward was first with a capital lot; and Mr. Eastwood a close second; other classes were also well filled. The Zonals are always A1 at York. Mr. Eastwood was again first for twelve, with a grand lot of plants; and Mr. Pybus, florist, Monkton Moor, a good second. In the classes for six and three plants, Mr. Eastwood led in each class, Miss Steward also taking next honours. Mr. Eastwood was also first for eight and four doubles, superb, well done specimens. We cannot speak too highly of the wonderful advance in the cultivation of the specimen Ivy-leaved at York. Such plants were worth a long journey to see them, Mr. Pybus's first prize lot of six being of the highest quality and of great size and symmetry. Mr. George Cottam followed with a splendid six not so much in flower. There was a large number of plants staged in the various classes.

A large quantity of Roses in pots were staged in the various classes, Messrs. Jackson & Co., Bedale, taking the lead with well-grown plants although some of them were fully tall. Mr. Pybus and Miss Stewart also exhibited. Cut Roses were numerous. In the class for 72 blooms, not less than 36 varieties, Messrs. Harkness & Sons were first; Mr. G. Mount, Cambridge, second; Mr. H. G. May, Bedale, third.

For 48, 36, 24, and 18, Mr. May was first in each class; Mr. Mount second for 48, and third for 18; Messrs. Harkness third for 48, second for 36, and second each in 24 and 18. So there was close competing throughout as well as in the amateurs' classes. Some excellent bouquets were staged, Messrs. Perkins & Sons being first in the three classes; Mr. A. Booty, Harrogate, second. The epergnes were good, so also the baskets of flowers, cut stove and greenhouse flowers, Pyrethrums and Perennials.

There was a great show of Pansies, Mr. Smellie, Glasgow, being the leading winner, with Mr. Irvine, Mr. Campbell, and Mr. Bailley very successful also. Some certificates for new sorts were awarded, and the amateurs staged well. Messrs. Dobbie & Co., Rothesay, contributed a fine display of Violas, Pansies, and other flowers, and were awarded Certificates for two new Violas, Rob Roy and Prince of Orange.

A handsome Gold Medal was awarded to a superb group of Souvenir de Malmaison Carnations sent from Ascott, near Leighton Buzzard, by Mr. Jennings, gardener to Leopold de Rothschild, Esq., and were so much admired.

Certificates were awarded to the Rev. G. Yeld, York, for a beautiful seedling Hemerocallis named "Apricot," the result of a cross between H. flava and H. fulva or Middinsdorfiana; also to a lovely seedling Iris of exquisite form named "Sincerity."

Fruit at York is always a marked feature. In the class for a collection of ten varieties, Mr. McIndoe, Hutton Hall Gardens, was first; and Mr. R. Parker, Impney, second; and they stood in the same order for six varieties. For four varieties, Mr. McIndoe was first; Mr. Leadbetter, gardener to A. Wilson, Esq., Tranby Croft, second; Mr. James Tullett, gardener to Lord Barnard, Raby Castle, third; and Mr. Lonsdale, gardener to R. H. Appleton, Esq., Eaglescliffe, fourth. Three good Pines were staged, Mr. Slade, Clumber, being first with a good smooth Cayenne. In the classes for black and white Grapes, three bunches of each, Mr. Allsop, gardener to Lord Hotham, was an easy first, and there were seven exhibitors in the class for blacks. Peaches, Nectarines, and Figs were good, and there was a fine display of Melons in the three classes. Large numbers of honorary exhibits were staged.

PÆONIES AT CHISWICK.

Siberian Pæonies, or the garden forms of Pæonia albiflora, are at this season amongst the more prominent and fashionable flowers in the garden, and those only who have seen a good collection of the newer varieties can form any idea of their massiveness and fine effect when in bloom. The collection in the gardens of the Royal Horticultural Society at Chiswick having been obtained from various sources, and the bulk of them having been established for some years, the intending planter would be able to make a selection that could hardly fail to give satisfaction. They have several times been examined by the Floral Committee, and a large number of them have received three and two marks, the higher number being equivalent to a First-class Certificate.

Varieties receiving Three Marks.

A vigorous growing kind is Comte de Nanteuil, about 2½ ft. to 3 ft. high, with large, globular, rosy-pink flowers with a white edge. Carnea elegans is equally vigorous and one of the choicest, with broad, loosely arranged flesh coloured petals having satiny white edges. With this we should also class Madame de Montigo, having broad, blush guards, and a close centre of slightly crumpled white petals. A floriferous sort with dark crimson-red flowers is Madame Mechin; Nivea plenissima is even dwarfer, being only 18 in. high, with broad, white petals, but it is very early and now out of bloom. The guard petals of Madame Calot are slightly tinted with blush, but all the rest is white somewhat crumpled. Paul de Ritert has globular, rosy-purple flowers fading to white at the tips of the petals. Those of Modeste are rosy-purple, with pink or white tips. Another sort already out of season is Grandiflora nivea plena with pure white flowers. Of the Hollyhock type is Volupteuse, with a compact, crumpled centre, rose, and satiny at the edges. The flowers of Duchess de Nemours are of medium size, white, and early. Caroline Allian has blush guards and a crumpled white centre. Charles Binder is rather darker or flesh coloured, but otherwise similar to the last. Amongst the same group may be placed Belle Chatelaine, which has blooms of huge size; Madame Vilmorin has large, rosy-lilac and white flowers; while those of Furtado are rose coloured, with white edges to the inner petals. The pink flowers of Comte de Paris are large and globular, with white edges to the inner crumpled petals.

One of the best of the early kinds is Formosa alba, about 2 ft. high, and producing pure white flowers in great abundance; early kinds like this serve as a connecting link in the succession between the European and the Siberian Pæonies. The lilac and white flowers of Madame Ducel are much interlaced in the centre. Very distinct is Edouard André, with intense blood red but small flowers; the plant is only 18 in. high. Canari has pure white flowers of the Hollyhock form. The guard petals of Lilacina plenissima are lilac, the rest pure white. Where a large collection is grown, variety is a great desirability, and that exists not only in colour but also in form, as is evidenced by Grandiflora lutescens, which has broad, white guards, and the centre filled with short, linear, pale yellow petals after the style of an Anemone. Of the same type is Flavescens, but it is finer, with clear yellow petals. Anemonæflora alba constitutes a trio with the last two named, but differs in the inner petals being short, slightly twisted, and pale yellow. Sulphurea has large flowers with the inner petals loosely crumpled and sulphur yellow. Luteciana is a dwarf variety with rosy-lilac flowers. The guards of Prolifera tricolor are white with a yellow centre, changing to white, and loosely arranged. The blush lilac and white flowers of Princes Galakin are small but freely produced. The deep rose flowers of Rosea superbissima are very fine in their way. Dark coloured varieties are as yet by no means numerous, and raisers would do well to improve upon the form of some of them now in existence. Although very old the double Whitleyi still remains a choice sort amongst the double white kinds.

Varieties receiving Two Marks.

Many of those receiving this distinction are by no means bad flowers, and may give as much satisfaction as several of the above. Queen Victoria is a bushy plant about 2 ft. high with blush guards and a white centre. The flesh or pale pink flowers of Virginia are of medium size and sometimes show the yellow stamens in the centre. Those of Sidonie are similar in size, but rose coloured, shaded with lilac and very freely produced. Lucrece is an early variety with white flowers and dwarf like most of the early flowering sorts. Some of the inner petals of Boule d'Or are edged with red, the rest being white. A very floriferous kind is Violacea with rosy flowers and a satiny edge. A cup shaped flower is Victoire Modeste, with rosy guards and lilac and white inner petals. Miranda may be placed amongst the precocious sorts with white flowers saving the blush guards. The large flowers of Princess Mathilde are rosy-pink with a satiny edge. The guards of Lilacea grandiflora are lilac-purple, with a paler centre Somewhat of the same style is Comtesse de Bresson, but it is several shades paler. Madame Jules Calot has lilac and white flowers with broad guards.

Other Choice Kinds.

Even admitting the above list to be a lengthy one, there were still a number of late flowering kinds of a high standard of merit, and which had not received any award at the time of our visit the other week. A dwarf and conspicuous kind is L'Illustration with rosy pink flowers and white edges. The deep red flowers of Gloire de Davai, resembling those of Pæonia officinalis, have loosely arranged, incurved petals. Thorteiki has delicate pink flowers and a white edge. Of the Hollyhock type is Potssi with rosy flowers and a satiny edge. A delicate blush-pink flower is Louis Parmentier. A fine late variety is General MacMahon with dark rosy-purple flowers. Somewhat similar is Linnie, but the flowers are only of medium size. The rosy and satiny edged flowers of Madame de Muyssart are small but pretty. The broad flesh coloured petals of Madame de Galham are undulated or wavy around the apex and delicate in appearance. A bold and fine flower is Augustin de Nour with deep rosy-purple flowers of great size. The loosely arranged petals of Nobilissima are broad and of a deep rose colour fading towards the margin. Daubenton is of the Hollyhock tyye, with rose flowers and silvery white edges, but the crumpled and compact central petals give the bloom a somewhat moppy appearance that might not please the fancy of everyone.

FLORICULTURE.

The Pansy and Viola as Popular Flowers.

A wave of popularity is undoubtedly spreading, and these two lovely flowers are rapidly coming to the front, the former especially as an exhibition flower, and the Viola as a decorative plant. Thousands of the latter are now grown, where five years since dozens only were seen.

Under the above title, a very excellent and exhaustive paper was read at a recent meeting of the Shepton Mallet Gardeners' Association, by Mr Wm. H. Morton, solicitor, of that town, giving much valued information as to the early history of the Pansy from 1813 or 1814 to the present time, drawing attention to the fact that in about the year 1813 the late Lord Gambier saw the wild form of Pansy growing in his fields, gathered some and took them to his head gardener to see if he could obtain any improved forms from them. This old gardener, Mr. Thomson, afterwards became a famous Pansy grower at Iver, near Uxbridge, close to Lord Gambier's estate, and under his fostering care greatly improved forms were soon introduced, and other cultivators also taking the flower in hand, the Pansy soon made great headway, and was included in the list of old florists' flowers. It would fill a small volume to trace the history of this flower, and Mr. Morton has done good service in the West of England by his excellent treatment of his subject.

He admits freely his indebtedness to Simkins's Book on the Pansy and the history of the Pansy therein written by an old cultivator, and points out that although forms of the fancy Pansy were known as far back as 1848, introduced from France by the late Mr. John Salter, they found no favour with English florists. It was in the year 1858 that improved varieties raised in France of fancy Pansies were introduced from Lille by Messrs. E. G. Henderson & Sons, of London, to Mr. W. Dean, still living, but then residing in Yorkshire. At first our older florists wouldn't recognise them, but Mr. Dean saw there was something in them and went to work raising seedlings, and ultimately our Scotch friends took them in hand. And what are they now? It seems almost impossible to get finer flowers, grander in form and colour, and yet our good friends, the Scottish florists, yearly add a few grand new varieties. Mr. Morton gave valued advice as to cultivation, and pointed out the respective qualities of the two classes, show and fancies, and also Violas, of which he spoke in enthusiastic terms. A very hearty vote of thanks was accorded to him.

APRICOTS IN DAMASCUS.

The city of Damascus is surrounded by gardens which are composed of fields of Apricots furnishing an average yield of from 50,000 to 65,000 quintals of fruit. M. Guillois, the French Consul at Damascus, says that the harvest lasts about six weeks, generally from the 10th June until the end of July. There are six principal descriptions of Apricots, the Sendiani, Hamoni, Onazari, Chahmi, Baladi, and Klobi. The Sendiani appears the first, about the middle of June; it is an oval fruit of a yellow colour, and of a slightly acid taste. It is consumed exclusively at Damascus. The kernel of this description of Apricot is not bitter to the taste. The Hamoni, which follows immediately after the Sendiani, is the most appreciated; it is small, round, with a glossy skin, and the fruit is perfumed and juicy. This variety, like the former, is consumed at Damascus, and it is subdivided into two categories, the Hamoni Bakir and the Hamoni Lakisse. The Onazari is slightly oval, red, juicy, and perfumed, and resembles the European Apricot. The kernel of this description is large, and of a sweet taste, and is easily detached from the fruit. The price of the Onazari is about a sixth higher than that of the preceding varieties, and part of this fruit is consumed at Damascus, and the remainder is sent to Beyrout. The three varieties enumerated above are almost entirely used for home consumption, and in a fresh state; while the following descriptions are largely used in the manufacture of preserves, for drying, and for making Apricot paste.

These are the Chahmi, which, externally, resembles the Hamoni, but is inferior to it as regards taste, the fruit being dry, and wanting in perfume. The Baladi, which resembles the Onazari in form and taste, is yet considered to be superior to the latter

The yield of this fruit is about 5,000 quintals, and of this quantity 1,000 quintals are consumed in the fresh state at Damascus, the remainder being used or making dried Apricots (Noukou), which form one of the principal articles of export from Damascus. This fruit is gathered from the tree when it is completely matured, generally about the 15th June. It is then exposed for three days to the sun on planks, covered with a layer of long straw, care being taken to keep the Apricots apart, so that they may not touch one another. The third day, each Apricot is gently pressed between the palms of the hands, and again exposed to the rays of the sun, and this operation is repeated until the fruit, perfectly dry, assumes the shape of a flattened disc. This usually takes place in about six or eight days, and the Apricot loses about 70 per cent. of its weight. The price of the dried Apricot varies between 30 centimes and 1 franc the kilogramme at the time of drying; but at other times, and particularly in the month of Ramazan, when there is a large consumption of the article, the price is doubled. A small quantity of these dried Apricots is used in the manufacture of preserves. The remainder is exported to Egypt, Smyrna, and Constantinople, to a value of about £3,200. The Klabi, which is a very inferior quality of Apricot, is a small, dry, red fruit, and is the only one in which the kernel is bitter. It is exclusively used in the preparation of Apricot paste.

Apricot paste, known as Kamar El Dine, is, together with dried Apricots, one of the principal exports from Damascus. The fruit, when gathered, is crushed in a kind of large iron-wire sieve, and the thick juice which results from this operation is collected in earthen vats, and then spread on planks covered with a layer of oil, where it is allowed to remain two days exposed to the air. At the expiration of this time, the paste is removed and turned. On the fourth day the paste is again removed, and it then has the appearance of a band of leather, very thin, and of a reddish-brown colour, about a yard and a half long and half a yard wide. This is the finest quality of paste. The same operation is repeated once or twice to obtain a second and third quality, each time a little water being added to the residuum of the former operation. The bands of paste are then folded so as to form bundles of about five pounds weight, which are sold according to quality—from 35 to 55 francs the quintal. In the same way as dried Apricots, Apricot paste is exported to Egypt, Arabia, Aleppo, Constantinople, and also to Belgium. The value of the export amounts annually to about £14,000. As regards the kernels of the Apricots, part of these is consumed at Damascus in the manufacture of oil, and the remainder is shipped to France, Germany, Italy, and Austria, the value of this export trade being estimated at £8,000. The value of the yield of Apricots in Damascus, after allowing for expenses, is estimated at £28,000. These figures, says M. Guillois, are sufficient to show the importance of Apricot culture in the immediate environs of Damascus, and in his opinion they might be doubled, if an improved system of culture and irrigation were adopted.—*Society of Arts Journal.*

SCOTTISH NOTES.

Scottish Pansy Show.

The Scottish Pansy Society, which has been in existence nearly fifty years, held its annual exhibition in Edinburgh on the 17th inst, and although the season has not been a particularly propitious one for this old-fashioned favourite the display was quite up to the average, and there was a good attendance of visitors. Mr. A. Borrowman, gardener, Beeslack, Penicuick, secured the largest number of prizes, and Mr. A. Irvine, Tighnabruaich, Kyles of Bute, was well to the front among trade growers. The following is the prize list:—

Nurserymen.—Twenty-four show Pansies, dissimilar, Mr. A. Irvine, Tighnabruaich. Twenty-four fancy Pansies, dissimilar, Mr. Campbell, Blantyre. Six seedling show Pansies, dissimilar, Mr. A. Irvine. Twenty-four bunches bedding Violas, distinct, 1, Messrs. Dicksons & Co., Pilrig; 2, Mr. John Forbes, Hawick.

Practical Gardeners only.—Eighteen show Pansies, dissimilar, Mr. A. Borrowman, Beeslack. Twelve show Pansies, dissimilar, Mr. A. Borrowman. Six show Pansies, dissimilar, Dr. Stewart, Lenzie. Eighteen fancy Pansies, dissimilar, Mr. A. Hay, Linlithgow. Twelve fancy Pansies, dissimilar, Mr. A. Borrowman. Six fancy Pansies, dissimilar, Mr. A. Hay. Twelve bunches bedding Violas, distinct, 1, Mr. A Baxter, Daldowie; 2, Mr. A. Hay.

Amateurs.—Eighteen show Pansies, dissimilar, Mr. David Strachan, Penicuick. Twelve show Pansies, dissimilar, Mr. John M'Kenzie, Gargunnock. Six show Pansies, dissimilar, Mr. Walter Buchanan. Eighteen fancy Pansies, dissimilar, Mr. W. Frater, Linlithgow. Twelve fancy Pansies, dissimilar, Mr. W. Frater. Six fancy Pansies, dissimilar, Mr. T. Grossart. Six bunches bedding Violas, distinct, Mr. W. Frater.

Gardeners and Amateurs.—Twelve fancy Pansies, six varieties, two blooms each, Mr. W. Frater. Six show and six fancy Pansies, dissimilar, Mr. Stewart, Campsie. Six blooms fancy Pansies, distinct varieties, of 1892, Mr. W. Frater. Twelve fancy Pansies, dissimilar, Mr. A. Hay, Linlithgow. Twelve show Pansies, dissimilar, Mr. A. Borrowman. Six bunches Violas, distinct varieties, ten blooms in each, Mr. Stewart, Campsie. Twelve fancy Pansies (named), Mr. A. Borrowman. Twelve fancy Pansies, of 1891 and 1892, six varieties, Mr. W. Frater.

Open to all.—Twenty-four new fancy Pansies, dissimilar, seedlings or varieties, owned by competitor, put into commerce by him in 1892, Mr. A. Irvine. Twelve new show Pansies, seedlings or varieties, sent out by the competitor in 1892, Mr. A. Irvine. Nine show and nine fancy Pansies, dissimilar, Mr. A. Borrowman. Six seedling Violas, in bunches of three blooms each, Mrs. Baxter, Daldowie. Six bunches bedding Violas, with not more than nine blooms in each, Mr. A. Hay. Three seedling show Pansies, dissimilar, and three seedling fancy, dissimilar, Mr. W. Frater. Six seedling fancy Pansies, dissimilar, Mr. A. Irvine. Three blooms seedling fancy Pansy, Mrs. Freeland, Mr. A. Borrowman. Best Show flower in the hall, Alexander Black, Mr. Borrowman. Best seedling fancy flower, Dr. Bostock, Mr. Campbell, Blantyre. Best fancy flower, Mr. Hay, Linlithgow. Best show seedling, P. Simpson, Mr. A. Irvine. Best yellow ground show seedling, P. Simpson, Mr. A. Irvine. Best white ground show seedling, Mr. A. Irvine. Best white self-show seedling, James Ritchie, Denny. Best dark self-show seedling, Mr. A. Irvine. Best yellow self-show seedling, Mr. A. Irvine. Best primrose self-show seedling, Mr. A. Irvine.

Ladies' Prizes (open to lady members of the society only).—Best arranged table glass of bedding Violas, 1, Miss A. Currie, Blairgowrie; 2, Miss Ruby Laird, Pinkhill. Six most tasteful small glasses bedding Violas, 1, Miss A. Currie; 2, Miss Joy Smith, Rosebery Crescent. Arranged basket of bedding Violas, 1, Miss Currie; 2, Miss Black, Liberton Mains. Arranged basket of fancy Pansies, 1, Miss Ruby Laird; 2, Miss Joy Smith.

The President's Prize.—To the competitor who takes the greatest number of prizes—barometer—Mr. A. Borrowman.

ABOUT CLOVENFORDS.

Being in the neighbourhood of Galashiels lately, I did, as all lovers of horticulture should do under similar circumstances, paid a visit to the famous Tweed vineyard at Clovenfords, and was surprised, knowing the age of the vines and something of the treatment, to find them again carrying such splendid crops. The vines planted 22 years ago are in a surprisingly vigorous condition, which can only be accounted for by the specially valuable character of the manurial stimulant applied to them. There must be something in the Messrs. Thomson's Vine and Plant Manure, and a great deal too, to keep vines in such a productive condition as these have always been, for it must be said that for a long time now the borders have not known a dressing of anything else.

Gloxinia Alfred Outram.

This is the finest erect-flowering Gloxinia I have ever seen, and perhaps also the plant of it at Clovenfords was one of the finest too. It is in a 7-in. pot, and has borne upwards of 130 blooms. It is of neat compact habit, and the flowers are large, of great substance, and intensely brilliant lake in colour, the segments margined with white, and the throat suffused with purple. A good thing even for the most select collections.

Plants for Room Decoration.

Let me say a word or two on this subject, as I found two plants used at Clovenfords that pleased me much. They are Cissus antarcticus and Asparagus tenuissimus, fine half specimens of which have adorned the rooms of Mr. William Thomson, Junior's House, Craigview, for some months past, and seemed to thoroughly enjoy the loving attention paid to them by Mrs. Thomson.

Caterpillars.

The quickset hedges about Clovenfords had a most peculiar appearance, and seeking for the cause I found them literally swarming with green caterpillars, which promised to soon demolish every particle of green, and give the hedges a most unsightly appearance.—*Rusticus.*

Gleanings from the World of Science.

Mildew on Peaches.—According to the American *Journal of Mycology* those Peach trees which are destitute of glands on the leaves are almost the only ones which get attacked by the mildew known as Sphærotheca pannosa, and which forms a close felt of a powdery appearance, white at first but afterwards becoming of a dirty grey. The statement of the above journal is that "trees with gland-bearing leaves were free from mildew, and mildewed trees bore leaves destitute of glands." Of 150 trees noted there was only one exception to the above rule, and it was a tree slightly affected with mildew, while the glands were but poorly developed. The obvious conclusions are that those varieties of Peaches which have glands on the leaves are better able to resist mildew than those without. It would be an interesting and important point for the cultivators in this country to determine whether the varieties of Peaches known to be particularly liable to mildew were destitute of glands or not. It is well known that trees that have once become mildewed are liable to be so in succeeding years. The belief is gaining ground that the mycelium of the fungus is perennial, and lives through the winter upon the trees, making its appearance again in the following spring as soon as the leaves commence to expand.

A British Balsam spreading.—Impatiens Noli-me-tangere used to be considered as truly native only to North Wales, Westmoreland, and Lancashire in mountainous districts. Now it seems to be firmly established on the banks of the Thames in several quarters many miles apart. Whatever may have been its origin it seems now to be carried for long distances down stream, or possibly up stream in some cases where the river is affected by the tide. As it occurs plentifully on the banks between Teddington and Kingston, and above the lock of the former place, the seeds would appear to have been carried down stream from some source or other and deposited during times of high water or floods, for the seedlings germinate in places considerably above the summer water level of the river. Very few of the ordinary large yellow flowers are produced, but seeds are ripened in fair quantity, and evidently the result of small cleistogamous flowers that do not open. The foliage even to the cotyledons is glaucous and pretty.

Club-root of Cabbages.—After the roots of Cabbages, Cauliflowers, Turnips, etc., get infested with the germs of Plasmodiophora Brassicæ, no discovery has yet been made of a cure. Methods of prevention must be aimed at as in the case of other fungoid diseases that live in the interior of plants. Clean cultivation is what should receive the special attention of the cultivator. The annual or biennial trenching of affected ground, the removal of every bit of clubbed root that can be detected, and burning them together with the old stems should be vigorously carried out. Applications of ashes, salt, lime, and chalk are given by gardeners and scientists, and what seems curious they have little effect the first year, but after they have been in the ground for a year and a half the effect in preventing the disease or clubbing is well marked. Another good plan is to mix a quantity of unslaked lime with the soil of the beds in which members of the Brassica tribe are to be sown. The reason for this is that the roots first get affected in the seed bed and carry the germs with them to the open ground. Externally the disease does not begin to show itself in the form of tubercles or swellings till three or four weeks after it has gained access to the roots. Other fungoid germs are then able to affect an entrance, and certainly greatly aggravate the evil by hastening decay and causing the well-known fœtid odour arising from diseased roots.

THE PROPHET FLOWER.

Onosma tauricum.

Among plants which are considered as being not very easy to grow successfully, Primula Reidi in a cool damp situation, Lewisia rediviva in good loam, Cypripedium acaule (large form) in moist vegetable soil, and Onosma tauricum on dry banks, have been very fine this season at Oakwood.

Ranunculus parnassifolius has smaller flowers than usual, probably owing to the drought; Arnebia echioides in exposed situations stood the two last winters well. When lately showing some plants of this to an old Indian general and telling him the usual story about Mahomet having passed his hand over the flowers and making the five dark spots vanish, he gave me a new version. Thinking it to be an improvement on the old one, I asked to have it in writing. I give it as he kindly sent it to me, in his own words.

"In the trans-Indus country of our Indian possessions a flower grows wild in great profusion, both in the Peshawur and Eusoofzaie districts, which reminds one to a certain extent of our English Cowslip. The natives of these districts, almost exclusively Mussulmans, call it the 'Mahommedie Phul,' which we have anglicised into the 'Prophet Flower.' When in the Peshawur district, many years ago, I made friends with a man of the local police, who told me many interesting stories and legends which had come down *viva voce* from ancient times. My good friend Gul Khan amongst other things told me of the origin of the name given to the above flower. It was to the following effect.

"Before their great Prophet Mahomet had fairly established himself in power and importance, in one of the ups and downs of his earlier fortunes, he had been compelled to fly for safety into the desert, accompanied only by a few disheartened but faithful followers. There, as they rested on the dry barren and scorching sand, discontented murmurs arose amongst his companions at the hardness of their lot, at their being compelled to take refuge in such a forsaken spot, not a blade of grass to be seen, not a drop of water to be had—a spot cursed of God and avoided by man. The prophet, hearing these words of despair and faithlessness, roused himself from his apparent sleep or abstraction, and striking his open palm on the parched and burning sand, up sprang at once a green and fresh-looking plant, bearing pleasant scented flowers, each yellow blossom having a dark spot on every one of its five petals. Mahomet then rebuked his murmuring followers: 'See,' said he, 'the power of Allah, even in this barren spot, can produce this flower; and cannot he again restore our fortunes and rescue us from our present state of misery?' The flower is therefore called the Mahommedie Phul, and the five brown spots, they say, are the marks of the thumb and four fingers of the prophet's hand. This flower grows amongst the hard and stony tracts of the Peshawur Valley, as well as upon the richer soil of Eusoofzaie; marching at night, I have perceived its pleasant scent when crushed under foot by the troops. The seed pods are harsh and bristly, making one's fingers quite sore in collecting them."—*George F. Wilson, Heatherbank, Weybridge.*

PLANTING ASPARAGUS.

Lecturing on vegetables to farmers and cottagers at the end of April in rather a bleak part of this county (Lancaster), I referred to Asparagus, remarking that I thought in that district it was not likely to prove a profitable crop, consequently I would not take up their time in explaining its cultural requirements. However, after I had finished my address a gentlemen stated that the culture of Asparagus was just what he wanted to know something about. I learnt that he had planted a number of three-year-old roots at the end of March, with the view of having some to cut next year.

Now, from my experience in planting the roots of this vegetable, I had no hesitation in stating that he might consider himself fortunate if any of his plants grew at all, and I have since ascertained that only a few have shown any signs of life and that the growth is veritably grass-like. The plants had been procured from a distance where vegetation is in advance of the locality from whence I gave my address. A nurseryman's catalogue had been consulted as to time and mode of planting, and that the plants should leave the nursery at that date or before commencing to grow is perfectly right, but to plant then is decidedly wrong. If my interrogator had laid the roots on some moist decayed leaves and covered them over with the same until they had made a few inches of growth and the ground had become warmer he might have saved his plants, but as it is the ground they occupy I fear may as well lie fallow for the future for what Asparagus he will get from it.

Dates are misleading in the planting of this vegetable, and it is much better to be guided by the season and the condition of the plants, and if I could not get what I considered a suitable time for planting I would wait until the shoots were a foot high rather than plant during a cold dry period. I planted a few quite that height one moist day during the past week, and they look quite as well as some put out three weeks earlier.—*W. P. R.*

HARDY RHODODENDRONS.

We may, I presume, safely assume that the varieties of the fine hardy Rhododendrons seen in the present day have been obtained from the North Carolinian R. catawbiense: R. ponticum, a species peculiar in its distribution, one form being found in Portugal and another in Asia Minor, and which is remarkable for its hardihood; and to some extent from R. caucasicum, a native of the Caucasus, where it is found near the limits of perpetual snow. Possibly the Himalyan R. arborea has been used at some time and helped to give the splendid colours of crimson shades seen in some of the newer varieties.

Wonders have been done in the way of improving the varieties during the last half century. It was more than fifty years ago that the great Loudon wrote of the Rhododendron as being the pride of European gardens. At the time of Loudon there were few species or varieties known or cultivated in Europe: since then it is scarcely necessary to say a vast and in some respects a remarkable improvement has been effected both in point of variety and quality, and sorts can now be counted by the hundred, embracing almost every possible shade of colour from delicate blush to the deepest crimson, and from the purest white to deep purple, while the flowering season extends over five or six months, including those species and varieties which bloom early and require the shelter of glass to preserve them from injury; and as a modern writer has remarked with evident truth, "Rhododendrons are now more emphatically than ever the pride of European gardens, possessing as they do the most varied attractions to be found in any class of flowers, combined with the elegant habit and foliage of our finest evergreen shrubs, rendering them indispensable alike to the shrubbery, the flower garden, and the conservatory, in each of these occupying a unique place, and never failing to elicit the highest admiration of all who have any appreciation of the symmetrical in form or the beautiful in colour."

At a recent meeting of the Royal Horticultural Society, a well known firm of nurserymen staged a very large collection of cut blooms of Rhododendrons, in all some sixty varieties. This collection served two excellent purposes among others: it illustrated the range of colour to be found in the Rhododendron, and it enabled those who are interested in this flower to select varieties by way of enriching their collections. Opportunity was taken to set before the readers of The Gardening World a list of what appeared to be the finest varieties, and it reads as follows:- Of crimson and deep rose shades: Alarum, white centre, edged with very bright crimson; Caractacus, rosy crimson, flushed with purple, very fine in colour; Barclayanum, bright rose, the individual flowers of very fine shape, and forming a noble truss; Lady Armstrong, of much the same tint of colour but brighter, very fine; Othello, rose, deeply flushed with violet, very fine; Frederick Waterer, rich bright carmine, very fine; Sidney Herbert, pale rosy-crimson, yet very fine and striking; Concessum, bright rose, very fine; Charles Bagley, deep crimson, with slight flush of violet; Helen Waterer, vivid scarlet, pale centre, very bright and striking; Lord Clyde, bright wine crimson, very distinct and fine; Chloe, pale bright rose, very fine; Mrs. Fitz Gerald, bright crimson, very fine; and Lady Claremont, dull crimson, also very fine.

Of purple-flowered varieties, the following are very fine:—Nero, deep purple, pale centre; Sir Thomas Sebright, bright, deep purple, extra fine; Everestianum, pale lilac pink, very fine; and Fastuosum, pale purple.

Of rose-coloured flowers, the following:—Princess Mary of Cambridge, pale rose, large and fine; Paxtoni, bright rosy pink, with dark spots; Kate Waterer, clear pale rose, extra fine; and Lady Eleanor Cathcart, an old variety, but still bright and charming in colour, and of a pale rosy-pink tint.

Light-coloured varieties, including tinted pinks, blush, and white, were represented by Zuleika, blush, edged with pink, very delicate and pretty; Lady Lopes, pink, flushed with lilac on the margins; Gazelle, blush, with delicate flush of lilac-pink, very fine; the Queen, a fine old blush-tinted variety, worthy a place in every collection; Marguerite, blush reverse, white surface edged with lilac, very good; Standish's Perfection, pale pink, very pretty; Ingrami, blush, with slight margin of pale lilac; the Princess, white, with orange and pale claret spots; Sappho, white, heavily spotted with claret, very fine; Atherne, white, with slight edging of blush pink; and Evelyn, creamy-white, with yellow spots.—*R. D.*

ORIENTAL POPPIES.

Wherever these are grown, no matter whether in the garden of the cottage or the palace, they become one of the most conspicuous features of the border during the months of May and June. Being perennial and perfectly hardy, they thrive in any garden soil, and call for no special attention except to be let alone for the most part after they have become established. Being gross growing subjects, the richer the ground, the stronger will the stems and foliage be, and the larger the flowers, although blooms 6 in. to 10 in. in diameter seem to be large enough to satisfy the most fastidious.

The typical Oriental Poppy (Papaver orientale) was introduced from Armenia in 1714, but since then numerous varieties have been obtained chiefly in gardens. The variety P. o. bracteatum was introduced from the Caucasus in 1817, and is still by many considered a distinct species, but what differences existed at first have all become broken down by the intercrossing of the flowers either naturally or artificially, and the raising of seedlings. The foliage and the flowers of the two are so closely similar that no one would probably claim for them anything more than a varietal distinction. All of the kinds originating from this source may be conveniently classed under the name of Oriental Poppies.

The typical form has bright scarlet flowers with a black or violet blotch at the base of each petal. The mass of blackish-violet anthers and the rays of the stigma occupying the centre of the flower are also very conspicuous. P. o. bracteatum is chiefly characterised by the presence of leafy bracts under the flowers. Good cultivation makes a wonderful difference in the size of the plants and the flowers, and we feel little surprise that specimens have been disseminated in gardens under the names of P. o. majus and P. o. maximum.

Within recent years several very distinct types have been raised, notably one named Pink Beauty having pink flowers with a large black blotch at the base of each petal and black anthers. Hitherto this seems the most removed in colour from the type, and it is probable that others will follow at no distant date. Seedlings from this might give rise to a white variety with black blotches, and this would be more distinct and appreciable than Pink Beauty. Scarlet Queen and P. o. cardinale are brilliant scarlet kinds with a black blotch at the base of each petal. There is also a choice and distinct variety with clear, orange-coloured flowers. The number of petals varies in different individuals and varieties, and some of them show a tendency to become semi-double, so that it is possible that double flowers of P. orientale will be obtained as in the case of several other cultivated species.

DENDROBIUM SPLENDIDISSIMUM GRANDIFLORUM.

The hybridisation of D. aureum with D. nobile was a lucky hit, giving us D. Ainsworthii, which is already one of the most popular of hybrid Dendrobes, on account of its easy culture and beautiful flowers. The reverse cross gave us D. Leechianum, which does not differ very widely as far as the flowers are concerned. D. splendidissimum has the same parentage as D. Ainsworthii, and the variety under notice and of which we give an illustration is certainly the largest and the finest of the whole group. The

reason for its superiority is that one of the finest forms of D. aureum and D. nobile were selected as the parents. The flower is larger in all its parts with broader segments. The sepals and petals are rosy-purple at the tips and fade to white at the base. The disc of the broad lip is of a rich crimson-purple surrounded by a pale yellow band, above which it is white, and the apex rosy-purple like the other segments. Hitherto all the crosses have been kept separate and under the names originally given them, although the intermediate forms make it difficult to distinguish them in all cases. Whatever may be the ultimate resolution, the hybrid under notice is the finest we yet possess and the individual which we figure has been well grown and well coloured.

HOLLAND HOUSE, KENSINGTON.

There are few London residences with grounds attached which have survived for so many years and defied the builder as Holland House, Kensington, the town residence of Lord Ilchester. The mansion is now about 300 years old, a venerable pile dating back to Elizabethan times. The numerous large old Elms speak of great antiquity, and from time to time their number gets thinned out during gales of wind. Last year three fine old trees succumbed in this way, leaving no choice to their removal. Upon the recent accession of Lord Ilchester to the place, a great amount of planting of the more modern types of trees has been done, and which in future years will replace the old Elms and Cedars which had been the most popular in their day. As the times have changed since they were planted, so have the atmospheric conditions, for Conifers now no longer thrive on account of the smoke of the great city which has completely surrounded the place, and is certain to hug it more closely still. The fine old Cedars must succumb at no distant date, and Auracarias no longer thrive.

The collection of flowering trees and shrubs is already very extensive, and the gardener, Mr. Charles Dixon, has had his hands full with their planting within the last two or three years. He was busy with his men making hay when we paid him a visit the other week on a fine piece of sloping ground now largely planted with Scarlet Chestnuts, American Thorns, and many others of that character. Near by this is a fine tree of Cratægus nigra 25 ft. high. The Golden Ash is a fine thing, and keeps its colour all the summer. Quercus concordia has clear yellow leaves; but Tilia dasystyla forms a strong contrast by its rich, dark green foliage. A long vista has been opened out at one place, showing the tall spire of St. John's Church at no great distance. One portion of this avenue has been planted with Spiræas, including S. sorbifolia, S. Lindleyana, S. Douglasi, S. ariæfolia, and S. opulifolia aurea. The other end is planted with Weigelas in front and Guelder Roses behind, all upon the grass. Another avenue is planted with Philadelphus coronarius and P. grandiflorus alternately.

A piece of ground planted at first with Rhododendrons only has now been turned into a wild garden, and supplemented with various subjects annual and perennial. About 200 sorts of annuals were sown broadcast, and are now coming up all over the ground from which the turf was removed and a good top dressing of decayed manure given. Phloxes, perennial Sunflowers, Epilobiums, and other subjects will soon commence a display which will last till late in autumn. The purple-leaved Peach, the purple Beach in different shades of colour, and the cut-leaved Birch show themselves here and there over the ground. Near this is a bank of decayed turfy soil planted with Pernettyas, Rosa rugosa, Cistus florentinus, C. salviæfolius, C. undulatus, Lilium davuricum, etc. A large number of bulbs of the last named were planted in various positions all over the ground, and are now coming into bloom. Behind this bank is a small pond filled with the water which drains there, and is prevented from sinking away by the impermeable London clay beneath. Ferns are planted in some places round the sides including Osmunda regalis. The pond itself is surrounded and closely overhung by trees except at one end, and on each side of this entrance is a small rockery now gay with Saxifraga Andrewsii, Genista tinctoria, Veronica rupestris, Aubrietia Hendersoni, Gypsophila prostrata, Viola cornuta, Sedums, and various others.

Where the three large Elms (previously mentioned) were blown down, a mound of soil has been raised over the roots and planted with golden Elders, the foliage of which has assumed a fine yellow colour. Annual Poppies have also come up thickly, and will be gay presently. The ornamental effect of large beds of fine foliaged trees and shrubs has been recognised by Lord Ilchester, who has had five large circular beds cut out of the grass in front of but at some distance from the mansion. Some of them are edged with the beautiful and dwarf Spiræa Bumalda variegata, and filled with the purple-leaved Prunus Pissardi, Golden Elder, Golden Poplar (Populus canadensis aurea), Cornus sibirica argentea, C. Spathii, the purple Hazel, the Bladder Senna (Colutea arborescens), and various other things of that character. The last named is grown in the form of standards.

A large bed or border of irregular outline, with a background of trees, is planted with an extensive and miscellaneous collection of choice, ornamental, and rare shrubs interspersed with Lilies. Amongst the trees and shrubs we noted Sambucus racemosa serratifolia, with deeply cut leaves, the golden and silver variegated Elder, the variegated Symphoricarpus vulgaris, the flowering Dogwood (Cornus florida), the golden Acacia, Comptonia asplenifolia with scolloped leaves, Daphniphyllum jezoensis, Calycanthus macrophyllus, Laurus Benzoin, Stephandra flexuosa, with fine foliage and the habit of a Spiræa, Phillyrea myrtifolia, and Hymenanthera crassifolia, a woody member of the Viola family. The noteworthy subjects in this border are very numerous, and must be extremely interesting when they get thoroughly established. The Golden Hop Tree (Ptelea trifoliata aurea), Acer palmatum decompositum, A. trinerve, Philyrea decora, the Osage Orange (Maclura aurantiaca), Cytisus capitatus, Genista radiata, and Parottia persica are all interesting and beautiful, either on account of their foliage or flowers or both.

A wide expanse of grass in front of the mansion reminds us of a botanic garden by reason of the great variety of trees which have been planted. There are no duplicates here, so that in a few years the variety of form, foliage, and shades of colour must be both interesting and instructive, as well as highly ornamental. Amongst them we were pleased to note Amygdalus Davidiana, A. D. alba, and A. D. rubra, the new Chinese Almonds that flower much earlier than the common one. The purple leaved Acer platanoides Schwedleri is also a fine thing. Besides the Siberian Crab. there is the Dartmouth Crab, John Downie Crab, and a similar one named Transcenaunt, beautiful whether in flower or fruit. The Golden Ash bears company with the Aucuba-leaved and white edged varieties. The purple Oak, purple Birch, Laburnum Adami, the perpetual-flowering Cherry (Cerasus semperflorens), Pterocarya lævigata, P. caucasica, the golden variegated Beech, Kœlreuteria paniculata, and Arbutus Andrachne will serve to give an idea of the nature of the shrubs and trees planted, but their numbers are too great to be recorded here. In a year or two they will begin to show their true character, and then afford unlimited means of study. Some beds of Rhododendrons are flowering finely, and consist of choice and very showy kinds.

Examination of hot houses is almost at a discount at this season of the year when one can ramble amongst trees and shrubs apparently as far removed from town as a private residence in some remote province. The bedding out has just been completed, and must afford considerable relief, considering the quantity of bedding plants used. There were about 5,000 plants of Vesuvius Pelargonium alone, including the white variety. In one of the houses are Tuberoses in various stages; last year they commenced flowering in May and continued till the fog destroyed them at Christmas. Large plants of Asparagus plumosus nanus and A. tenuissimus, 6 ft. to 8 ft. high, are grown in pots for the sake of their foliage. A. officinalis is sown thickly in pots for decorative purposes when a few inches high. Heliotropes are grown into specimens in pots, President Garfield and Roi de Noir being considered best for that purpose. Amongst Orchids, Cattleya Mossiæ and C. Mendeli are flowering in a low, span-roofed house. In the conservatory are some massive climbers, including Holbœllia latifolia, Habrothamnus elegans Newelli, with dark red flowers, and two magnificent specimens of Fuchsia corallina laden with bloom. Large Oranges in tubs are stood in front of this building, and behind it is a collection of British Ferns in rude health, including even the Mountain Parsley, Osmunda regalis, Polystichum Lonchitis, and Lastrea dilatata dentigera, a wild find with graceful fronds and shortened, erosely toothed pinnæ.

In the fruit houses, Vines, Melons, Cucumbers, and Tomatos are grown. Ham Green Favourite and Early Ruby are the varieties of the latter which find favour. The Peaches both indoors and outside are bearing heavy crops, and must present a fine appearance when they ripen. Hale's Early Peach ripens about a fortnight before any other, and is succeeded by Early Alfred, and then by Early Albert. Merlin has been planted to come in between the first two. Other varieties grown in the same house are Stirling Castle, Violette Hâtive, Early York, and Barrington, all heavily fruited; the last is the best late. Lord Napier and Elruge are amongst the favourite Nectarines. On the open wall Princess of Wales Peach is a picture, but most of the others are also well fruited, including Dr Hogg, Violette Hâtive, and Barrington. The Red Roman Nectarine is useless here at all events, but Hunt's Tawny and & Victoria do well, the latter being one of the best late kinds we have.

Dendrobium splendidissimum grandiflorum.

CULTURE *v.* NATURE.*

"All knowledge is of use if applied aright; no knowledge is of use if applied awry."—*Prof. M. Foster*

THE cultivation of vegetables, fruits, and flowers for domestic use, or for profit in other ways, is now one of our most important national industries, and it is a pleasure to see the interest now being taken in the matter by the different county councils, for we cannot have too much light and learning thrown upon such an interesting and profitable theme.

Your secretary asked me for a paper on the "adaptability of plants to cultivation," so I have glanced at the subject, and headed it, "Culture *versus* Nature." The fact really is, we do not know much of the adaptability of plants until we actually cultivate them, each for ourselves; for one of the charms of gardening is the ever-varying development of the same plant under different cultural conditions. Now, let us simply ask ourselves, What is the meaning of the word "culture," as applied to plants? Culture to us means improvement; and as Pope has it—

"If vain our toil,
We ought to blame the culture, not the soil."

Then culture or improvement consists of many things. Firstly, for example, the plant selected is isolated; thus competition with other plants for food and light and air and space is removed. Not only does the gardener thus enable a plant to naturally gain the most advantages from any one selected plot of soil, but he often augments the food supply by irritating the soil, and by adding special plant food or manures for special crops; while pruning and training often increase the resultant crop by securing that growth force can develop freely along definite lines, and just where and when it is most wanted, or when the greatest strain of fertility bears upon the plant as an individual.

Now, Culture *versus* Nature is a big question; and, secondly, let us ask ourselves point-blank whether culture of the best ever surpasses Nature at her best?

In asking this question, I do not wish to limit your views of culture to the glass-house or market-garden point of view; but I do ask it from the cultivator's or human standpoint, and not from Nature's point of view, which is often, if not always, very different. As thus limited, there can be no doubt but that culture "is an art that doth mend Nature, change it rather, but the Art itself is Nature." That is a very suggestive history in the Bible, of Cain with his flocks and herds, and of his brother Abel, who cultivated the fruits of the earth, and it shows to us how early the practice of cultivating wild plants and the taming of wild animals began. As an example of

WHAT I MEAN BY IMPROVEMENT,

let us take the common Violet (Viola odorata), as existing on a soil where it grows and flowers very luxuriantly, and on the same soil the gardener will easily surpass Nature, as I said before, from the human point of view. It is so abroad in tropical lands where Pineapples or Bananas exist in what I may call a state of Nature, much finer crops of fruit being gained by culture; and the same is true in Asia Minor with the Fig and the Vine. Of all fruits, perhaps the Vine is the one most amenable to changed conditions, *i.e.*, culture, and even allowing that Grape growing in Great Britain is the best in the world, yet, I believe, still finer cultural results could be obtained at Alicante and elsewhere in S.E. Europe or Asia Minor where the Vine is more thoroughly at home.

Cultivation really means the conservation and enhancing of growth, force, or energy for particular ends or aims.

One of the earliest and hardest lessons for a gardener to learn, is to rid his mind of prejudice in plant culture. As a rule, we want plants to grow where we like rather than where the plant likes, and sometimes the man and the plant are not agreed on the point, for the question of position, of moisture and of shelter, is one the plant naturally knows and feels more of than the man, and though the plant cannot speak, its evidence to knowing eyes is unmistakable.

I must now define what I mean by the human point of view, as before alluded to. Well, it very often means succulent leaves, or large pulpy fruits, or large many-petalled or shapely flowers, rather than the perfectly ripened seeds, actual life, and not mere beauty, after which Nature more generally strives.

Flowers, fruits, or vegetables, is the gardener's object, but Nature is lost unless she goes to the end of her cycle of growth, and finishes up by ripening her seeds. With us the gardener and the seedgrower find it more economical to complete the cycle by co-operation, the one growing produce, and the other ensuring the seed.

I have sketched out culture as embracing isolation of the crop, irritation and irrigation of the earth, pruning and training, and manuring or special feeding, all factors in good culture, but factors of widely different value in various localities and soils. In a word, it is a gardener's duty to adapt his methods of cultivation to suit his crops, rather than for him to expect plants to adapt themselves to his system of culture. The best cultivators are facile and elastic in their methods, and so succeed where the "rule-of-thumb" practitioner often fails.

It has been said "many men, many minds," and so of plant culture one may say, "many gardens, many methods." We must not be dictatorial on this question, but preserve a broad and catholic frame of mind; for a course of practice perfectly successful in one place may happen to be the very worst to adopt in another, where geology and climate may be different.

VARIATION OF CULTURAL METHODS.

If we study the cultural practice of, say, the best Peach or Grape growers in England, in France, and in America we shall perceive at once how necessary it is that cultural methods must perforce vary, in order to be successful under different climatic conditions. But we need not go so wide in our geography to note the truth of this statement, for gardeners will tell us that Apples and Pears, or Strawberries or Plums, or any other garden plants, vary enormously as grown in different gardens adjacent to each other, or even as grown in different parts of the same garden. That Orchids will thrive in one part of a hothouse, and not in another, is a fact well known to all cultivators of these plants. Moisture and shade may have something to do with this; but all stiff-leaved Orchids, such as Cattleyas, Lælias, &c., in growing, erect or deflect their leaves at a certain angle, so as to receive a certain amount of light, and when once the leaves harden or stiffen, they cannot alter their position, and so, if shifted, or turned round so as to expose the backs of their leaves to sunlight, great harm is often unconsciously done. A Fuchsia, or a Pelargonium, readily readjust their leaves to altered conditions of light, but to many Orchids this is impossible.

The main facts that influence vegetation may be set down as light, heat, moisture, and the nitrogen-absorbing and yielding qualities of the soil. Elevation, shelter, and aspect influence these in a marked degree.

I have elsewhere said that the gardener, like the poet, is born, rather than made, but, other things being equal, of course in all arts the most logical practitioner is sure to succeed best. In a word, cultural success is a matter of accurate observation, careful experiments, and just reasoning powers.

The greatest difficulty in gardening is to be quite sure of our facts before we deduce or build up a course of practice upon them. When we are not quite sure of our facts, we do what Darwin advised—i.e., we try "fool's experiments," or index trials, so as to get nearer "guesses at truth."

The difficulty is not only the intricate complexity of Nature, but that her facts and figures often form a shifting index from year to year, or from one year to another. Thus gardening becomes an intellectual game, far ahead of the Sirdah's chessboard or the German war-spiegel, since both her squares and her counters are different every time, and so not only every garden but every season becomes a special study of itself.

GARDENING AN EMPIRICAL ART.

We have been told that the gardener's art is an empirical one; but this is a statement only half true. All arts are empirical up to a certain point, but become more and more exact and scientific as accurate knowledge is gained.

Again, we are told that gardeners must be taught by actual work in a garden, just as carpentry is best taught at the bench; smith's-work at the anvil, or surgeon's in a hospital. This again is a half-truth, dangerous in its subtlety. Up to a certain point, actual practice is truly the best way; but work in a garden, if well directed, and supplemented by good reading and good lectures in addition to the work, must in the long run be better than either alone.

I should be one of the first to admit that books and lectures are merely the reflex of actual things, but by them we gain concrete knowledge, and life is, as we all know, too short to allow of our testing or experimenting on all things for ourselves. As Huxley says, "Science not only teaches us how to act rightly, but is especially valuable as often preventing our making useless experiments." Any one man's practice is necessarily limited, and books are as valuable to the gardener, if well used, as they are to the lawyer, the architect, or the engineer. If it be thought that they are not so, I must ask the objector for his reason why books are considered a help or aid to one artist or craftsman and not to another?

Speaking of the natural limitation of any one man's power, reminds me of my once speaking to the late Mr. John Dominy on this very subject. Everyone knows how much Dominy really did in opening the way of hybridisation amongst Orchids and Nepenthes, and he always felt that "Art is long and Time is fleeting." "Ah!" said he to me, "the fact is, a gardener should have nine lives like a cat, and three or four pairs of hands like a Hindoo idol, and then something might be done in a lifetime."

BOOKS AS AIDS TO KNOWLEDGE.

We must use books as aids to knowledge, just as all wise men use them, and young gardeners may well treasure up Sir John Lubbock's words that books wisely bought and rightly used are a good investment, and not an expenditure.

Good culture hinges on many things, but especially on a good start from seed or other kinds of increase, or propagation. As a rule all hardy seeds, i.e., the seeds of hardy ornamental plants, should be sown as soon as they ripen, but where artificial food, crops, &c., are required at particular times and seasons, it follows that seeds must be sown at different times, spring, summer, or autumn, as the case may be. Any particular strain of vegetable or flower seeds can only be kept true by isolation, so as to prelude inter-crossing, but novelties, on the other hand, are often gained by selection after hybridism or cross-fertilization. As a rule, both special selections or strains, and hybrids alike, die out unless they are specially cultivated and protected, and in this way garden hybrids are far less stable than are Nature's hybrids, many of which are comparatively permanent, and in some cases are dignified and disguised by specific names.

The Oxlip, or Polyanthus Primrose, is an instance of this fact. It is the result of inter-crossing between the Cowslip (Primula veris) and the Primrose (P. acaulis), and is itself called P. elatior. So again Narcissus incomparabilis got a specific name from Miller, which it still retains, although well known to be a hybrid between N. poeticus and the Daffodil (N. pseudo-Narcissus).

All so-called species of plants are now known to be mutable. In a state of Nature plants rest unchanged only when their surroundings are the same. On the other hand, in the forest or jungle "change or die," is often Nature's fiat, and conditions are rare in which some slow series of changes are not in progress before our eyes. In the garden, sudden changes of external or internal conditions take place far more quickly, but are, as we have said garden variations are, far less well fitted for a casual existence; hence if we ever come across a desolate garden that was once well stocked, we find that most hybrids and selected seedling plants will either have gone back or reverted to their parental stage, or they will have died away entirely.

(To be continued.)

* A paper prepared by Mr. F. W. BURBIDGE, Curator, Botanic Garden, Trinity College, Dublin, and read, in his absence, at the meeting of the Horticultural Club, Hotel Windsor, Tuesday, June 7.

MAIANTHEMUM BIFOLIUM.

THE dwarf plant under notice has a host of names, but the English translation of the generic name means Mayflower, which is fancifully applied to various plants both in this and other countries. The stems vary from 5 in. to 8 in. high and bear two somewhat heart-shaped leaves not unlike those of a Smilax, but grass green. It is a more lowly plant, however, and suitable for planting on rockwork in a moist soil or by the side of shaded walks. The short racemes of white flowers just rise above the foliage and may be compared to those of the Lily of the Valley, of which it is a near relation. It may be propagated by division in the same way as the last named.

THE COCOA-NUT IN FLORIDA.

From the time of leaving Titusville I had been on the *qui vive* to obtain sight of Cocos nucifera, the Cocoa-nut Palm. Not that I had not seen the tree before, for at various places I had been assured that it was directly within my line of vision. But I wanted to discover one for myself, and by its fruit to know it. Without its fruit it was to my unbotanical eye a mere Palm, not so very different from many of its congeners. Without its fruit it was merely the Palm of the conservatories, or the sub-tropical or semi-tropical affair of trimly kept grounds. For that I was not searching, but only for the long-dreamed-of tree of the tropics which should bear aloft its pendent clusters of great fruit.

As our boat drifted its slow way down the long length of the Indian river, I carefully swept either shore with my glass. Palms there were of many sorts, interwoven with Pines, the typical growth of the north, alternating with dense Mangrove swamps, making a fitting background for low-growing Palmettos, and giving more and more the tone to the landscape as we journeyed south. But not until we had drifted down for 150 miles between these low banks did I find that which I sought. At Jupiter Inlet, at the extreme southern end of this long thread of tidewater, stands a noble, graceful tree bearing high up beneath its feathery crown of foliage a great burden of clustered fruit. The same sweep of the glass brought within range both it and "Jupiter Lights," the lighthouse made known to us all so well by a famous story teller.

A hundred miles further south are growing some trees which are known to have been there for half a century; but for how much longer, or how they came to be there, the historian saith not. Doubtless the seed was washed ashore from the south, and either thrown high up on the beach by some great storm, or carried there by a strolling native or by a wandering half-savage settler. Certain it is that it found congenial soil, and rooted and grew and thrived, that it might teach a lesson to a future generation.

Cocoa-nut-growing upon this coast has been marked by well-defined epochs. The beginning of the first one was when this seed, long ago, was washed upon this almost uninhabited shore, and thus was providentially saved from perishing.

The second period began fifteen years ago, when the barque "Providential" (from what port I know not) went ashore some thirty miles below this Jupiter Inlet, and made a total wreck, not only of herself, and of owners' and consignees' hopes, but of a goodly cargo of Cocoa-nuts as well. Fifteen year is only a little stretch of time, and the march of progress goes with swift strides. Fifteen years ago the dwellers upon this coast were few; they were far apart, and further yet from even the outposts of civilization.

This cargo of Cocoa-nuts was a gift of the sea none too well appreciated. It could not be eaten; it could not be worn, nor converted into coin of the realm. Then, remembering the old trees to the south which some of them had either seen or heard of, and in default of any other use to which to put this questionable treasure-trove, the settlers began to plant the nuts.

The beginning of the third epoch came seven years later. The history of this I will give, as nearly as possible, as I had it from the lips of the man best qualified to speak, Ezra Osborne, doubtless the largest Cocoa-nut planter in the world. It was told to me one mid-winter afternoon as we sat beneath the friendly shade of a Cocoa-nut grove, upon the shores of that idyllic spot that men have named Lake Worth. It was winter, but the flowers were blooming about us, and the dense, rank vegetation of the tropics crept in tangles round our feet.

"It is about ten years," said Mr. Osborne, "since my attention was first attracted towards Florida as a desirable place for investment. Finding that I could secure a large tract of land along the Bay of Biscayne at a very low figure, I purchased it without any definite idea of its value or ultimate use, but rather on the principle that any land in the state was desirable at that price. Subsequently I was led to look into the possibilities of Cocoa-nut-culture, and gave orders for planting a couple of thousand trees upon my purchase. The agent to whom the order was given found himself unable to carry it out, by reason of his inability to procure the seed-nuts. By the time his report was made I had become sufficiently interested in the project to determine on carrying it out on a much larger plan than was at first contemplated.

"The great difficulty in the matter was to procure the seed, the peculiarity being that the nuts must be still enveloped in their husk, which is usually removed before they become an article of commerce. Importers who were consulted were at first eager to take the contract for furnishing the required amount, but after correspondence with their foreign agents were all finally compelled to abandon it. At last a Baltimore dealer was found, of sufficient enterprise to send a vessel to Trinidad upon this special errand, and to bring a cargo of somewhat more than 100,000 nuts safely to this coast.

"A vessel was then fitted out at New York with men, teams, implements, and commissary stores, and despatched to the scene, when the work of planting began. For three successive years such a cargo of seed was brought from the same source, and the planting continued until some 330,000 seed-nuts had been placed in the ground. To show further the extent of the operations, it may be stated that the plantation at the end of that time embraced more than 3,000 acres, and extended in an almost unbroken line for 45 miles along a narrow strip of coast, besides embracing many of the eastern Keys."

After three years, work was suspended and the owner prepared to await patiently the maturity and fruiting of the trees. Mr. Osborne disclaims having had, even at that time, any definite idea regarding the disposal of the product which was expected to result from this immense experiment. Cocoa-nut-planting had been found profitable elsewhere, notably in the island of Ceylon. The world was rapidly increasing its capacity for absorbing products of all sorts, and doubtless would be ready for this one by the time it was ready.—*J. K. Reeve, in "American Gardening."*

(To be continued.)

GARDENING MISCELLANY.

ROSE SHOWS.

I wish to draw attention to a nuisance in connection with the above, and trust that stringent measures will be adopted to put a stop to it. I refer to the practice of exhibitors selling flowers before the exhibition is closed. At most Rose shows visitors are seen carrying flowers about the grounds an hour or two after the exhibition is open, and the result is (I speak from unpleasant experience) that the manager of the show is inundated with applications from all sorts and conditions of people to procure blooms for them; and if he expresses his inability to comply with the requests he is at once accused of favouritism, and asked "how it is that Mrs. Jones and a host of others can walk about with flowers, and I am refused?" The remedy is to insert a regulation in the Schedule to the effect that any exhibitor selling flowers before the close of the exhibition (either surplus stock or from the competing stands) forfeits the amount awarded in prizes. —*Bruce Findlay, Manchester.*

STRAWBERRY JOHN RUSKIN.

Now that it has had time to thoroughly establish itself, the new Strawberry, John Ruskin, promises to entirely supersede Laxton's Noble. It is doing well in the south this year, and as an early variety grown side by side with Noble in the delightful old garden at Penshurst Place, Kent, it proves to be quite as early, equally as good a cropper, and beats it pointless for colour and flavour. Mr. Bridger, who grows all hardy fruits so well, has a fine crop of Strawberries notwithstanding late frosts, but, as at most other places, they sadly want rain.

FERNSIDE, SEVENOAKS.

When looking through the plant houses at Fernside the other day I was very pleased to find the following Orchids in bloom:—Arides crispum, with fine branching spikes, Cattleya Mendelii, Lælia purpurata alba, a good form with broad petals, Dendrobium Dalhousiana, Oncidium altissimum, O. sphacelatum, O. flexuosum, Epidendrum vitellinum magus, with seven good spikes doing well in a basket suspended close to the glass. Two plants of the autumn flowering Cattleya labiata growing in the stove were making very strong growths, each with sheaths. The conservatory was very gay with fine well grown plants of herbaceous Calceolarias, the strain, too, being an excellent one. Gloxinias are also finely flowered. Passing out on to the well kept lawn the eye is at once attracted by a magnificent bed of Ghent Azaleas, Rhododendrons, etc., of various shades of colour; this picture is not a little enhanced by a background of fine trees which are situated in Knole Park, just across the Tonbridge Road, to which the lawn extends. Everywhere neatness and good order prevails, reflecting great credit on Mr. W. Read, Admiral Miller's able gardener.—*S. C.*

SPIRÆA DECUMBENS.

There are several dwarf, shrubby species of Spiræa that are suitable for rockwork, but the decumbent nature of this plant gives it special claim for covering banks and rambling about amongst stones. It is a native of Austria, and therefore perfectly suitable for our climate. The flowers are white and produced in umbels, terminating shoots that rise only 3 in. to 6 in. above the soil. and look not only interesting but pretty. The leaves are small, and oblanceolate or wedge-shaped and serrate. The plant may be reckoned amongst the dwarfest of shrubs, with sufficiently conspicuous flowers to be grown for them alone. The latter are developed in succession during the course of summer by reason of the young shoots that arise as the plant extends.

DIANTHUS CYCLOPS.

The habit of this plant reminds us very much of a narrow-leaved Carnation, and the foliage is also glaucous. The stems rise to a height of 12 in. to 16 in. bearing a few large and rather striking flowers at the top. The petals are red or pink, apparently according to their age, toothed at the edge, and furnished with a large wedge-shaped crimson blotch at the base of the lamina. There seems no reason why a race of useful and showy varieties might not be developed from this type. Some flowering specimens may be seen on the rockery at Kew.

GOLDEN DROP.

This popular name is aptly applied to the species o Onosma, all of which, in cultivation at least, have drooping flowers of some shade of yellow. Onosma stellulatum tauricum is one of, if not the best, and has one-sided, curved racemes of bright yellow flowers, which are somewhat funnel-shaped, but narrow, and comparable to the drop or pendant of an earring The stems vary from 6 in. to 8 in. in height and are more or less branched, and furnished at the base chiefly with linear-lanceolate, hispid leaves. The rough character of the foliage is a characteristic of a large number of the Borageworts to which family it belongs. The plant is perrennial and may be propagated by cuttings of the barren shoots placed in very sandy soil under a handglass. Seeds might also be sown to get up a stock. The flowers are fragrant, and altogether the subject is a very suitable one for planting on rockwork.

THE TREE LUPINE.

Of the perennial species of Lupine, none are more frequently grown than Lupinus polyphyllus and its white variety. Several annual species are grown, but neither of them perhaps is so universally disseminated in gardens as the perennial species just named. The Tree Lupine (Lupinus arboreus) ought to find a place in every garden where flowers of this class are appreciated. When allowed to get established and to attain a height of 4 ft. to 5 ft. it produces racemes of bloom in hundreds. The typical form has bright yellow flowers in somewhat whorled racemes, 6 in. to 12 in. in length, resembling to some extent Laburnum, except that the racemes are erect instead of being drooping. There is a large mass of the species in the nursery of Messrs. Barr & Son, Long Ditton, showing several shades of colour. Besides the bright yellow, there is a variety with pale blue flowers, and another pale yellow one having the wings slightly tinted with blue. The mixture is very pretty and interesting owing to the profusion of bloom. The bright yellow and the pale blue forms are the best. The foliage is of the usual form, but is rendered less noticeable by the flowers. The stems are woody and do not die down in winter, neither should they be cut, otherwise the show of bloom will be poor. It would be an excellent subject for the wild garden, or for planting on banks where it might be allowed to grow freely.

THE ALPINE CATCHFLY.

Those who are fond of dwarf-habited rock plants will find in Silene alpestris a charming little subject for rockwork. It is not at all particular as to soil, and will grow in an ordinary border in the absence of other conditions, but the rockery is certainly the best place for it, as the flowers are then brought more directly under the eye. What gives prominence to the white flowers is the slender character of the stems and the small leaves, most of which are confined to the rootstock. The petals are four-lobed and serve to render the plant more distinct and interesting. It is easily propagated by cuttings of the barren shoots, which are by no means numerous, but obtainable in sufficient quantity when the summer days are getting shorter, and the nights longer and moister. The cuttings should be put in pots of sandy soil and placed under a hand-glass.

THE SQUAW HUCKLEBERRY.

The flowers of this Whortleberry, botanically known as Vaccinium stamineum, are more conspicuous than those of the bulk of hardy species, and on their account alone the plant is worthy of being grown as an ornamental shrub. They are deeply five-lobed and spread out, showing the long, projecting yellow stamens. In fact they may be compared to those of a Potato or other species of Solanum in miniature, and they are produced in such great abundance in short racemes from almost every bud of the old wood that they render the bush very ornamental and noticeable even from a distance. The leaves are oval or elliptic and deciduous, while the much branched and twiggy stems vary from 2 ft. to 3 ft. in height.

DIANTHUS CRUENTUS.

On the whole this seems to be but a moderately long-lived plant, but as it is so easily raised from seeds that seems to be a matter of small consequence. The flowers of the typical form are of a deep blood red as the specific name would imply, but occasionally it seems to get away from that, as we noticed in the nursery of Messrs. Barr & Son, Long Ditton, where one patch of it had larger flowers of a deep carmine. Those of the type are borne in dense heads, and owing to their great number must necessarily be small to find accommodation. Surely some enterprising florist will, however, at no distant date be able to make some use of the plant either as the seed or pollen parent in order to enlarge the flowers or infuse their rich colour into those of some other.

CARNATION INVICTA.

From Mr. George Fry, of Lewisham, the raiser of so many good flowers in his time, we have received blooms of a seedling Carnation which it is intended shall in future be known by the name of Invicta. It is a large, handsome, full flower, with broad imbricated petals, and an unsplit pod. The colour is scarlet, and brilliant in hue until with age it becomes reddish-crimson. Like that good border variety, Mrs. Sanders, and the Pride of Great Britain, of which Mr. Ware holds the stock, it will doubtless make its way.

SOCIETIES.

Royal Horticultural, *21st June.*—Hardy plants formed the most conspicuous feature of the meeting on Tuesday last, the herbaceous element being most largely represented; but there were also some groups of Orchids, stove and greenhouse plants and fruits. A group of Orchids was shown by Messrs. F. Sander & Co, St. Albans, for which a Silver Flora Medal was awarded. Cattleya princeps, C. Amesiana, and Dendrobium Souvenir d'Alec were new things; and Odontoglossum Harryanum was well grown with about ten flowers on a scape. A Silver Banksian Medal was awarded to Messrs. Collins & Collins, Cumberland Park, Willesden Junction, for a group of Dendrobiums and Odontoglossums set up with ferns. Smaller lots of plants and cut flowers of Orchids were shown by Mr. G. O. Sloper, Westrop House, Highworth; by J. Guernsey Fowler, Esq. (gardener, Mr. J. Davis), Gilblands, Woodford; by E. H. Woodall, Esq. (gardener, Mr. Hughes), St. Nicholas House, Scarboro; by H. F. Tiarks, Esq. (gardener, Mr. J. Lyne), Foxbury, Chislehurst; by C. J. Lucas, Esq. (gardener, Mr. G. Duncan), Horsham; by J. T. Gabriel, Esq., 32, Palace Road, Streatham Hill; by the Right Hon. Joseph Chamberlain, Highbury, Birmingham; by Sir Wm. Marryatt, Bart. (gardener, Mr. Deny), Down House, Blandford, Dorset; and by R. Brooman White, Esq. (gardener, Mr. J. Brown), Arddarroch, Gareloch Head, N.B. An interesting lot of hybrid Orchids was exhibited by Baron Schroder (gardener, Mr. Ballantine), The Dell, Egham, including Lælia-Cattleya eximia, a bigeneric hybrid between Lælia purpurata and Cattleya Warneri, the former being the seed parent, also Cattleya Empress Frederick, a seedling from Cattleya mossiæ crossed with C. Dowiana, and a very distinct variety of Lælia purpurata. That named Empress Frederick bore four huge flowers on the scape. Cypripedium Telemachus, a hybrid from C. Lawrenceanum crossed by C. niveum. Stanhopea tigrina and S. oculata were shown by Philip Crowley, Esq., Waddon House, Croydon.

A group of stove and greenhouse plants, including Caladiums, Dracænas, Palms, Orchids, Ferns, etc., was shown by Messrs. J. Laing & Sons, Forest Hill, for which a Silver Flora Medal was awarded. A large collection of herbaceous plants was shown by Messrs. Barr & Son, Covent Garden. Prominent amongst others were the Pæonies, Oriental Poppies, Iceland Poppies, Gaillardias, etc. A Silver Banksian Medal was awarded. A collection of Pæonies was also shown by Messrs. Paul & Son, Cheshunt, as well as Delphiniums and Pyrethrums. A Silver Flora Medal was awarded. Messrs. Kelway & Son, Langport, Somerset, were awarded a Silver Banksian Medal for a large collection of Pæonies, Delphiniums, and Pyrethrums. The Delphiniums were notable for the size of the spikes and individual flowers. A similar award was made to Messrs. J. Veitch & Sons, Chelsea, for a collection of Pæonies, Tritoma caulescens, Cnicus floribundus and other good types of herbaceous plants. Mr. H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham, exhibited a group of decorative Pelargoniums, receiving a Silver Banksian Medal. The plants were grown in 32 and 24 size pots, and were heavily flowered. A small collection of named border Pinks, as well as seedlings from Mrs. Simkins and some Sweet Peas, were shown by Mr. R. Dean, Ranelagh Road, Ealing. A collection of bedding Violas set up on small wire stands was exhibited by Messrs. J. Cheal & Sons, Crawley, Sussex. A small group of Pinks and bedding Violas was also shown by Mr. B. Ladhams, Southampton. A group of a double Ivy-leaved Pelargonium named Ryecroft Surprise was shown by Mr. H. J. Jones. A Silver-Gilt Flora Medal was awarded to Lord Wimborne (gr. Mr. T. H. Crasp), Canford Manor, Wimborne, for a large group of Souvenir de la Malmaison Carnations. They were grown in large pots, and the plants which were 2½ ft. to 3 ft. high had very perfect foliage A Tree Carnation with Heliotrope coloured flowers was shown by Mr. J. Whillans, Blenheim Gardens. A new yellow Calla named C. Pentlandi was shown by R. Whyte, Esq., Pentland House, Lee, Kent. A basket of a new Cornus named C. Konsa, and another of the white Syringa japonica were exhibited by Messrs. J. Veitch & Sons. A basket of Adiantum macrophyllum albo-striatum was staged by Messrs. J. & T. Rogers, Lodsworth, near Petworth. Some new Gloxinias were shown by J. Donaldson, Esq. (gr. Mr. T. Bones), Tower House, Chiswick. Cut flowers of Begonia glaucophylla were shown by W. H. Evans, Esq., York Abbey. Some new Caladiums were shown by Mr. C. F. Bause, Morland Nursery, South Norwood. A Tree Carnation named Mrs. A. Hensley was staged by Mr. H. B. May, Dysons Lane, Upper Edmonton. Some large baskets of Fuchsias, Roses, and show, fancy as well as decorative Pelargoniums, were shown by Mr. C. Turner, Slough. A plant of Ismene Amancœs with three large yellow flowers was shown by Messrs. F. Ross & Co., Bletchingly, Surrey. A Silver Flora Medal was awarded to Lord Penzance, Eashing Park, Godalming, for two large boxes of named varieties of Sweet Briar obtained by crossing. The odour arising from them was very powerful, and the flowers of various shades of colour were much admired. Some prizes were offered for herbaceous Pæonies to be competed for only by amateurs. The first award was taken by H. Berkeley James, Esq. (gardener, Mr. J. Gibson), The Oaks, Carshalton. The second prize went to Mr. T. H. Crasp, The Gardens, Canford Manor, Wimborne.

At a meeting of the Fruit Committee a Silver Banksian Medal was awarded to Mr. T. Sharpe, Virginia Water, for Strawberries. They were the variety named Marguerite. Twelve seedling Melons of large size were shown by Mr. W. Allen, The Gardens, Swallowfield Park, Reading. A seedling Melon was shown by J. H. Kitson, Esq. (gardener, Mr. T. Bonsall), Elmet Hall, Leeds. Six varieties of Strawberries were shown by Mr. C. Turner. Some Peas were shown by Mr. G. Wythes, gardener to the Duke of Northumberland, Syon House, and by Messrs. R. Veitch & Son, Exeter. Three boxes of Peaches were staged by Mr. T. H. Crasp. A collection of Strawberries were shown by Mr. T. Lanton, Bedford; a collection of Cherries by Mr. G. Wythes; some Mushrooms and Strawberries by Mr. Miller, gardener to Lord Foley, Ruxley Lodge, Esher; and five Melons, weighing in the aggregate 29 lbs., were shown by Mr. G. Reynolds, gardener to the Messrs. de Rothschild, Gunnersbury Park, Acton.

Exhibition of Roses.

The annual exhibition of Tea and Noisette Roses held under the auspices of the National Rose Society, was a thin one, as might have been expected, considering the vagaries of the season, and especially of the weather during the last few weeks. Both in point of number and the substance of the blooms the show was decidedly thin, and the attendance of visitors at no time large. For twenty-four single trusses, not less than twelve varieties, the first prize went to A. Tate, Esq., Downside, Leatherhead, who had a nice fresh collection of blooms, including Perle de Lyon, The Bride, Madame Cusin, Souvenir d'un Ami, Marie Van Houtte, Souvenir de S. A. Prince, Souvenir d'Elise Vardon, Innocente Pirola, Madame Willermoz, Madame d'Watteville, and three blooms of Comtesse de Nadaillac, one of which secured the Silver Medal as the best Tea in the show.

For twelve single trusses, not less than nine varieties, the Rev. F. R. Burnside, Birch Vicarage, Hereford, came in first, with medium sized but nicely coloured examples of Niphetos, Princess of Wales, Madame Cusin, Rubens, Souvenir d'Elise Vardon, Caroline Kuster, and Comtesse Panisse, &c. The Rev. H. Berners, Harkstead Rectory, Norwich, was a close second; and W. H. Fowler, Esq., Claremont, Taunton, third. The Rev. J. Pemberton, Havering-atte-Bower, Romford, had the best six single trusses in Caroline Kuster, Marechal Niel, Souvenir d'un Ami, The Bride, and Jules Finger, &c.; the Rev. H. B. Biron, Lympus Vicarage, coming in second; and R. Tucker, Esq., Swanley Junction, third.

For six single trusses of any variety the Rev. F. S. Taylor, Littleton Vicarage, Evesham, took premier honours with richly-coloured blooms of Marechal Niel; the Rev. F. R. Burnside being 2nd, with Anna Ollivier, prettily coloured; and R. L. Knight, Esq., Botting, Sittingbourne, 3rd, with Marechal Niel. With six distinct varieties, three trusses of each, the first and only prize awarded was taken by Alex. Hill Gray, Esq., Beaulieu, Newbridge Hill, Bath, who staged The Bride, Catherine Mermet, Marechal Niel, Comtesse de Nadaillac, Alba Rosea, and Marie Van Houtte.

Mrs. H. B. Biron had the best decorative arrangement of Teas and Noisettes, a pretty basket of nice blooms; the second award going to Miss A. Bloxam, Eltham Court, Eltham; and the third to Mrs. O. G. Orpen, West Bergholt, Colchester.

The open class for twenty-four single trusses distinct brought Mr. Frank Cant, Braiswick Nurseries, Colchester, to the front, with a fresh, bright lot, and in this competition the second award went to A. H. Gray, Esq.; and the third to Messrs. D. Prior & Son, Myland Nursery, Colchester. For twelve distinct varieties, three trusses of each, and open to all, Mr. Frank Cant again secured the premier award with beautiful blooms of Rubens, Madame de Watteville, Francisca Kruger, Caroline Kuster, Marechal Niel, Souvenir d'un Ami, and Madame Cusin, etc. Messrs. D. Prior & Son were second here; and Mr. G. Mount, Canterbury, third. Mr. Frank Cant also staged the best eighteen bunches, distinct, three blooms in each. With a dozen Marechal Niels, in a very moderate class, the highest award went to R. L. Knight, Esq.; and the second and third to A. Hill Gray, Esq., and Mr. Cant. For twelve single trusses of any other Tea or Noisette, Mr. Cant and Messrs. D. Prior & Son were equal first, both showing Marie Van Houtte; the third prize going to A. Hill Gray, Esq., for Anna Ollivier.

WHAT TO DO IN THE GARDEN.

Gloxinias.—Seedlings now showing for bloom, if in 60-size pots, may be transferred to 48-size to advantage, as it will prolong growth and the blooms will be larger. They will serve to prolong the season after the old tubers are past their best. As they come into bloom they may be placed in a cooler and more airy house.

Torenia Fournieri.—This erect growing annual will do all the better if occasionally pinched to make it bushy. It should be kept as near the glass as possible in a warm house to encourage vigorous growth until it gets to the required size and commences to bloom, when it may be placed in cooler and more airy quarters, but not subjected to cold draughts.

Kalosanthes coccinea.—No attempt should be made to force this into bloom by confinement in a close atmosphere, otherwise the blooms will be poor and short lived. In fact the best place for it is a sunny position in the open air unless the weather be rough and stormy. Under those circumstances it should be kept in a greenhouse as near the glass as possible, and well ventilated. There are now several fine varieties of this old plant.

Heaths and Azaleas.—Winter-flowering species of Heaths and Indian Azaleas that have completed their growth will now do better in the open air, stood on a bed of cold ashes, and so arranged that the pots will be more or less shaded by the foliage; close attention should be paid to watering in dry weather.

Peaches.—The fruits in the earliest house will by this time have been gathered. Watering must not be discontinued where it is seen to be necessary. The keeping of the roots moist after the fruit has been gathered is more important than one would imagine. Trees that have borne heavily and are weak should receive liquid manure. Keep the syringe at work twice a day to check red spider or other vermin, and ventilate freely night and day.

Melons.—As succession crops reach maturity give more ventilation and allow the atmosphere of the house to get thoroughly dry at least once a day. The plants themselves must be kept on the dry side in cloudy and damp weather. Large Melons are not so much thought of now in private establishments, as in the majority of cases they are inferior in flavour to the small and better-ripened ones.

Cucumbers.—To maintain the fruitfulness of Cucumbers it is necessary to thin and regulate the shoots occasionally as well as to give top-dressings of rich materials to the roots, consisting of good turfy loam and cow manure. The roots soon find their way into this. Remove badly formed and useless fruits, as well as those fit for use.

Bedding Plants.—If the present dry weather continues, some of the bedding subjects will require mulching in sandy soils. Well-decayed cow manure is an excellent mulching material, but is objected to on account of its unsightliness. Well-decayed leaf-soil would also answer, but birds scrape it about all over the place. Cocoa-nut fibre is neat, and though more objectionable than the bare soil is perhaps the most admissable in the flower garden. Old tan proves injurious to the plants, and is therefore not to be recommended.

Auriculas.—The present is a good time to repot Auriculas, and those that have made several crowns may be pulled apart and potted separately in pots according to their size. Where the stock is too great, the surplus may be planted in the herbaceous border, or a bed may be specially prepared for them. If deep and rich so much the better.

Gladioli.—To prevent the plants being checked with the drought a mulching of some sort or other should be given, and occasional copious waterings. Where they are grown amongst bedding plants this is not so necessary as the ground is shaded by the foliage, but in beds by themselves they are apt to run prematurely to flower and then die.

Pinks.—Cuttings of these may be put in at once as they form better plants for next year's work when rooted early. A little bottom heat is very beneficial. This may be supplied by putting a few barrow-loads of fermenting manure in the bottom of a frame and after beating it down, cover with a few inches of soil, into which the cuttings, or pipings as they are called, should be firmly inserted. Cover with a hand-light, and shade from bright sunshine till they commence to grow, after which gradually accustom them to full exposure with plenty of ventilation till thoroughly rooted.

Staking.—Tall-growing plants, such as Delphiniums, Dahlias, Hollyhocks, Castor Oil plants, &c., should be securely staked before they get injured by wind. If done in good time much injury and the unsightliness of crooked stems may be prevented.

Tomatos out of doors.—In order to ripen Tomatos out of doors even in average seasons it is necessary to attend well to them even in the earlier stages of growth by pinching out all the side growths so as to fully expose the flowers and fruit to all the sunshine possible, and to concentrate the energies of the plants upon the fruit on the main stem.

QUESTIONS AND ANSWERS.

**** Correspondents are requested, in order to avoid delay, to address all communications to "THE EDITOR" or "THE PUBLISHER," and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa, London."*

BERTOLONIAS.—*H. J. L.*: They are not as a rule difficult to cultivate with plenty of heat and moisture, but after they have fairly started into growth it is a mistake to keep them too close. Under those conditions the leaves never acquire any firmness of texture, and are more difficult to keep through the winter than if they had been more or less exposed to the atmosphere of the place in which they are grown, for they then acquire firmness of texture, and are then more easily kept in good condition. After they start into growth gradually accustom them to more exposure, although not to direct sunshine.

PINKS.—*Young Florist*: The best time to put in cuttings, commonly called "pipings," is at the end of the present month, as soon as the plants have done flowering. Make up a bed of light sandy soil at the foot of a north wall, or on the north side of a low hedge, and dibble the pipings in firmly in showery weather. Many amateurs root them under bell-glasses, but these are not absolutely necessary.

NAMES OF PLANTS.—*W. G.*: 1, Dendrobium infundibulum; 2, Schizanthus pinnatus; 3, Hypolepis Bergiana; 4, Gymnogramme calomelanos chrysophylla; 5, Davallia sp. too young to determine; 6, Thalictrum aquilegifolium; 7, Doronicum Pardalianches probably, but not a single leaf accompanying specimen; 8, Papaver orientale bracteatum. —*Omega*: 1, The Oriental Poppy (Papaver orientale); 2, The Feather Hyacinth (Muscari comosum monstrosum); 3, The Cypress Spurge (Euphorbia Cyparissias).—*A. Z.*: Now called Lælia lobata, but originally described as Cattleya lobata by Lindley. —*H. J. S.*: 1, Kalmia latifolia; 2, Œnothera missouriensis; 3, Meconopsis cambrica.—*H. W.*: 1, Begonia semperflorens carminata gigantea; 2, Begonia metallica; 3, Pteris tremula; 4, Pteris cretica cristata; 5, Cyrtomium falcatum; 6, Agapanthus umbellatus variegatus; 7, Eranthemum nervosum, usually called E. pulchellum, we believe, but should like flowers to be certain; 8, Ruellia Portellæ.

ALPINES.—*G. C.*: The plants named are not Alpines proper, and you would run the risk of disqualification if you showed them as such.

CUPRESSUS LAWSONIANA.—*Arborist*: They are all seedling forms of Lawson's Cypress, which is a very variable plant, but whether any of them correspond with any of the named garden varieties it is impossible to say from such small pieces.

POPLAR.—*Z.*: Populus canadensis nova is the quickest grower we know and it is extensively used for screens. You can get it at any good hardy tree nursery.

EARLY PEAS AND POTATOS.—*Amateur*: William Hurst is the earliest green-wrinkled, and Chelsea Gem, a selection from it, the earliest white-wrinkled variety, and though some of the round varieties may be a little earlier, many gardeners prefer now to wait for the wrinkled sorts. Both those named are very dwarf, not a foot high, and always fill their pods. Sharpe's Victor is perhaps the earliest Potato, and is becoming a great favourite on that account.

YOUNG APPLE TREES.—*A. W. S.*: Give them a mulching of short manure by all means in a dry season like this. It will be of the greatest benefit to them, but we should remove it in the autumn to facilitate the ripening of the wood.

PANSIES.—*W. Jones*: A good ordinary strain for border decoration, but hardly any of them would pass a florist's scrutiny on a show board.

SHELL SLUG.—*C. M. O.*: Its name is Testacella haliotidea, and it is the only one in this country which has a shell. Don't destroy it as it lives largely on earth worms, and does good rather than harm in a garden.

ASPARAGUS BED.—*W. Y.*: A slight dressing of salt now that you have done cutting would do good, but it is better to give a good dressing in winter.

BOX EDGING.—*T. W.*: It should have been trimmed at the end of March or early in April, but may be cut now, in showery weather for choice.

EARLY CABBAGE.—*Omega*: You cannot do better than sow Ellam's Early, as it is a good and well-tried sort which can be relied upon. You need not sow it, however, before the end of July or the beginning of August, otherwise it will come on too early if the autumn is mild and get killed should we get severe during December or in the early months of the year. Being a small-sized Cabbage you may plant it 18 in. apart each way or even 16 in. if you use them as soon as fit for use.

VINES.—*Pinkie*: It is evident that you were in too great a hurry to start the vines into growth after planting them, and the early exhaustion of the food supply stored up in the canes, consequent upon the roots not having got into active growth, and the excessive heat owing to insufficient ventilation, is the cause of all your trouble. It is hard to know what to advise you to do, but we should be inclined ourselves to let the Lady Down's cane stand, and cut all the others hard back, almost to the point of their entry into the house, if the roots have got a good grip of the border. They ought to make good canes this season yet if carefully managed.

COMMUNICATIONS RECEIVED.—B. F.—G. F.—D. S.—J. S. S.—J. D.—E. W. & S.—J. C. & Co.—J. B.—H. B. S.—B. F.

TRADE CATALOGUES RECEIVED.

ROBERT SYDENHAM, Tenby Street, Birmingham.—Price lists of Bulbs.

LONDON SEED TRADE.

June 21st, 1892.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Mark Lane, report no trade in Clover Seeds. Mustard and Rape meet a fair enquiry at rates current last week. New Trifolium incarnatum promises to be plentiful.

COVENT GARDEN MARKET.

June 22nd.

FRUIT.—AVERAGE WHOLESALE PRICES

	s. d	s. d.
Grapes..... per lb.	2 0	4 0
Peaches... per dozen	6 0	18 0
Pine apples. —St. Michael's, each	2 6	6 0
Strawberries per lb.	0 6	1 6
Tasmanian Apples per case...	8 0	15 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.
Artichokes Globe doz.	3 0	6 0
Asparagus.....bun.	2 0	5 0
Beans, French, per lb.	1 6	2 0
Beet..... per dozen	2 0	3 0
Cabbages ... per doz.	1 6	2 6
Carrots ... per bunch	0 6	
Cauliflowers, Eng. dz.	3 0	6 0
Celery.....per bundle	2 6	
Cucumbers .....each	0 6	1 0
Endive, French, doz.	2 6	3 0
Herbs .....per bunch	0 2	0 6
Horse Radish, bundle	2 0	4 0
Lettuces ...per dozen	1 6	2 0
Mushrooms, p. basket	1 3	2 0
Onions.....per bunch	0 4	0 6
Parsley ... per bunch	0 6	
Radishes... per dozen	1 6	
Small salading, punnet	0 4	
Spinach, per strike ...	1 6	
Tomatos..... per lb.	0 9	1 6
Turnips .....per bun.	0 0	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arum Lilies, per doz.	6 0	9 0
Begonias ...per doz.	6 0	12 0
Crassula ...per doz.	6 0	10 0
Cyperus .....per doz.	4 0	12 0
Dracæna term., doz.	24 0	36 0
Dracæna viridis, doz.	9 0	18 0
Echeveria Pyramidalis.....	9 0	18 0
Erica various per doz.	9 0	24 0
Evergreens, invar. doz	6 0	24 0
Ferns, invar., per doz.	4 0	18 0
Ferns, small, per 100	8 0	12 0
Foliage Plants, doz.	12 0	60 0
Fuchsia, ...per doz	4 0	9 0
Genista .....per doz.	6 0	10 0
Heliotrope, per doz.	4 0	6 0
Ivy Pelargoniums, per doz. pots	5 0	8 0
Lilium Harrisii, doz.	15 0	30 0
Lobelia, ...per doz.	4 0	6 0
Marguerites, per doz.	6 0	12 0
Mignonette, per doz.	4 0	8 0
Musk, ...per doz.	2 0	4 0
Palms in variety, each	2 6	10 0
Palms, Specimen ...	15 0	63 0
Pelargoniums, per doz.	8 0	15 0
—scarlet .....per doz.	3 0	6 0
Spiræas.....per doz.	8 0	12 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Anemone various, doz. bun.	2 0	4 0
Arum Lilies, 12 blms.	2 0	4 0
Bouvardias, per bun.	0 6	1 0
Carnations, 12 blooms	1 0	3 0
Cornflower doz bnchs	2 0	4 0
Eucharis ...per doz.	2 6	4 0
Gardenias 12 blooms	1 6	4 0
Gladioli...doz. buns.	6 0	12 0
Heliotropes, 12 sprays	0 6	1 0
Iris (various), dz. bn.	6 0	9 0
Lilac, French, per bunch	4 0	5 0
Lilium Harrisii, doz. blooms	2 0	4 0
Liliums var., dz. blms.	1 6	3 0
Maidenhair Fern, 12 bs.	4 0	6 0
Marguerites, 12 bun.	2 0	4 0
Mignonette... 12 bun.	3 0	6 0
Myosotis or Forget-me-not, doz. bnchs.	2 0	4 0
Moss Roses, dz bchs	6 0	12 0
Pelargoniums, 12 sps.	0 9	1 0
—scarlet.....12 bchs.	4 0	6 0
Primula, double, bun.	0 9	1 0
Pinks .....doz. buns.	2 0	4 0
Pansies, doz. bchs ...	1 0	2 0
Polyanthus, doz. bchs.	2 0	4 0
Pyrethrum doz bnchs	2 0	4 0
Orchid Bloom in var. per bloom, from	0 3	1 0
Roses, doz bunches	4 0	12 0
Roses, yellow, dozen	2 0	6 0
— Red..... doz. blms.	2 0	4 0
— Saffrano...per doz.	1 0	1 6
— Tea ..... per dozen	0 6	2 0
Spiræas...doz. bnchs	4 0	6 0
Stephanotis, dz. sps.	1 6	2 6
Sweet Peas, dz. bns.	6 0	9 0
Sweet Sultan, dz. bn.	4 0	6 0
Tuberoses, per doz	0 6	1 6
Wallflowers, doz. bunches	3 0	4 0

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FLOWER SHOWS, &c., 1892.

[The Editor will be greatly obliged if Secretaries of societies will communicate to him the dates of their exhibitions as soon as fixed.]

JUNE.

28.—Maidstone Rose Show.
29.—Farningham Rose Show.
29.—Ipswich Rose Show.
29.—Richmond (Surrey) Flower Show.
30.—Canterbury Rose Show.
30.—Eltham Rose Show.
30.—Winchester Rose Show.
30.—Bury St. Edmunds Flower Show.

JULY.

1.—Brockham Rose Show.
2.—National Rose Show at the Crystal Palace.
5.—Bagshot Rose Show.
5.—Diss Rose Show.
5.—Gloucester Rose Show.
5.—Sutton Rose Show.
5.—Rose Show at the International Exhibition, Earl's Court (2 days).
6.—Royal Botanic Society's Evening Fête.
6.—Croydon Flower Show.
6.—Hitchin Rose Show.
6.—Fareham Rose Show.
6.—Conference of Gardeners' Associations at Tunbridge Wells.
7.—Woodbridge Horticultural Society.
7.—Bath Rose Show.
7.—Windsor Rose Show.
7.—Norwich Rose Show.
7.—Woodbridge Flower Show.
7.—Ware Flower Show.
7.—Lee and Blackheath Flower Show (2 days).
9.—Reigate Rose Show.
9.—Wood Green Flower Show.
12.—Royal Horticultural Society: Committee Meetings at Drill Hall.
12.—Hereford Rose Show.
12.—Wolverhampton Floral Fête (3 days).
13.—Royal Caledonian Horticultural Society (2 days).
13.—Bexley Flower Show.
13.—Ealing Flower Show.
13.—Bedford Flower Show.
14.—Helensburgh Rose Show.
16.—National Rose Show at Chester.
16.—Charlton Rose Show.
18.—Nuneaton Flower Show.
19.—Birmingham Rose Show (2 days).
19.—Eye (Suffolk) Flower Show.
21.—Trentham Flower Show.
21.—Worksop Flower Show.
21.—Ayleshury Flower Show.
23.—Manchester Rose Show.
23.—Bedale Rose Show.
23.—New Brighton Rose Show.
23.—Midlothian Rose and Pansy Show, Penicuick.
26.—Royal Horticultural Society: Committee Meetings at Drill Hall, National Carnation and Picotee Show.
26.—Beckenham Flower Show.
27.—Hessle Flower Show (2 days).
27.—Bishops Waltham Flower Show.
28.—Southwell Rose Show
28.—Halifax Rose Show.
30.—Brighton "New" Horticultural Society (2 days).
30.—Ripley Rose Show.
30.—Southampton Flower Show (2 days).

AUGUST.

1.—Cottagers' Show at Earl's Court.
1.—Beddington and Carshalton Flower Show.
1.—Mansfield Flower Show.
2.—Abbey Park, Leicester, Show and Gala.
9.—Royal Horticultural Society: Committee Meetings at Drill Hall.
10.—Sevenoaks Flower Show.
11.—Taunton Deane Flower Show.
17.—Shrewshury Flower Show (2 days).
17.—Cardiff Flower Show (2 days).
18.—Aberdeen Flower Show (3 days).
23.—Royal Horticultural Society: Begonia Conference, etc., at Chiswick (2 days).
24.—Brighton and Sussex Horticultural Society (2 days).
25.—Droitwich Flower Show.
25.—Kenilworth Flower Show.
29.—Cresswell Flower Show.

SEPTEMBER.

1.—Oxford Flower Show.
2.—National Dahlia Show at the Crystal Palace (2 days).
6.—Royal Horticultural Society: Committee Meetings at Drill Hall.
7.—Royal Caledonian Horticultural Society (2 days).
9.—Autumn Flower Show at Earl's Court (2 days).
20.—Royal Horticultural Society: Committee Meetings at Drill Hall.

OCTOBER.

4.—Royal Horticultural Society: Committee Meetings at Drill Hall.
5—Fruit Show at Earl's Court (3 days).
18.—Royal Horticultural Society: Committee Meetings at Drill Hall.
25.—Fruit Show at Earl's Court (3 days).

NOVEMBER.

1.—Royal Horticultural Society: Committee Meetings at Drill Hall.
1.—Kent County Chrysanthemum Show (2 days).
1.—Brixton Chrysanthemum Show (2 days).
2.—Ascot Chrysanthemum Show (2 days).
2.—Ealing Chrysanthemum Show (2 days).
2.—Portsmouth Chrysanthemum Show (3 days).
2.—Croydon Chrysanthemum Show (2 days).
4.—Bolton Chrysanthemum Show (2 days).
8.—National Chrysanthemum Society at Royal Aquarium (3 days).
8.—Kingston and Surhiton Chrysanthemum Show (2 days).
8.—Sevenoaks and West Kent Chrysanthemum Show (2 days).
8.—Batley Chrysanthemum Show (2 days).
9.—Birmingham Chrysanthemum Show (2 days).
9.—South Shields Chrysanthemum Show (2 days).
9.—Cardiff Chrysanthemum Show (2 days).
9.—Bournemouth Chrysanthemum Show (2 days).
10.—Chelmsford Chrysanthemum Show.
11.—Leicester Chrysanthemum Show (2 days).
11.—Eccles and Patricroft Chrysanthemum Show (2 days).
11.—Wellinghorough Chrysanthemum Show (2 days).
11.—Dundee Chrysanthemum Show.
15.—Royal Horticultural Society: Committee Meetings at Drill Hall.
15.—Plymouth Chrysanthemum Show (2 days).
16.—Hull Chrysanthemum Show (2 days).
16—Rughy Chrysanthemum Show (2 days).
17.—Edinhurgh Chrysanthemum Show (3 days).
18.—Chorley Chrysanthemum Society (2 days).
18.—Stockport Chrysanthemum Show (2 days).
22.—Dalkey Chrysanthemum Show.

DECEMBER.

13.—Royal Horticultural Society: Committee Meetings at Drill Hall.

The Gardening World.

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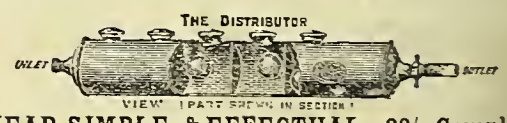

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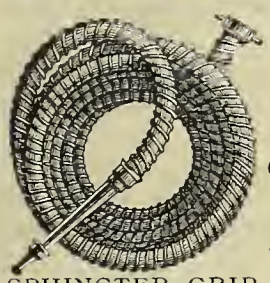
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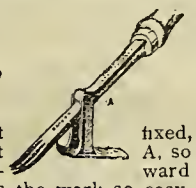

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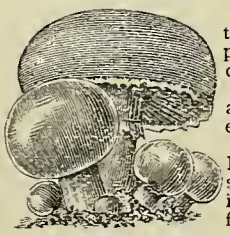

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READERS of THE GARDENING WORLD will greatly oblige the Publisher by mentioning this Paper when writing to Advertisers.

For Index to Contents see page 698.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, July 5.—Rose Show at the International Horticultural Exhibition, Earl's Court.
Bagshot Rose Show.
Diss Rose Show.
Enfield Flower Show.
Gloucester Rose Show.
Sutton Rose Show.
Sale of Orchids at Protheroe & Morris' Rooms.
WEDNESDAY, July 6.—Conference of Delegates of Gardeners' Associations, at Tunbridge Wells.
Royal Botanic Society's Evening Fete.
Croydon Flower Show.
Hitchin Rose Show.
Fareham Rose Show.
THURSDAY, July 7.—Woodbridge Flower Show.
Bath Rose and Begonia Show.
Windsor Rose Show.
Norwich Rose Show.
Lee and Blackheath Flower Show (2 days).
Ware Flower Show.
FRIDAY, July 8.—Sale of Orchids at Protheroe & Morris' Rooms.
SATURDAY, July 9.—Reigate Rose Show.
Wood Green Flower Show.

The Gardening World.
Edited by BRIAN WYNNE, F.R.H.S.
SATURDAY, JULY 2nd, 1892.

THE ROSE SHOWS.—What sort of a Rose season we are to be favoured with it is perhaps hard to determine, especially that the late frosts of the spring or early summer may have materially injured the buds. Did we judge solely by the Roses presented at the early show of the National Rose Society, reported last week, we should anticipate rather a poor average quality. It was instructive to note that the only lot of blooms which did full justice to ordinary size and beauty of Tea Roses, were grown under glass, and thus in their class very easily obtained a first prize. However that was for the season perhaps the last lot cut from under glass.

So far as the outdoor grown flowers were concerned they were rather indifferent, but we look hopefully for better examples so soon as we get into July. The recent very heavy rains, followed as they have been by such warm weather, should have done wonders in helping at once to cleanse buds and foliage, and to saturate the roots. The comparatively restricted list of shows specially devoted to Roses, which we published last week, affords conclusive evidence of the widespread popularity of the flower for exhibition, and there are scores of those exhibitions elsewhere, not there enumerated; hence during the next two or three weeks the Rose will be in great evidence everywhere, attracting its myriads of admirers and we hope bringing grist to many a hardworking exhibitor's mill.

The season of exhibitions, like that of the Chrysanthemum, is all too short, and far too much has to be crowded into a limited

period over which the shows range. Doubtless one or two good exhibitions satisfy most people, especially if the weather be hot and the atmosphere redolent of Rose perfume. A great reform is needed in the ventilation of Rose show tents in hot weather, for both flowers and their admirers suffer severely when the atmosphere is close and heated.

A GARDENERS' GATHERING.—At length we are able to announce that a real gathering of gardeners for social and festive purposes has been arranged to take place in London, at the Great International Horticultural Exhibition at Earl's Court, in August next. Last week we were enabled shortly to announce that a new and considerable Fruit Show would be held at Earl's Court on August 26th and 27th, and which it will doubtless be noted is a distinct addition to the series of shows previously announced. It is generally believed that this show will be instrumental in bringing together a large number of horticulturists, and as the proposed dinner is fixed for the early hour of five o'clock, all who may desire to do so can enjoy to the full the *al fresco* charms of the beautiful grounds after the gathering.

As there will be ample room for some three hundred diners, the gathering promises to be one of unusual extent and interest. But when it is asked what is the special object of this dinner, we would reply that apart from its inevitably social aspect, which must be of a pleasant nature, it is proposed to utilise it in advocacy of the claims of the Gardeners' Royal Benevolent Institution, the Gardeners' Orphan Fund, and the United Horticultural Provident and Benefit Society; but there will be no collection or other jarring incident.

The dinner will take place on August 26th, the first day of the show, thus meeting the wishes of the provincial gardeners and visitors admirably. Those of our readers who can turn to THE GARDENING WORLD of May 14th, will there note our warm advocacy of such a gathering as we have indicated in association with the proposed International Fruit Show on the Thames Embankment. That show is adjourned till next year, but the dinner will not be so, as we have been able to show. We think the gathering will be a remarkably popular one, and especially so as it has been arranged that the price of the tickets shall suit gardeners' pockets.

SELLING FLOWERS AT ROSE SHOWS.—The complaint of our esteemed correspondent of last week, Mr. Bruce Findlay, of Manchester, with respect to the trouble which grows out of the practice of selling surplus Rose blooms before a Rose show is closed, is a matter which will doubtless receive due attention. The practice has not been found troublesome in some places, but it has undoubtedly become a nuisance in others. Generally, so far as our experience has gone southwards, the purchasing public have not had access to the show ground until after the staging was complete, and the boxes with their surplus contents stored away, so that whatever the contents might be, a demand could not be created by the sight of them. The most that we have seen so far has been the giving of a bunch or two of the surplus blooms to friends by exhibitors during the afternoon, but even that practice, unobjectionable as it may seem, should be sternly repressed, in view of the fact, as thus represented by Mr. Findlay, that it leads on the part of the public to an expectation that but for certain assumed favouritism they too could purchase surplus flowers also. We do not affirm that amateur Rose growers are incapable of selling surplus flowers at shows, but we are certain that it is not the rule. The practice rather attaches to the employees of the trade growers, who being compelled to take with them a considerable number of surplus blooms to guard against possible collapses, have full leave to dispose of these flowers after their show flowers are staged, and who find in this sale some little pecuniary help towards personal expenses.

It seems hard doubtless that such flowers may not be sold outside the tents as soon as the staging is completed, but in the interest of good order we are absolutely of opinion that under no circumstances should sales of this kind be tolerated between the opening of the show to the public and the time at which all exhibits may be removed.

THE DIRECTOR OF KEW ON TREES IN PARKS AND GARDENS.—It will still be within the recollection of many of our readers, no doubt, that during the past winter Mr. Thiselton Dyer, of Kew, wrote a letter to the Middlesex County Council, which body had asked his advice with respect to the probable value or otherwise of ordinary lectures on Horticulture as teaching elements. In that letter Mr. Dyer replied in a very deprecatory spirit, which called forth from various able horticultural lecturers much adverse comment and strong condemnation. Remembering the fact so well we were naturally somewhat interested to see how or in what way Mr. Dyer, whose great knowledge and capacity no one questions, would deal with the subject of his proposed lecture to the Fellows of the Royal Horticultural Society at the last meeting.

The subject of the lecture was "The Management of Trees in Parks and Gardens," and of course the matter was ably dealt with, yet with clearness and simplicity, aided by a few outline sketches on a blackboard. To our mind we saw before us, in imagination if not in reality, one of the County Council lecturers, who proved to be such earnest, ardent missionaries to the more uncultured classes in the counties in the cause of horticulture during the past winter. Indeed had we not been fully familiar with everything preceding we might have thought that one of the gentlemen to whom we have referred was either rehearsing a coming winter lecture or repeating an old one, so very like in all its parts was the performance.

Of course the ordinary County Council lecturer rarely touches on such topics as trees in parks and gardens in the sense that Mr. Dyer so admirably did, but in dealing with fruit trees old and young, he is called upon to develop almost the same ideas and offer the same suggestions as fell from the Director of Kew. Now that this gentleman's audience were both pleased and instructed was apparent, but then the very same resulted in the case of the various horticultural lecturers, only Mr. Dyer did not know it when he attempted to wet blanket their operations. Clearly it is impossible for Mr. Dyer or anyone else now to assume that sound horticultural knowledge cannot be taught by lecturers, and it is very satisfactory to learn that County Councils are already preparing their schemes with that object in view for next winter. It is true that all lecturers do not possess the same admirable reasoning and argumentative powers as Mr. Dyer, nor the same facility of expression, but they all do their best to impart sound and useful information, and even the Director of Kew can do no more.

Her Royal Highness the Duchess of Edinburgh, with the Princesses Marie and Victoria, accompanied by Prince Ferdinand of Roumania, honoured Mr. William Bull's Orchid exhibition at 536, King's Road, Chelsea, with a visit on Monday last.

The Bedford Horticultural Society's ninth annual exhibition will take place on the 13th inst. The society offers special prizes for Roses, and schedules can be obtained from Mr. J. G. Verey, Bedford.

The Barnstaple Chrysanthemum Show will be held on November 1st and 2nd. Schedules may be obtained from Mr. Edwin J. Butt, High Street, Barnstaple.

Potato Sales.—About 1,000 acres of Early Potatos were sold by auction in the Girvan district, Scotland, last week, and realised from £22 to £35 per acre.

Mr. George Hall, formerly gardener for several years to the late Lord de Tabley, Tabley House, Cheshire, has been engaged to succeed Mr. Knox as gardener to the Earl of St. Germans, Port Eliot, St. Germans, Cornwall. Mr. Knox, who is retiring, has held the post for upwards of twenty years.

Sir Trevor Lawrence, Bart., the President of the Royal Horticultural Society, who is not seeking re-election as M.P. for the Reigate Division of Surrey, has accepted the treasurership of St. Bartholomew's Hospital, which Sir Sydney Waterlow will shortly resign.

The National Pink Society, Northern Section.—The exhibition of Pinks announced to take place in the Botanical Gardens, Old Trafford, Manchester, on July 16, is postponed until July 22, when the exhibition of Roses, also announced for the earlier date, will be held, it being found necessary to postpone the fixture for a week.

The Gardeners' Orphan Fund.—At the meeting of the committee held on the 24th ult., the following special receipts during the month were announced:—Mr. Herbst, £2 2s.; Hotel Metropole £2 2s.; Mr. G. W. Cummings (collecting box), £3; and Messrs. B. S. Williams & Son (collecting box), 13s. 9d. The remainder of the business was of a merely routine character.

A Conference of Delegates of Gardeners' Associations will be held at Tunbridge Wells on Wednesday next, July 6th, under the auspices of the local Gardeners' Association, of which Mr. F. Earley is president, and Mr. D. G. Cornwell, secretary. From the programme we learn that cheap tickets will be issued to Tunbridge Wells from London, Maidstone, Hastings, Brighton, and all stations on the London and Brighton and South Eastern Railways. Luncheon will be provided at the Friendly Societies' Institute at 12 o'clock. The conference of delegates and friends will be held at 1 o'clock, but the nature of the subject or subjects to be discussed is not stated. After the conference visits will be paid to the local nurseries and other points of interest. At 6.30 dinner will be served in the large hall of the institute, at which the Mayor of Tunbridge Wells will preside; and at 8 30 a smoking concert will bring the day's proceedings to a close.

The Rose Show and Floral Fete held at the Mansion House on Friday of last week, and which was organised by the Lady Mayoress in aid of the Royal Hospital for Children and Women in the Waterloo Bridge Road, was a brilliant social and financial success. Never perhaps before were the saloon and Egyptian Hall so lavishly or so beautifully decorated with flowers, or so closely packed with visitors, mainly ladies, for so many hours together; and with so many charming stallholders, we were not surprised to hear that sales were brisk and prices satisfactory. The fête was opened at half-past two by H.R.H. Princess Christian, who was accompanied by her daughter, Princess Victoria of Schleswig-Holstein. Her Royal Highness expressed much admiration of the beautifully arranged flowers, and especially noticed the beautiful garlands of shaded Roses which, surmounted by a crown also carried out in Roses, hung above Mrs. Sheriff Foster's stall. The greater number of the stalls were in the Egyptian Hall, where the large mirrors greatly aided the effect, but the crush was so great that a close inspection of all was impossible. Those, however, of the Lady Mayoress, Lady Bective, Lady Monckton, Mrs. Frank Grimwood, the heroine of Manipur, Mrs. Sheriff Foster, and Mrs. Alfred Aste were singularly pleasing and effective.

International Rose Show and Fete —A floral festival of a very unusual kind has been organised by the directors of the International Horticultural Exhibition for Tuesday and Wednesday next, when there will be displayed at Earl's Court such a collection of Roses, Orchids, Begonias, and herbaceous plants as has not previously been seen in London. Indeed, the promoters are sanguine enough to promise the greatest Rose show that has ever been known in Europe, and taking into account the fact that the management have hitherto more than fulfilled their promises, there is no reason to suppose they will show any shortcoming on this occasion. All the celebrated English Rose growers will be represented by their most perfect specimens, and many Continental growers will also take part in the display, sending their newest developments of Roses. It will be "Roses, Roses, all the way," as Browning sang; and if fine weather should favour the affair, a brilliant gathering both of flowers and people may be confidently looked for. But there will be much to attract besides Roses; Mr. Sander, of St. Albans, and other growers will exhibit a splendid collection of Orchids, and a remarkable display of table decorations is arranged for in the main building. A number of tables, each laid as for twelve persons, will be decorated with flowers, Ferns, Palms, foliage, and fountains, constituting a distinctive feature which everyone will appreciate. There will be over a hundred classes of exhibits in all, and the successful contributors will receive valuable money prizes, medals, and certificates. Amongst the judges will be several eminent Continental Rose growers. It is worth while mentioning that the executive of the International Horticultural Exhibition, by postponing their great Rose fete until next week, so as not to interfere with other shows, are placed in the advantageous position of getting their Roses at the best period, the Rose season being rather late this year.

BEGONIAS AT FOREST HILL

The annual raising and planting of seedling Begonias in the nursery of Messrs. J. Laing & Sons, Forest Hill, is no small matter. At the time of our visit the other week the planting was not quite completed, although it had been going on for three weeks previously. Of the enormous number raised, about half a million were pricked out in boxes; the ground in the open allotted to Begonias has been extended and thick planting has been resorted to in order to dispose of the plants. The space devoted to the single kinds contains about 200,000, and a smaller piece is occupied with doubles to the number of 50,000. A large number of this year's seedlings have been potted up in 48-size pots, and we noted some very fine doubles amongst them already in bloom. Two new houses, each about 100 ft. long, have been built to accommodate them, and there are about 5,000 in one of the houses. Things are not done by halves here, and strenuous efforts are made to meet a great popular demand.

At present we are more concerned with the older plants, including last year's seedlings, which are now in bloom. Within the last few years a great revolution has been affected in the character of the plants, and flowers both single and double, the improvement in the form and refinement of the latter being well marked. A host of seedlings of first class value have not yet received names, the very finest only having obtained that distinction. The bulk of them are, however, improvements upon most of the previously named kinds, and it is not evident what perfection will yet be attained.

Single Varieties.

The new varieties for this year naturally claim attention, but last year's ones are still in the front rank, and we could not do justice to the collection by omitting them. Amongst the new varieties for this year is H. M. Stanley, with maroon-crimson flowers, darker than those of Duke of Edinburgh, and stems only 10 in. to 12 in. high. Lady Scott is equally dwarf and pure white, with short, stiff, erect flower stalks. The orbicular bright scarlet flowers of Lord Hillingdon are of large size and erect. The flowers of Gigantea are of great size, clear bright rose, of good shape, and freely produced. Sir Thos. Payne is also floriferous, and of a brilliant crimson. A very fine sort is Mrs. Blundell, with golden-bronze flowers curiously corrugated during expansion. Lady Pigott has salmon flowers tinted with pink, and is very dwarf. Fringed White is perhaps the greatest novelty of the season, with large, orbicular, pure white and deeply fringed flowers.

John Laing

Seedlings may also be looked upon as new varieties which have not yet received names, and it must suffice here merely to note their most prominent features. One object aimed at is to get dwarf branching habit and short, stout flower stalks so that they may hold their heads erect. Of this kind we noted some having crimson-scarlet, crimson, orange shaded with bronzy-red, rose with light centre, pale sulphur or bone coloured with a pink edge to the outer sepals, orange-red with a crimson shading in the centre, salmon-pink with a creamy-white centre, pink and blush, brilliant scarlet, maroon-crimson with a white centre, delicate rose with a dark centre, creamy with rose edges, clear bright yellow, magenta-rose, orange-scarlet, and bright carmine tinted with violet and having a light centre. Amongst the yellow varieties we noted one with dark green leaves of enormous length, and another had larger flowers possibly than any yet obtained, and certainly deserves a name. The great substance of the flowers of the newer varieties is very marked by contrast with many of the older kinds which, though beautiful, appear flimsy by comparison. Usually the colours are most concentrated towards the edges of the sepals, but a new race has the centre darkest.

One of the finest of the newer kinds is Duchess of Westminster, of an intense carmine with a white centre, and cerise margins to the inner sepals. The smaller flowers of Duchess of Leinster are orange-red tinted salmon. Delicatissima is of the Duchess of Westminster type, but has the colours confined to the very margins. Leviathan has huge rose flowers and stems 2 ft. to 3 ft. high. Queen Victoria, one of the royal set, has large rose flowers and is still a grand Begonia. Enchantress has broader margins than Delicatissima, and Charmer has more extensive colour of the same type. A good and floriferous white variety is Constance; and the crimson-scarlet Floribunda is well named, bearing five to six blooms in a truss. The outer petals of Lady Foley are creamy white, tinted with pink and the inner ones with salmon. The flowers of Princess Victoria are of handsome proportions, rose and white in the centre. We noted a huge spreading plant of Lady Whitehead bearing six to eight flowers in a truss, and of a rosy carmine with a light centre. The carmine flowers of Mrs. Milner have branching white veins on both surfaces and show a near approach to a striped variety. The orbicular salmon-rose flowers of E. G. Hill hold themselves erect. The maroon-crimson flowers of Darkest Africa are produced in great abundance, and are useful by way of contrast with the paler or more brilliant kinds. Mr. R. Ballantine was the largest and finest bright yellow last year. Begonias are not usually noted for their fragrance, but we detected one with the odour of Marechal Neil Rose and were informed that the variety was so named.

Double Sorts.

While it must be admitted that the single Begonias make the finest display in a house when grown in quantity, yet there is a bold and imposing appearance about the doubles which fascinates the cultivator and the public at large. Some resemble Hollyhocks, Camellias, or Roses, and the latter change their character during development. Picotee, a new one, is well named, for the flesh-coloured sepals have a rose-coloured margin, and are all arranged around a common centre, a fact which gives them an additionally refined appearance. The blooms of Sir Trevor Lawrence resemble a bunch of Tea Roses in bud, and are crimson-scarlet. Those of Duchess of Teck on the contrary resemble a bunch of Primroses from their formation and colour; and those of Lady Brook are of a uniform glowing salmon with one centre or a number of them, like tiny Rose-buds.

Laing's Rose Bud is a gem, with the blush-pink sepals in the early stages compactly arranged in the form of a Rose-bud, and like a Camellia when fully expanded, owing to the broad, rounded sepals being closely and neatly imbricated. Purity is pure white, and quite double. The bright salmon flowers of Glory of Stanstead have the broad outer sepals undulated, and are highly attractive. Those of Baron Schroder are brilliant scarlet, very freely produced

and of the Hollyhock type. Lady Dunsany has large and full, soft pink flowers, while those of Princess Christian are creamy-white, and arranged round one centre when in their best form. The Duke of Fife has large and bold salmon-coloured flowers with the wavy inner petals compressed in the young state. Sir John Lennard has bold and conspicuous flowers of a superb rose. All of the above double varieties are new for this year, but they only represent a selection of the finest and most distinct, for a large number of unnamed seedlings would take a lot to beat them.

A seedling of the Hollyhock type has wavy, crimson sepals all arranged round a common centre; another very choice one has flesh coloured flowers with a pink edge. When grown in the open air the flowers are erect, but indoors they are pendulous. Another has large pendulous flowers, rose coloured and wavy, sometimes having several centres like tiny rose buds. A soft rose variety is not unlike Rose Bud. Others have delicate salmon flowers, rose shaded with magenta, white of the Hollyhock type, warm rose, salmon-rose, and Apple blossom. The latter has the inner face of the sepals white, tinted with pink, and rosy red externally. A few years ago these would have been considered very choice.

Of the older doubles one of the boldest and most conspicuous is Henshaw Russell with bright scarlet flowers of the Hollyhock type. On the contrary those of Lady Gertrude are rose with a white centre and in the form of a Rose. Miss French has bold sulphur yellow flowers, the outer sepals being more nearly white. The rosy-pink flowers of Elfride are pendulous and have several centres; the latter statement applies to Lady Theodora Guest with Apricot yellow and very showy flowers. La France is very floriferous and choice in its way with pink flowers, having darker edges; the inner sepals are flat and closely imbricated but remarkably short. The warm rosy-pink flowers of Lady Goldsmith have darker edges and are very full and compact. A crimson-scarlet and floriferous variety is the Marquis of Stafford; the leaves are narrow and the stems very short-jointed. The narrow-leaved varieties, the descendants of Begonia boliviensis, are fast disappearing, and their place taken by broad-leaved sorts. Gertrude is a delicate pink variety like a Rose-bud in its earlier stages, and the neatness of a fully expanded Camellia later on: it is bushy, branching and floriferous. The flower stalks of Mammoth are short and erect, the flowers themselves scarlet, and the habit of the plant branching.

In contrast to the above we may mention Lafayette, a pretty little thing with brilliant scarlet, small, and neat flowers. The Golden Dwarf is another miniature kind with drooping, clear yellow flowers, of small size but very numerous. The Marchioness of Headfoot is quite another type with salmon-pink flowers and a white centre. Mrs. Coomber is flesh coloured with rosy-red edges, being of the Picotee type. Joan of Arc has huge white flowers and a wavy centre. There are yet two of the choicest types to be mentioned, but as there is no stock of them we forbear to mention them by name. One has magnificent salmon flowers, shaded with rose, and two or three centres like little Rosebuds. It is of branching habit. The other is very dwarf with creamy white flowers of great depth and neatly arranged sepals, with a little space between each and comparable to we know not what.

Many of the varieties are specially adapted for basket work owing to the pendulous habit of the flower stalks; some of them are named and others not. Alba Rosea has rose flowers with a white centre, and freely produced. Laing's Perfection has salmon-red flowers with a darker centre and as neat as a Camellia. Richardson's Favourite has light crimson-scarlet flowers, freely produced, and by no means lumpy, the petals being loosely arranged. Others in baskets have crimson and pink flowers.

VINES AND VINE CULTURE

That there should be a steady demand for such standard works on the Vine and its cultivation as Mr. Barron's "Vines and Vine Culture" and Mr. William Thomson's "The Grape Vine," one cannot be surprised considering the immense interest which gardeners take in all that relates to the production of this most valuable fruit; the continually increasing number of small vineries in the gardens of amateurs; and the extraordinary increase that is going on in the extension of Vine culture by market growers.

Of "Vines and Vine Culture" Mr. Barron has just issued the third edition, and when a work of this character meets with such favour among practical men it requires no praise from a reviewer to recommend it. In the new edition Mr. Barron has endeavoured to bring his subject up to date, and has added some new illustrations, and some new matter of a highly interesting character, especially with regard to commercial Grape culture. With reference to the magnitude of the trade in what for convenience are called "English Grapes," which has arisen within the last few years, Mr. Barron gives some startling figures.

The approximate supply in 1886 it appears was about 400 tons, about 250 tons of which passed through the hands of one commission agent in Covent Garden, Mr. George Munroe. During last year this quantity is said to have been greatly exceeded, and the record for a single day's sale was made in October last, when the quantity disposed of was 750 baskets—four tons. The principal commercial Grape-growing establishment, within driving distance of London are referred to as well as those in the provinces, the Channel Islands, and on the Continent.

"At the present time," says Mr. Barron, "the largest growers are probably the Messrs. Rochford, who in their several establishments at Cheshunt, Broxbourne, &c., have over fifty acres covered with glass, about one half of which is planted with Grapes, which they calculate will produce about 300 tons a year, when the Vines come into full bearing—an acre of ground covered with glass being estimated to produce fifteen tons of Grapes annually. Reckoning the value of the crop at 2s. per lb., the gross return per acre thus amounts to £3,360."

The system of bottling late Grapes and keeping them in special Grape rooms appears to be giving way to the system preferred by Mr. Peter Kay, of Finchley, and the Messrs. Rochford, of keeping them on the vines, shading the houses with thick canvass, and keeping a cool, still, dry atmosphere, if possible without fire heat. On the all-important subject of prices, Mr. Barron shows that the tendency is still downwards, one firm's books showing a difference last year, in every month except October, of a drop of 25 per cent. as compared with the prices obtained in 1886.

These facts, however, do not seem to trouble the growers very much. "They base their calculations on the actual cost of production and gross returns, and argue thus—that to sell a ton of Grapes at 2s. or 3s. per lb. is better than, as formerly, to sell a few hundred pounds at 10s. or 20s. per lb., prices which were practically beyond the reach of the consumers. Cheap prices now enable retail fruiterers to maintain a supply on sale at all times, thus increasing the consumption."

GARDENING REQUISITES

It is always pleasant news to hear of the steadily growing prosperity of old-established business firms conducted on honourable and fair dealing principles. One likes the old familiar names, and it gives one a sense of real pleasure to know in regard to long-established business concerns that though masters and men may come and go the old order obtains, the same high standard of commercial rectitude, the same combination of energy and sagacity is maintained to cope with the ever-changing conditions of trade. And what a change has taken place in all that relates to commercial horticulture and the industries incidental thereto, even during the last quarter of a century; what a difference alone in the demand for the hundred and one things now considered indispensable in a garden, but which our fathers and grandfathers used to manage to do without. It is so great in reality that one fails to realise its true magnitude, or to grasp its fullest significance in relation to the enhancement of horticulture.

We had recently an opportunity afforded us of paying a visit to a firm whose name is familiar to every nurseryman and seedsman in the country as wholesale manufacturers of and dealers in garden requisites, and looking through their warehouses we must confess to being completely amazed at the endless variety of things which such a firm has to keep in stock, and the vast numbers of some of them that there is a demand for. The firm in question, Messrs. Corry & Co., Limited (late Corry, Soper, Fowler & Co.), Finsbury Street, E.C., do not certainly catalogue plant houses, heating apparatuses, seeds, or plants, but it is no exaggeration to say that there is scarcely another article that a nurseryman or seedsman is likely to be asked for that they cannot supply, and we should say here that they do business with the trade only, and are not retailers. The specialities of the firm are of course those articles which they manufacture themselves, and their various preparations of Tobacco, such as Tobacco juice, Tobacco powder, Tobacco paper, nicotine soap, and Lethorion vapour cones, made in bond at their manufactory at Shad Thames. Every gardener knows their value as insecticides, and some idea of their use may be gleaned from the fact that last year the firm sold 17,000 gallons of Tobacco juice, and 40,000 pounds weight of Tobacco powder. The vapour cones, so effective, so safe to plants and flowers, and so convenient to use as compared with the old plan of fumigating with Tobacco paper, are also becoming yearly more extensively in demand.

Another special article made by the firm is Standen's Manure, which after being in the market for thirty years still very largely enjoys the confidence of plant growers, because good as are a number of other fertilisers now obtainable, for pot plants, and particularly hard-wooded plants and Palms, there are none to beat it. For many indeed it is too good, because they are too heavy handed with it, and do not observe the golden rule of applying little and often. Yet another article for which there is a large demand is Fowler's Lawn Sand, an article which, while thoroughly effective in killing Daisies and other broad-leaved weeds, makes the grass grow at the same time, and so improves the lawn, and puzzles as well many a user of it to know how such opposite results are brought about. The Messrs. Corry are also large makers of zinc plant and tree labels, worm and wasp destroying compounds, mildew composition, a special preparation for killing mealy-bug, a ditto for ants, and a floral cement for fixing petals without injuring the flowers, an invaluable preparation to all who send cut flowers to market, or who have to make them up into wreaths or bouquets.

The firm has long worked at a disadvantage for the want of elbow room, if we may be pardoned a homely expression, in their old warehouse, and have lately been so fortunate as to secure increased accommodation in a substantial and convenient building opposite. Here are now the show rooms of the firm, in which are displayed samples of the articles kept in bulk over the way, and which will be of the greatest convenience to buyers as well as to the sellers. We cannot pretend to enumerate a tithe of the things here to be seen, but may note *en passant* that wreaths of dried and artificial flowers, bouquets of dried flowers, and bouquet papers are a conspicuous feature. Then follow various forms of boxes for packing flowers in, ornamental pottery for growing plants in, ornamental vases for placing them in in rooms, Hyacinth glasses of various degrees of quality, propagating glasses, baskets, sticks, mats, labels, tools, cutlery, gloves, aprons, syringes, thermometers, netting, canes, Mushroom spawn, pot washers, water pots, shadings, window boxes, and a whole host of contrivances patented and otherwise for doing all sorts of things from pruning trees to trapping slugs, almost everything in fact but manual labour. The place is indeed a veritable horticultural museum, and we thank the Messrs. Corry for allowing us to inspect it, and thus acquire information on a variety of subjects that we knew nothing of before.

THE COCOA-NUT IN FLORIDA.

(Concluded from page 679.)

On paper, the prospective profits could be figured easily enough. The Cocoa-nut-tree comes into bearing at from five to eight years of age. When it has reached full maturity it will produce from 300 to 400 nuts per annum. Some authorities place the average at one nut per day, for each day of the year. Thus the annual crop of nuts from this grove would amount to the extraordinary number of 120,450,000; or, on the basis of 108 trees to the acre, as planted, each acre would yield 39,420 nuts.

In the great markets of New York, Baltimore, and Liverpool, prices have usually ranged from $3 to $6 per hundred, never going as low as $2. From this grove, they could be placed in either of these markets at an expense of not more than one cent each. Figure the profit upon the whole for yourself. It might range anywhere from $1,250,000 to $2,500,000, or more, per annum. "There's millions in it!" Yet, notwithstanding these glittering possibilities, it is by no means certain that a single nut will ever find its way, intact, to the great markets of the world. There are few trees which will yield such a diversity of useful products as this, and this enterprise is being conducted on a scale that suggests that these products will be made available in every manner which science and commerce can propose. As yet, no effort has been made to gather or dispose of the nuts which have already been produced, although many of the trees first planted have fruited somewhat for a year or two. But as this product is scattering, and small as compared with the expectations from the entire grove, and as the plantation is remote, nothing will be attempted until there are sufficient nuts to warrant working on a very large scale. Cocoa-nut-growers at Palm Beach, Hypoluxo, and other points about Lake Worth, are finding thus far a ready market for the entire production of their groves, which are usually of small extent (the outcome of the wreck of the Providential) by selling the nuts for planting, at four cents each. A sound nut will produce one, two, and infrequently three sprouts, the latter number being one for each eye, and these sprouts sell readily at fifteen cents each when well started. This affords a good profit in a small way, but how long this source will be available is an open question. Just now there is a rage for planting, both for commercial and decorative purposes; but whether the demand for the former of these uses will be maintained, probably depends much upon the success of Mr. Osborne's experiment.

The possibilities that lie within range of that are many, and can hardly be exaggerated. To gain an idea of these, we have but to look at the Palm tree in its relation to the daily and common needs of the Singhalese villager. It supplies easily the most of his physical needs. It may be said that his needs are few, but likewise is his knowledge limited as to how these wants may be best supplied. If our wants are greater, so is the genius with which we invent the means of supplying them; and with our greater knowledge we should find uses for the Palm and its products of which the Singhalese *ryot* never dreamed. Yet with him it is food and drink, the meat and the milk of the nut supplying both. It furnishes a cup that cheers and inebriates as well, a liquor called "arrack" being fermented from the sap. The nutshells give him a cup from which to drink it, while the plaited leaves serve as plates and dishes from which to eat, as well as for thatch for his humble cottage. From the fibrous casing of the fruit he weaves ropes, nets and matting. The dried flower stalks are used as torches; the large leaf-stalks line his garden fence. The timber of the tree is used for every purpose for which wood is required, and the trunk when hollowed out serves either for a canoe or a coffin.

Besides these personal uses, the oil of the nut furnishes a chief article of commerce, the shipments from Colombo and Galle amounting to something like 1,000,000 gallons per annum, albeit the native method of extraction is of the most primitive sort. The oil is obtained from the dried kernel of the nut, the native means being a rude mill or *checkoo*, consisting simply of a heavy wooden mortar in which a clumsy pestle of hard wood is made to revolve by a pair of oxen at the end of a long pole secured to the upper end of the pestle. At Colombo, European merchants have latterly engaged in the business, and by the use of steam-power are producing large quantities of oil of a very fine quality. The manufacture of foot-mats is now also carried on upon an extensive scale by the employment of modern machinery, the fibre of the husk being used. This fibre is called *coir*, and from it a rope is woven that is admirably adapted for use in salt water, and many of the trading-vessels of the country employ no other cordage than this.

We now come to the last and best-known use to which any product of the tree is put—the preparation, from the kernel of the nut, of that culinary article known as dessicated Cocoa-nut. It is not many years since this first became an article of commerce and of general use; but it may already be found in every quarter of the civilized globe. Although I have left its mention to the last, this will probably be the first method of utilizing any of the products of the plantation.

During the past year a factory has been erected at Miami, having such capacity and so constructed that it may be readily adapted to any of the above uses that come within the range of possibly commercially successful enterprises; doubtless the near future will now see the complete fruition of an enterprise that has added one more, and that a most unique one, to our great American industries.—*J. K. Reeve, in American Gardening.*

NEW & RARE PLANTS.

At the last meeting of the Royal Horticultural Society, on the 21st June, the undermentioned plants, flowers, and fruit were exhibited and accorded awards according to merit.

Cornus Kousa.—There are amongst the species of Cornus several very distinct types of inflorescence, one of which is represented by the corymbose cyme of C. sanguinea, a British plant. Another is met with in C. florida and C. mas, with a dense capitate inflorescence surrounded by four more or less coloured bracts of large size, resembling a single flower, whereas there is a dense cluster of small flowers. The plant under notice may be compared to C. florida in its shrubby habit and large bracts, which are ovate and pure white, whereas those of C. florida are roundish or obcordate. The inflorescence of C. Kousa terminates the axis, and has a pair of ovate leaves beneath it; from the axils of the latter two short branches arise and terminate in a pair of leaves each. In this respect the growth is peculiar. First-class Certificate.

Tritoma caulescens.—The botanically accepted name of the plants known in gardens as Tritoma, is Kniphofia. The species under notice is by no means common, although originally introduced in 1862. The whole plant is very robust, with deeply glaucous leaves that have a bold and telling effect. The inflorescence is short, stout, conical, and of a deep salmon-red changing almost to white after a time, with exception of the pale yellow filaments and deep yellow anthers. The effect is very handsome when about half of the flowers are expanded, showing the two distinct colours. First-class Certificate. Both this and the last-named were exhibited by Messrs, J. Veitch & Sons, Chelsea.

Calla Pentlandi.—In this we have a second yellow Calla, similar to but different from Calla or Richardia Elliottiana. The leaves are large, sagittate and green on both surfaces, like those of R. africana; and the stems are about 2½ ft. high. The spathe is about as large as that of the last-named, but bright yellow, without the shading of green characteristic of R. Elliottiana. The interior of Calla Pentlandi is marked with black blotches at the base. The plant was introduced from the Cape. A First-class Certificate was awarded it when shown by R. Whyte, Esq., Pentland House, Lee, Kent.

Crinum brachynema.—The specific name of this plant refers to the very short stamens as compared with those of other species. The flowers are of medium size with oblanceolate, imbricate, pure white segments. The effect is handsome when the plant is well grown, for each umbel bears from twelve to twenty flowers that seem more durable than those of some other species on account of their compact form. A First-class Certificate was awarded it when some umbels of cut flowers were shown by Mr. J. Smith, Mentmore, Leighton Buzzard.

Pæony Madame Breon.—The flowers of this variety are large, flesh-coloured and fully double, although the broad petals are somewhat loosely arranged. They are somewhat fragrant. Award of Merit.

Pæony Snowball.—As the name would indicate the flowers are pure white, and double. The outer petals are slightly longer than the inner ones, which are mixed with small petals. Award of Merit. Both were shown by Messrs. Barr & Son, Covent Garden.

Pæony Grizzel Muir.—The inner petals of this double white variety are crumpled and shorter than the broad guards. Award of Merit.

Pæony Lottie Collins.—The flowers of this are of good form, large, fully double, and deep red or purple, reminding us of a variety of the earlier flowering P. officinalis. It is a choice and distinct sort. Award of Merit. This and the last-named were shown by Messrs. Kelway & Son, Langport.

Sweet Briar Alice Bridgeworth.—The petals of this single-flowered Briar are obcordate and of a deep rose colour with darker veins, and white at the base. The foliage has the true Sweet Briar fragrance. Award of Merit.

Sweet Briar Lucy Bertram.—In this case the flowers are also single and deep red fading to rose or nearly white at the base. Both are varieties of the common Sweet Briar which Lord Penzance, Eashing Park, Godalming, has taken so much care to improve; and they were selected from a large number of varieties and accorded Awards of Merit.

Rose Gustave Regis.—This is described as a hybrid Tea Rose, and is very beautiful in bud. The outer petals are shaded with buff-yellow externally and are paler internally, while the centre is tinted with salmon.

Pæony Mdlle. Rosseau.—The flowers of this variety are double blush fading to white, and the central petals are rather darker and some of them edged with red.

Pæony Felix Crousse.—The guards of this sort are somewhat cupped, slightly compressing the inner crumpled petals, and all are of a deep rose or purple hue.

Pæony Madame Loise.—The blooms here vary from a medium to a large size, and are of a soft rose with sometimes a few small white petals in the axils of the others.

Pæony Van Dyck.—Flowers large lilac-purple with satiny edges to the petals. The guards are broad, and small pale petals occur in the axils of the inner ones. All of the above four Pæonies and the Tea Rose were exhibited by Messrs. Paul & Son, Cheshunt, and received Awards of Merit.

Carnation George Fry.—The flowers of this border variety are of large size, perfectly double and of a brilliant red or scarlet, slightly toothed at the edges of the broad petals. The stems grow 2 ft. high. Award of Merit. It was shown by Messrs. J. Laing & Sons, Forest Hill.

Carnation Mrs. A. Hemsley.—This is classed as a tree variety, and has flowers similar to those of the Old Clove in size and form, but are of a lighter and brighter crimson with the same powerful and delicious odour. The leaves are narrow and glaucous. An Award of Merit was accorded it when shown by Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton.

Pelargonium Ryecroft Surprise.—Ivy-leaved Pelargoniums have undergone great improvement within recent years, and the subject of this note is certainly an acquisition. The 5-6-lobed leaves are uniformly green. The flowers are of great size, soft rose, tinted with salmon when young, but soon fading to rose, with a small crimson spot on some of the upper petals. Altogether the plant is dwarf and very floriferous. An Award of Merit was accorded when a group of it was shown by Mr. H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham.

Caladium Marguerite Gelinier.—Altogether this is a dwarf-habited and neat-growing little plant, with small sagittate soft pink leaves and rosy nerves. At some stages of growth they have a broad, pale green margin, but that disappears or merges into pink. Award of Merit.

Caladium Madame Edouard Pynaert.—The leaves of this variety are much larger than in the last case, sagittate, and of a deep red fading to bronzy-pink with red veins. The plant is, however, evidently dwarf. Both Caladiums were shown by Mr. C. F. Bause, Morland Nursery, South Norwood.

Pelargonium Rosy Gem.—The two upper petals of this regal or decorative variety are heavily shaded with salmon on a rose-coloured ground, and have feathered crimson lines on the lower part; the other three petals are rose with salmon-coloured veins. Award of Merit.

Pelargonium Souvenir.—The two upper petals of this show variety are purple with a large crimson blotch; while the three lower ones are rosy-purple with a white base. Award of Merit.

Pelargonium Fireball.—This again may be classed amongst the show varieties, as it has large flowers and smooth petals; the upper two of the latter are furnished with a large crimson blotch; the three lower ones are of a brilliant scarlet and white, and rose at the base. All the three Pelargoniums were exhibited by Mr. C. Turner, Slough, and received Awards of Merit.

Fruit.

Strawberry Laxton's Royal Sovereign.—The fruit of this new variety is of medium size, and conical or slightly compressed upwards in the case of large fruits. The skin is of a deep red, darker than that of President, to which it may be compared for size and form. Altogether it is a fine looking fruit of medium size, and more suitable for the dessert table than some of the large and coarse-growing kinds. A First-class Certificate was awarded it when shown by Mr. T. Laxton, Bedford.

FLORICULTURE.

Fancy Pansies.

AMONGST the bedding Violas and fancy and show Pansies something should be found to please all tastes in the way of form, habit, and colouring. We have just been favoured with a box of fancy Pansies of great size and variety in colouring from Mr. John Forbes, Buccleuch Nurseries, Hawick. Measuring from 2¼ in. to 2¾ in. across the long way of the flower, there is nothing to be complained of in the way of size; in fact they were such as to make the would be grower's mouth water, in the drier and warmer climate of London.

They might be classified into yellow, white, and purple grounds, although the blotches in a large number of cases were so large as nearly to cover the whole surface of the flower; the blotches were moreover very intense in colour, varying in the yellow grounds from maroon brown to black. One of the finest in this class was a seedling named Mrs. Street having broad purple edges to the upper petals. Blue or purple edges to the upper petals prevailed in Robert Jamieson, Wm. Dean, Mrs. Freeland, and Maggie A. Scott. Mrs. J. Bolton had maroon brown blotches on a bright yellow ground, and we considered the variety rather choice. The upper petals of Mrs. J. Downie were feathered on the middle, rather spoiling a neat little flower. The margins of all the petals were more or less banded with red in Wm. Shaw, Eva Jones, Evelyn Bruce, and H. P. Gordon, but particularly in the latter, which we looked upon as a striking flower. The ground colour of some of them were of a creamy yellow, showing a transition to the yellow grounds, while the blotches were dark violet varying to a blackish violet. The best in this group were James Campbell, Rev. Jas. Robertson, and John Crabb, but particularly the first-named.

The blotches on those with a white ground were, like the last, mostly of an intense violet, some of them almost black. Maggie Forbes, My Lady, and D. C. C. Laing were noticeable from their great size, the first-named being nearly circular A beautiful flower was James Miller, with the upper petals of a rich blue-purple. Smaller and neatly formed, pretty varieties were Mrs. J. E. Ellis, Seedling No. 13, Thos. McCrorrie, and James Drummond, the latter being of a rich violet with narrow white edges to all of the petals, and a bronzy orange flush radiating from the eye.

There were only three varieties having a purple ground colour, but all of them we looked upon as very choice in their way. Seedling No. 24 evidently meant to be a yellow ground, but the yellow was almost obscured by the broad purple margin, more or less shaded with a fiery orange on the lower three petals, but especially the lip. A neat and choice flower was Lord Rosebery, with large violet blotches and purple border and wholly purple on the back, as was Mrs. Browell, a larger flower. Many of them were possessed of a delicate but distinct and agreeable fragrance.

Properties of the Pink.

JUST now, when the laced florists' Pink is attracting much more attention than in years past, and when the institution of Pink shows is leading to an extended culture of this fragrant flower, it is well to lay down the properties by which quality in the flower is determined. I shall be gratified if by doing so I may induce other growers, north and south, to set down their views. As to size, and here we have a point much discussed years ago, the northern florists being contented with twelve or fifteen petals. proved they were well laced, and the flower finely shaped. In the south a greater size found favour, something like thirty petals being required to form an exhibition bloom; but flowers of this size and containing so large a number of petals the northern florists derisively termed "mops." In our day larger flowers are shown in the south than in the north; possibly climatic differences affect size, and so the difference remains to this day.

Leaving then the question of size, I go on to consider other points, such as the petals being "rose-leaved," that is to say of a fine rounded shape, and perfectly smooth on the edge, anything in the way of fimbrication or saw-edged being considered a defect; the petals also to be of good substance, and the ground colour perfectly pure. I may further say in reference to the shape of the petal that it should be nearly circular, excepting at the point where it is inserted in the calyx, the petals to lie flat; thus absolute regularity and symmetry of the arrangement of the petals depending to some extent upon the art of the dresser.

Another point of importance is, or rather was at one time considered of much more importance in the north than at the present time, that the colour in the centre of the flower, which is an abiding characteristic in a laced Pink, should be of the same colour as the lacing, though it appears to be somewhat difficult of attainment, and the lacing laid on regularly and of uniform depth of colour round the petal edges, showing only the narrowest margin of white; the pod not to burst, holding the petals well together.

There may be varying shades of red or purple, as in some cases the colour is dark and in others light. A deep purple, or a good deep bright red is preferred, but some purple flowers are quite pale in tint, and yet finely and regularly laced. What does Mr. James Thurston say to the foregoing?—*R. D.*

Carnations at the Stanley Road, Oxford.

BEING at the Commemoration Flower Show at Oxford during the third week of June, I took advantage of my presence in the city to pay a visit to the high priest of the Carnation and Picotee in the Temple of Flora—Mr. E. S. Dodwell. As he is able to look back upon sixty years' connection with the Carnation, he may truly be regarded as *primus* among growers and lovers of this popular flower. Year by year, as attesting to the strain put upon his collection, the Carnation garden in the Stanley Road enlarges its borders; other flowers and vegetables have to give place to movable frames and beds of seedlings, consequent upon the ever-increasing prosperity of the Oxford Union.

After a look round, and while sitting in Mr. Dodwell's room, I put a few questions to him by way of eliciting some information of interest to Carnation growers. Asked as to the present appearance of the plants, he said he had every reason to regard it as very promising, if only there is a warm month before July 30, present appearances pointing to a good bloom, and good grass for layering. On the other hand should the summer prove wet and stormy as last year, there is a probability of a greater loss of plants than in 1891, as the spring of the present year was very trying to healthy development. There must be a thoroughly ripened growth before a plant can yield healthy produce.

In reply to a question as to the expediency or otherwise of endeavouring to secure progeny by placing the plants under glass, Mr. Dodwell pronounced strongly against the practice, and said the inevitable result must be a weakening of stamina. Asked as to the average increase of a plant in a year, Mr. Dodwell stated the normal increase is five; but of late years, the seasons having been more or less hostile, three only.

As to coming new varieties he stated that from seed sown in 1889-90, there were some additions of great promise, he thought much better than anything previously raised; but as, owing to the incidence of the season, the stock was limited, the varieties will have to be grown another year. No new variety is propagated for sending out which as a seedling was not wintered in the open ground as a thorough test of hardihood; in the spring the plants are lifted and placed in pots for the convenience of layering, and in order that the grass may be perfectly hardened. Asked as to the number of pots of Carnations in the garden, he said there were 3,900 in all, containing about 8,000 plants; in some 700 of these pots there were three and four plants.

In raised beds under low walls and in such beds in the open could be seen a large number of small seedlings raised from seeds sown in the spring, pricked out from the frame in which the seeds were raised, and which will be put out in the open ground shortly. 1889 was one of the best seed years for some time past; but in 1888, 90, and 91 the yield of seed has averaged five and six per cent. only of well developed grains. The seed-pods are kept unbroken until the end of November or early in December until they have thoroughly ripened; then they are broken, the seeds extracted and cleaned ready for sowing. In a good season 100 seeds which would contain a few more will produce from 105 to 110 plants; the average for the last few years has been 40 to 46.

Asked as to whether all ripened seeds were uniformly black, and if those of a brown or creamy colour are equally active in germinating, Mr. Dodwell said that seed from purple-flaked Carnations are almost invariably of a chocolate colour, though it does not necessarily follow that they would produce purple flaked varieties. Clara Penson and Simonites Mary, two light purple-edged Picotees, almost invariably produce white seeds. It is a mistake, therefore, to suppose brown and light coloured seeds will not germinate. In a good season, the ovary of a Carnation will yield from 60 to 100 seeds; each embryo occupies a separate seed; every seed grain is an individual, having a distinct character, though the habit of growth may be much the same. No variety can be depended upon to reproduce itself, and not unfrequently rose-flaked Carnations will come from scarlet bizarre Admiral Curzon.

The seeds are sown in a bed made up on one of cocoa-fibre, refuse, or leaves; a wooden frame is placed upon a bed surfaced with fine soil; drills are drawn, and the seeds sown thinly; a glazed light is placed upon the frame. As soon as the plants are large enough they are pricked out in the open in beds above referred to. This season it was done on the 8th, 9th, and 10th of this month. From these beds they are transferred to the open ground, but many hundreds are sent direct from these beds to subscribers to the union, who prefer to have them to named varieties.—*R. D.*

SHOW AND FANCY PELARGONIUMS.

POPULAR as these are, and so easily and cheaply obtained from almost any florist, yet they are not so freely cultivated as one might reasonably expect. How very seldom we see them doing well in an amateur's greenhouse, and yet they might be grown much more successfully with even less attention than many other subjects receive; and if so cultivated there cannot possibly be a more showy or pleasing occupant for the amateur's greenhouse or conservatory. I am induced to treat upon this subject at the present time because now is the best time for propagation; therefore it is not so unseasonable as at first sight might appear.

They should always be grown fully exposed to the light, and in case a low span-roofed house cannot be afforded them it is well to cultivate upon a shelf, as you can thus get them closer to the glass and will secure shorter-jointed and more compact growth. When grown crowded amongst other subjects, and far from the glass, they are seldom satisfactory, being much more liable to fly, and producing weak and long-jointed growths of unsightly appearance, which are incapable of producing flowers of such superior quality and freedom as plants grown upon the lines I will recommend.

It is the general practice in many gardens to propagate these Pelargoniums as soon as they have finished flowering, using the old or partially ripened wood for this purpose. I do not uphold this plan, greatly preferring to strike my plants earlier than this, and from any of the side growths that can be spared from the plants while in a growing condition. Several of these may generally be obtained from the plants during June, and even earlier. At this time of the year these will strike just as freely as the Zonal Pelargoniums, and will grow on and make stronger and much better constitutioned plants than autumn struck subjects.

A gentle bottom heat will cause the cuttings to root freely; and a compost of two-thirds turfy loam, the remainder being made up of well-decayed manure (such as the remains of an early Cucumber or Melon bed), and coarse sand, will suit them admirably. A little leaf-soil may be added in place of the manure while the striking process is going on, and rather more sand may be used then than later on when the plants are in full growth. With this exception I do not alter my compost at any time, and have no reason to complain of the results. As soon as they are rooted, and have been potted on singly into the above compost, they should be placed upon a shelf as close to the glass as possible, and in a moderately warm greenhouse temperature. Do not grow them in a dry atmosphere, nor be afraid to use the syringe gently at least once a day, and at the same time afford them regular and careful attention as regards root watering.

The best time to shift them on into larger-sized pots is when their present ones are almost filled with roots. I prefer to give them a double shift, and use the same compost as before. When from 4 in. to 6 in. high, they should be stopped, and the same treatment afforded to all side growths as soon as they attain a similar length. Any bloom trusses that may appear should be picked out at once; the object being to get a thoroughly good basis for flowering next spring. Plants that were struck earlier than this date, and have grown well, will require a second shift towards the end of the summer. Those struck now will not need it; it being much best to secure pots well filled with roots before placing the plants in their winter quarters, when they should occupy a cool, airy, and light house.

Do not encourage growth during winter, and keep the plants fairly dry without causing them to shrivel in any way. Early in February when the days are well turned and the sun is fast gaining power, they may receive their final potting, and be placed in a temperature of 50° to 60°. About the middle of March the shoots should be stopped for the last time previous to flowering, and weak liquid manure applied as soon as the roots are well established in the new soil. Still keep them close to the glass, and give them an occasional sprinkle overhead during the early part of the day. Some growers do not advise this, being afraid of the water accumulating in the depressed portion of the foliage and causing it to damp off. I do not think there is much fear of this, if syringed upon the mornings of bright days, and am certain it helps the plants considerably. Do not crowd them, and afford free ventilation whenever the outside air is at all suitable.

It is during March and April that the green-fly is so troublesome to the Pelargonium, and this must be kept down from the very first appearance of these little pests. If allowed to infest the plants, their deposit (or "honey-dew" as it is sometimes styled) will cause dust and dirt to stick to the foliage; this is covered with minute hairs, and it is almost impossible to clean the leaves when they have once been allowed to get dirty. Fumigation with tobacco smoke is the best means of ridding the plants of green-fly, and if this be done in time and upon two consecutive evenings, it is generally effectual in clearing them off. Be certain to have your plants clean before they come into flower, as to fumigate at that time is disastrous, all of the blooms falling off wholesale. Pelargoniums will last much longer in flower if kept in as cool a house as possible after their first blossoms expand.

When the plants have finished flowering, stand them out of doors in some open and sunny position, keeping them rather dry at the roots and so assisting the ripening process previous to pruning them back. This should be done about a month after they have been placed out of doors. Sprinkle them overhead occasionally after pruning and give them a fair supply of water at the roots after the first week. When the growth is fairly started again, turn them out of their pots, shake away as much of the soil as possible, prune back any coarse straggly roots, and re-pot into small sized pots, using the same kind of compost as before. Encourage growth, pinch back the young shoots, and endeavour to obtain pots well filled with roots, so that they may be removed to their winter quarters and treated the same as before. Some of the fancy varieties do not possess a strong constitution, and this may be remedied by grafting them on to some of the stronger growing large flowered kinds. The present is also an excellent time for this operation, and almost any style of grafting will be suitable. Unfortunately it is the very best varieties of the fancies that are so tender in constitution and are liable to droop off during the dull winter months. Whip, or side grafting, is the method I adopt for these tender and most beautiful kinds. Keep them close for a time after grafting, and shaded from direct sunshine. The earlier cuttings are struck, and the forwarder they are got before winter, the sooner will they flower during the following spring; indeed, with a little care in working them along in successional batches, they may be had in flower from February until the end of the present month. The quantity of sterling varieties is so immense that I must refrain from giving a list, merely remarking that there can be no excuse for not possessing a few good kinds of these handsome flowering greenhouse plants.—*Experience.*

TRADESCANTIA REGINÆ.

TRADESCANTIA REGINÆ

WE are now in a position to give an illustration of this beautiful new Tradescantia, which made its first appearance in England at the Temple Show on the 25th and 26th of May last. The exhibitors were Messrs. Linden, Leopold Park, Brussels, who showed a fine plant consisting of about fourteen shoots or branches. The leaves are lanceolate, arranged in two ranks upon the stiffish ascending or arching branches, and vary from 6 in. and upwards in length. The central portion of each leaf is of a dark olive green, more or less marked with grey spots and lines, but while quite young this portion is shaded with purple and rose; on each side of this is a broad, irregular, silvery-grey band, on the outside of which and along the margin is another olive-green band variously marked and striated transversely with grey. The native home of the plant is in Central Peru, from whence it was introduced in 1890 by Messrs. Linden. It thrives well under stove treatment, but whether it will succeed in a greenhouse remains to be proved, but the probabilities are against it. The habit of the plant is, however, very neat, quite different from that of the common and well-known trailing species, so that it is well adapted for pot culture, and will probably at no distant date become popular in this country. The specific name refers to the Queen of the Belgians, after whom it is named. While walking through the houses in which it was grown she expressed her admiration of the plant, and it was afterwards named T. Reginæ in compliment to her.

NIEREMBERGIA FRUTESCENS.

THE typical form of this plant has pale blue flowers fading to white towards the margins, but a pale variety may be seen in the nursery of Messrs. J. Laing & Sons, Forest Hill, having large white flowers with violet rays at the base. The stems are generally about 18 in. high, densely clothed with narrow, flax-like leaves, and much branched, bearing numerous flowers which are larger than those of N. gracilis, to which the plant may be compared. It is hardier than the former, however, as it may be kept in a cold frame all the winter, and some say that it is quite hardy. Several other plants coming from Chili, the native home of N. frutescens, prove hardy in this country, so that there seems no reason to doubt that the latter may be turned to good account in sheltered situations and well-drained soil. The quantity of flowers it produces and their size combine to make the plant worthy of the cultivator's care.

CULTURE *v.* NATURE.*

(*Concluded from p. 678.*)

CHEMISTRY has helped us much as to the due knowledge of, and the true economy of, nitrogenous plant-foods or manures; but there is yet much to be done in the profitable application of chemical principles. Especially should the cultivator take note of the modern observations as to the storage or fixation of atmospheric nitrogen by bacteria that inhabit the root-nodules of many leguminose plants, such as Peas, Lupins, Clover, &c., for we may some day grow our own nitrogen far cheaper than we can buy it from Col. North, or the vendor of manures.

The chemist tells us that his manures are better than farmyard manure, of which 80 per cent. consists of water, but he neglects to note the physical action of fresh farmyard manure on the soil, and the real truth here, as often elsewhere, no doubt lies between the two extremes, farmyard manure being the best bulky basis to be enriched with pure chemical manures for special crops. Thus for Grape-vines, or Potatos, or leguminose plants, the dominant fertilizer added should be potash; for Wheat, Beet, &c., nitrates are best, and super-phosphates for Turnips and most of the Cabbage family.

The manures especially to be used for any one crop depend in a great measure on the chemical elements in the soil on which it is grown. This is readily known by a fair analysis, our object being to supply the nitrates, or super-phosphates, or lime, or potash salts lacking, or not, in sufficient quantities in the natural soil.

The chemist can tell us the food elements that gain access to the plant, and after the crop is harvested his resultant analysis shows what has been stored up or developed; but that which actually takes place inside the living plants — the vital chemistry, I may call it — is for the most part a mystery still. Hence, one of the mysteries of Nature is this, and it is one no chemist has as yet explained, viz., why and how the vegetable products of the earth vary so enormously in character. From the same earth and the same atmospheric elements, and the same water, we obtain the most delicious of food or flavouring stuffs, the most potent of medicines, or the most fatal of poisons, and the magical laboratories are the living plants themselves, Peach or Pear, grass or Grape-vine, Atropa or Aconite, or Digitalis, Eucalyptus or Cinchona, as the case may be.

In a word, land culture, or rather, plant culture, actually creates wealth, whereas all other industries merely modify and make it more conveniently useful to our requirements. England is not quite sure of her practical monopoly in coal and iron, but she is sure of her soil, the plant wealth or produce of which may be almost indefinitely increased for all time.

Plants are really self-acting chemical laboratories, and may be economically considered as producing machines. The plant produces food and clothing for us unceasingly, and all we have to do is to start it going, and it works while we are sleeping.

VARIABLE POWERS OF PLANTS.

One of the most remarkable of all physiological facts observable in a garden is, the variable powers possessed by different plants in the absorption and assimilation of nitrogenous manures. This power varies immensely in different individuals of the same species. Thus, if you sow all the grains in the same ear of Wheat, or all the Peas out of the same pod, it by no means follows that their behaviour in this respect is identical or even nearly the same. The old simile, "as like as two Peas in a pod," is not true. For some reason, at present not explainable, one or more of the Wheat grains, or of the Peas, will be more or less luxuriant than its neighbours, it will grow faster, and it will prove more fertile, and as a rule this is owing to its enhanced powers of feeding and assimilation, that is to say, in some occult manner it makes a better use of its environment than its relations, and so becomes what the gardener calls a better variety both as a grower and producer. It is the observation of this variability that has led to "selection" as one of the most potent phases of improvement by cultivation.

We have all heard the story of the gardener who inquired of the philosopher "why the weeds grew more rampant in his garden than the flowers." "You see," said the wise man, "Nature is mother to the weeds, but she is only stepmother to the flowers." Even this view is not ever and always right, because we know now (as Herbert told us long ago) that certain species of plants are not always happiest, i.e., most luxuriant and re-productive in their native habitats For example, we can take the Scotch Thistle or the English Sweet Briar, both great nuisances to the Australian settlers; or the south European Cardoon, which has completely overrun some of the great Pampas or plains of South America, to the exclusion of their native vegetation.

Observation proves to us that some plants have a very wide range of climatic adaptability, such as the examples to which we have just alluded; while on the other hand we have plants that rarely do well except in their native places, such as the Durian (Durio zebethinus) and the Mangosteen (Garcinia mangostana). Again we have the Chinese Orchid (Phaius grandifolius) that is naturalised as if wild in Jamaica, and the matted and luxuriant Reed Orchid of Singapore (Bromheadia palustris), or the lovely Lycopodium cernuum that practically defies cultivation.

PHYSICAL STRUCTURE OF PLANTS.

Gardening is essentially an art of trying experiments, and this is so in part because our physical knowledge of plants is so poor. In a word, we have not yet learned that the laws of a plant's physical structure, formed as they are by climate, &c., must necessarily govern, to a great extent, its cultural requirements. Broadly speaking, gardeners know that a thickened epidermis (as in Cacti and succulent plants generally) means that they thrive in a dry atmosphere, and in sunshine rather than in shade. The same is true of plants with thick woolly, or hairy or powdered foliage. On the other hand, Ferns of a thin translucent texture, or delicate-leaved plants with a thin epiderm full of stomata, require a moisture-laden atmosphere, and more or less shade; but there are thousands of cases where we can *à priori* know nothing of a plant's powers of resisting heat or cold, sun or shade, moisture or draught, except by actual experiment. You may collect two plants from a mountain-side, 10,000 feet or so in altitude, near the equator, and one will be perfectly hardy in northern Europe, and the other will die at the first touch of frost. Why this is we do not fully know; but we may at least keep the question in our minds, and hope some day to solve the problem.

I have said, that *à priori* we can never be perfectly certain of the temperatures or soils most suitable for any one plant unless we are carefully told how it exists in a state of Nature. Even when this information is given, it by no means follows that our imitation of native conditions will prove to be best suited to the plant. As we have said, native conditions are not invariably those best for some plants, inasmuch as they have thriven and increased better when introduced elsewhere. A good gardener is in an analogous position to a good physician, and will prescribe for a plant quite as reasonably as does the physician for a patient totally unknown to him.

It was until quite recently thought that unless a substance was in a soluble state, i.e., soluble in water in the soil, it could not be utilised by the plant. This view is now modified, since it has been found that roots themselves, and especially their growing points, secrete or rather exude an acid ferment that renders soluble or permeable many substances not actually soluble or dissolvable in water alone. In this way I have seen the underground stolons of "Couch-grass" (Triticum repens) bore straight through Potatos and other fleshy tubers or stems; and only the other day saw a shoot of Tropæolum polyphyllum that had come up through a brick that had happened to be in its way. In a word, the old story that roots follow the line of least resistance is not always, even if often, true.

I am far from feeling that I have exhausted this great subject, rather do I feel that I have merely touched the hem or fringe of the question in a tentative kind of way. "Culture *versus* Nature" is really a question to be solved by each one of us in our own gardens, and I sincerely hope that these observations may be a help rather than a hindrance to our so doing.—*F. W. Burbidge.*

SUMMARY.

In conclusion it may be well to formulate a few of the observations in this paper, so as to facilitate discussion—that very life-essence of the reading of papers.

1. Cultivation is the most convenient method of enabling us to obtain crops in any particular condition, place, and at the time when most desired.

2. From the human point of view culture improves Nature, even at her best; but from the purely natural point of view, this is not always the case.

3. Culture is often best, easiest, and most profitable in climates similar, even if not actually the same, as those where the plants are naturally found. In any case, suitability of soil and climate (other things, such as cost of land, skilled labour, and manures being equal) are the most essential points in profitable cultivation.

4. Prejudice in plant culture is not to be tolerated. The golden rule is to try experiments in planting under different conditions, and be guided by the evidence of the plants themselves.

5. Human desires are mainly for succulent vegetative growths; large pulpy or sugary fruits or seeds in varying stages, as used for food, and flowers for use or ornament. But Nature's great aim and object on the other hand, is a crop of fertile seeds to perpetuate and strengthen the race.

6. Seeing that in nearly every garden there exist different conditions of soil, climate, shelter, aspect, &c., it naturally follows that we cannot dogmatise on cultural methods. Even in the same garden, methods of culture must necessarily vary just as do the seasons themselves.

7. Successful cultivation is at its best a matter of accurate observation, and careful experiment, followed by logical reasoning powers.

8. Gardening, then, is not altogether an empirical art, although best learned or taught by practice in good gardens, in addition to good reading or lectures and demonstrations, i.e., practice and well-directed study are better than is either alone.

9. Wild plants are improved, humanly speaking, by culture; so, on the other hand, cultivated plants, as a rule, either die out or revert to their type species if neglected or relegated to a wild state.

10. Note the nitrogen fixing or accumulating power of leguminose plants.

11. Chemical analysis is not a certain guide to the vital action inside the living plant.

12. Plants may often be economically regarded as mere producing machines, and selection as an improving factor depends on some seedlings being better able to use up nitrogenous matter quickly than are others from the same parent.

13. Some plants have proved more luxuriant and prolific in other countries than their own, showing that plants in their native habitat are not always, even if often, at their best.

14. *A priori* we may have no evidence of a plant's elasticity, either under climatic variations or cultivation, but reasoning by analogy, and the instincts possessed by the gardener are generally enough to solve the problem.

15. Physical structure and the general appearance of plants alike suggest to experts a course of treatment, just as they would to a physician who had to treat a patient to whom he could not say a word.

16. Roots are now known to have the power of dissolving substances by their acid secretions and exudations that are not dissolvable in water.

17. The main point is, for the cultivator to ascertain the dominant desires, so to speak, of the plants to be grown. Lime-loving plants are often peat-haters, and *vice versâ*. A good analysis of soil will be a broad guide as to the dominant manures or other additions requisite for particular crops. Farmyard manure, strengthened with chemical manures, is generally better than either alone, as we here secure the maximum of mechanical or physical, as well as of chemical stimulus.—*F. W. B.*

* A paper prepared by Mr. F. W. BURBIDGE, Curator, Botanic Garden, Trinity College, Dublin, and read, in his absence, at the meeting of the Horticultural Club, Hotel Windsor, Tuesday, June 7.

SMITH'S SNOW-WHITE CLEMATIS JACKMANNI.

LOOKING over a friend's garden a few days ago, I was much impressed with the sterling good qualities of this grand Clematis. It is a genuine white Jackmanni, with even better-shaped flowers than the type, and the blooms, pure satiny white, have plenty of substance. And what a bloomer it is! Not even Jackmanni itself is more floriferous. Those who have it not should certainly get it if they want a good thing in the Clematis way.—*X.*

THE HERBACEOUS BORDER.

Choice Plants in Flower.

LILIUM CROCEUM.—All the Lilies are choice and beautiful for garden decoration, but that under notice is easily grown, flowers regularly and the flowers are rich in colour. The stems are generally 2½ ft. to 3 ft. high, but under high culture and suitable conditions grow twice that height, terminating in a triangular raceme of erect, widely funnel-shaped flowers of a rich orange or golden yellow, tinted with scarlet, and finely dotted with crimson.

GENTIANA LUTEA.—Some would-be cultivators of this species complain of a difficulty in growing it, but north or south in this country it will grow in any good garden soil whether that has been specially prepared for it or not. Some grow it in a bed of peaty material and also succeed; but the real secret seems to be to get it planted in deeply-tilled well-drained soil, and allow it to get thoroughly established without disturbing it. The fleshy roots then penetrate the soil deeply, and large, smooth, glaucous, many ribbed leaves like a white Hellebore (Veratrum album) are produced, having a handsome effect. The stems grow about 3½ ft. high, producing tier above tier of clear yellow flowers.

MELITTIS MELISSOPHYLLUM. — Old-fashioned border plants are often very showy, and this may be reckoned one of them. The stems are well furnished with large leaves and generally grow about a foot in height, bearing in their axils large white, two-lipped flowers. The middle lobe of the lower lip is purple with a white edge, and the purple extends down into the throat. It is a long lived and easily grown plant.

HEUCHERA MICRANTHA.—The leaves of this Heuchera are 5-7 lobed, concave, and green. The flower stems grow about 12 in. to 16 in. high, bearing a long, graceful panicle of minute creamy white flowers with salmon coloured anthers. Small as the individual flowers are they are very beautiful in the mass, especially when used for mixing with cut flowers. The plant is easily increased by division either in the autumn or spring months.

PAPAVER PILOSUM.—The stems of this Poppy grow about 2 ft. high, and they like the leaves are densely villous or pilose. The flowers may be considered of moderate size for a Poppy, but they are delicate in texture and of a beautiful salmon-orange colour. The plant is perennial, and although a native of some parts of Greece is hardy in various parts of this country, even in the north. It may well be grown by way of contrast to P. orientale.

GERANIUM PRATENSE.—There are few species of Geranium that present a more striking or showy effect when in bloom than this British wilding, which should certainly be included in all good collections of herbaceous plants. The typical wild form has bright blue flowers, but there are varieties in cultivation with pale blue, striped, pure white and also double flowers, all of which are more deserving of cultivation than in the case of several which are grown. The double variety is the latest to come into bloom.

LYCHNIS FLOS-JOVIS.—There are numerous fine things amongst the species of Lychnis which add much to the beauty of the herbaceous border during the months of June and July at least, although several of them can be continued much later. The species under notice grows from 6 in. to 12 in. high according to soil and situation, and has woolly white leaves which serve to show off the beauty of the flowers. The latter are of a beautiful rose with silvery scales at the throat, and are borne in a dense terminal, fascicled cyme.

RODGERSIA PODOPHYLLA.—Both the leaves and the flowers of this fine Japanese subject are highly ornamental. Flowers are produced only when the plant is well established and gets strong. Individually they are small and creamy white, but very graceful in the pyramidally branched panicle. The leaves are orbicular, but divided into five wedge-shaped segments of considerable length, and have a beautiful bronzy tint, especially when young. It likes a situation near water, so that when grown in the ordinary border the soil should be dug out to a depth of two feet and the hole filled with some rich material to encourage vigorous growth.

VERONICA TEUCRIUM.—As seen in gardens this is a variable plant both as to habit and stature, but the flowers are always of a bright blue and produced in great profusion. The plant is easily propagated either by cuttings in sandy soil under a hand light or by division. It is most effective when grown in lines or in broad masses; and seeing that increase is easy there is no difficulty in getting up any quantity of stock.

ERIGERON AURANTIACUM.—The large orange-coloured flower-heads of this Erigeron are produced singly on stems 6 in. or 8 in. high. The leaves are small and tufted; and in fact we are surprised that it has not made more headway in gardens since its introduction. It is easily propagated by division and grows in any fairly good garden soil.

SCIENTIFIC SENTENCES.

IF, to employ the words of the stereotyped advertisement, this should meet the eye of Professor Michael Foster, or failing that then of Mr. F. W. Burbidge, of Dublin, who has quoted an odd sentence from Professor Foster at the head of his paper on "Culture v. Nature," which was found on p. 678 last week, will one or both kindly explain what it is intended to convey in the quotation. I am not a scientist, and in that respect am lacking in the true inspiration of the cult. I am only a poor scribe who has to put what he has to say in plain, simple, unpretentious language, and to whom all strange word phrasing is mystery.

Now the quotation runs, "All knowledge is of use if applied aright; no knowledge is of use if applied awry." This is, at the best, but a somewhat garbled paraphrase of the famous and too often distorted quotation, "A little knowledge is a dangerous thing. Drink deep, or taste not the aperient spring," by which the poet meant to convey the moral that if you would have knowledge then get much rather than little. But Professor Foster says, "All knowledge is of use if applied aright." Just so, and all knowledge is of use howsoever applied; but what he doubtless meant to say was that "All knowledge is of most use when applied aright."

Then comes the strange remark, "No knowledge is of use when applied awry." Here the negative is placed before the noun, with the result that it conveys the information "ignorance is of use when applied awry." Had the sentence been properly written, it would have read, "All knowledge is of use, and should be applied aright; but knowledge is of no use if applied wrongly." In that sense all horticulturists will cordially adopt the moral, the which is—get knowledge, and then use it worthily and profitably.—*A. D.*

FREELANDS, PERTH.

THE magnificent residence of C. L. Wood, Esq., is situated about three miles from Perth on the south side of the river Earn, and is surrounded with noble Beeches of quite colossal proportions. In the planting of the trees considerable forethought had been taken in the arrangement of them, so as to develop and enrich the natural beauty of the situation. When passing through the grounds I could not help thinking how far-seeing some of the planters' gardeners were three or four generations ago, as every tree and shrub had their proper places.

The pleasure grounds and gardens of Freelands have many attractions for the lover of horticulture at all seasons of the year, but at the time of my visit, May 16th, the centre of gravity was to be found in the plant houses. Mr. Sharpe, who conducts the gardening operations here, guided me to them, and I must say that a wonderful treat was in store. The first houses entered were the two cool ones, measuring 20 ft. by 10 ft. each, and in these two houses I counted 450 spikes of Odontoglossum crispum and varieties, and some 800 Masdevallia flowers, etc., making one of the finest displays I had seen for many a day. The East Indian house was gay with Cypripedium Lawrenceanum, C. barbatum, C. Veitchii, C. grande, Vanda suavis, Lælia purpurata, Cattleya Skinnerii, Dendrobium Wardianum, D. Jamesianum, D. infundibulum, D. thyrsiflorum, D. densiflorum, many representatives of each.

The forcing of fruits, flowers, and vegetables is carried on at all seasons of the year, and at the time of my visit Vines, Peaches, and Melons were looking exceedingly well. The whole establishment reflects great credit upon Mr. Sharpe for his able management.—*J. McNab.*

ABOUT MOLES.

TAKING his size into consideration, the mole is the strongest animal we know. Whatever he does, too, he does with all his might. One can see the reason of the comparison "blind as a bat;" but why folks should ever say "blind as a mole" is incomprehensible. Watch him as he runs about in the bright sunshine, after a spell of underground work, and tell me whether you think those eyes of his, small though they are, do not serve him in good stead. And that beautiful coat never shows any dirt upon it, no matter how clayey the soil may be amongst which he works. Considering the good services he renders the farmer, it is hard rather that the "mowdie-warps," as moles are called in some counties—a corruption of the old English name, "moldwarp," a thrower up of earth—should be looked upon as foes, and hunted out so mercilessly. True it is that he spoils the appearance of some of our fine lawns, but then the number of worms and insects that he can dispose of is simply incredible. Out in the fields, in wet pasturelands, having insufficient drainage, he is most useful; that, in fact, is his legitimate domain. The tunnels he makes drains the lands perfectly, and those mounds of fine earth that he throws up make the soil so fertile that the cattle invariably thrive better on such than they will elsewhere. The chief objection, of course, to those unremitting labours is that in mowing lands the hillocks he raises cause the hay-cutting machines to break down when they come in contact with them. But surely even this need not lead to the wholesale destruction in other places of one of the most industrious and useful of our small animals. True, he will destroy and eat the young of the privileged robin redbreast; the nestlings of the willow wren he will not spare either; in fact, no small bird that builds its nest on the ground is safe from our so-called blind mole. He too, however, has his enemies amongst the birds of prey; these will watch for him as he throws up his hillocks of fine earth, and secure him when they can. By the way, sheep thrive especially well on pastures where the moles are busiest. The grass that grows upon the hillocks suits them perfectly. And the small farmer has no better dressing for spreading on his fields than the soil that has been worked by the mole.—*Pall Mall Gazette.*

GARDENING MISCELLANY.

A CALIFORNIAN INSECTICIDE DISTRIBUTOR.

I HEAR there is a light apparatus successfully used in California or the United States for cleansing trees from insects very effectually. It has been described to me as follows: Consisting of a tank holding twenty or thirty gallons, into which is fitted a small double-action force pump to force a solution of caustic soda through hose with sprays or fine jets. The hose coils and uncoils on a reel fixed to the tank, and underneath the tank is a small heater to keep the temperature of the contents at 130° Fahrenheit. Perhaps from this explanation some of your correspondents could give me some further information respecting the machine, and say also where one can be procured.—*J. Compton Merryweather*, 63, *Long Acre, W.C.*

ALYSSUM MONTANUM.

SEVERAL of the species of Alyssum are notable for the profusion of flowers which they produce during the months of May and June, and A. saxatile with its variety compactum is not to be overlooked in this repect. A. montanum is however a dwarfer and altogether neater plant, with lanceolate scaly leaves and golden yellow flowers. Being naturally a mountain plant it is well adapted for culture on rockwork, where a great amount of space is altogether unnecessary. The soil in which it is grown may be a mere chink or crevice amongst the stones or rocks, but the soil in the pocket or crevice should be in direct connection with the main body below, so that the roots may penetrate deeply in quest of moisture, and the latter may rise by capillary attraction so as to be within reach of the roots.

KALMIA ANGUSTIFOLIA.

THE species of Kalmia are easily grown in any good garden soil, and if a little peat is added where the natural soil is of a stiff and tenacious character, or

even light and gravelly, so much the better. The flowers of the species under notice vary in colour in different individuals, but they are generally of a deep reddish purple and produced in great abundance around the top of the previous year's wood The apical bud, however, contains no flowers, but grows into a leafy shoot about the time the corymbs of bloom open. This as well as several other species of Kalmia are useful for planting round the margins of large beds or shrubbery borders. It is a native of Canada, perfectly hardy, and flowers with greater freedom even in the north than K. latifolia.

CAMPANULA G. F. WILSON.

This has all the appearance of being a hybrid between C. pulla and C. turbinata or C. Raineri. The habit of the plant is very dwarf, being only 3 in. to 5 in., and the flower stems are very numerous, terminating in a single bell-shaped bloom intermediate in size and colour between the above-mentioned species. The leaves are small and ovate, or the upper ones are lanceolate; in the early part of the season they assume quite a yellow hue, but become of a uniform green later on. The flowers are bluish-purple, and sufficiently large to render the plant suitable and highly ornamental in good sized clumps upon rockwork.

CAMPANULA RAINERI.

Bellflowers are very numerous at this season of the year, and that under notice is a very choice one in its way owing to its dwarf habit and relatively large flowers. In exposed and relatively dry situations, C. Raineri usually does not exceed 2 in. or 3 in. in height, but in rich, light soil, kept moderately moist, those heights are doubled, an advantage that is seen in the greater number of flowers. When very dwarf each stem produces one flower only, but as it gets tall and strong, several branches are developed, each producing a flower of a deep bluish-purple, similar in shape to those of C. turbinata, but not quite so large. The leaves are ovate and smaller than those of the last-named species. The plant is eminently adapted for rockwork, as are all the dwarf growing species. That under notice is flowering with Messrs. J. Laing & Sons, Forest Hill.

THE ROCK SOAPWORT.

As Saponaria officinalis in the single or double state is useful for the herbaceous border, and S. calabrica for the annual border or even summer flower bedding, so S. ocymoides differs from all of them in being adapted for creeping over the ledges of rockwork. It varies considerably in the colour of its flowers, and there is a variety in the nursery of Messrs. J. Laing & Sons, Forest Hill, grown under the name of S. o. splendidissima, which is notable for the rich dark hue of its flowers. They are larger than the type and of a rich rose-purple. When planted on rockwork the stems trail on the ground and flower from May to August so long as they are making fresh growth.

ACHILLEA SERRATA.

The habit and general appearance of this herbaceous subject remind one of the British A. Ptarmica, but whereas the leaves of the latter are very finely serrate, those of the plant under notice are deeply serrated, in fact almost pinnatifid. The flowers are white and produced in small corymbs terminating the stems and branches. It grows usually about 18 in. high, and is therefore suitable for the second line of the herbaceous border. There is a double form in the nursery of Messrs. J. Laing & Sons, Forest Hill, which would be useful in the cut state in the same way as the double form of A. Ptarmica. The plant is of the easiest culture and increase.

PHACELIA CAMPANULARIA.

The campanulate flowers of this annual present an intense shade of blue seldom met with except in the Gentians, and even there the tint is not exactly the same. Eutoca viscida in the same family, perhaps, approaches it most closely, but the plant under notice is the finer of the two, and ought to be more extensively grown in large clumps, beds, or lines, in prominent places where its peculiar beauty would be seen to best advantage. In many private gardens much use is made of Nemophila insignis for producing an effect along the edges of borders in which various subjects are planted; but the flowers at their best are only of a rich sky blue. In the case of the plant under notice it would be well to thin it out properly in its early stages in order to ensure as long a period of growth as possible, for by so doing the season of display is greatly prolonged. The leaves are roundly heart-shaped, and the petioles and stems are purple.

DIANTHUS AMBIGUUS.

The plant of this name is evidently closely allied to D. cruentus, but has larger flowers of a different shade of colour. They are aggregated in the same way in fascicled cymes, and are of a rose-purple or red. The linear leaves are grass-like and glaucous, and the stems attain a height of 12 in. to 16 in. It seems capable of improvement, by seed-sowing and selection, to get larger flowers. The disc of the petals is furnished with long, scattered, blackish hairs, that are more conspicuous than in many other kinds in cultivation.

CHRYSANTHEMUM MONTANUM.

Several hardy Chrysanthemums are now prized by hardy plant lovers, but that under notice is distinct from the sorts generally grown. In some respects C. montanum approaches C. Leucanthemum, especially in habit, but both the leaves and the flowers are appreciably distinct. The plant grows about 12 in. to 18 in. high, and has white rayed flowers with a hemispherical and very prominent golden yellow disc. The stems are more leafy than those of C. Leucanthemum, the Ox-eye Daisy of our meadows; the lower ones are spathulate, the middle ones oblanceolate, and the uppermost linear, but all are deeply cut or serrate. The stems are somewhat branched, each shoot terminating in a large flower head. The most striking feature of the latter is the elevated character of the disc, and it is for this reason obviously that the French give it the name of *Puy de Dome*. We noted several plants of it in the nursery of Messrs. J. Laing & Sons, Forest Hill.

CAMPANULA GARGANICA AUGUSTA.

It is now pretty well-known amongst growers that C. garganica is a variable plant, and particularly so if raised from seeds. Some have smooth stems and leaves, while others are more or less densely hairy all over, and the flowers vary in size and depth of colour. The variety under notice is flowering amongst the collection of hardy plants at Forest Hill in the nursery of Messrs. J. Laing & Sons. It is of the smooth type, the stems, leaves and calyx being perfectly glabrous and shining. The pedicels of the flowers are purple, while the stems and leaves are more or less tinted with that hue, especially the leaves, which are netted with purple veins. The flowers are similar in form to the type, but of a much darker and richer hue. The variety is easily distinguishable amongst the other species and varieties.

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.

Where no specially-constructed houses exist for the cultivation of these plants, a great deal will depend as to ultimate success in their culture on the making of a proper selection of sorts likely to be at home in the structures at hand. On this point I would advise amateurs to consult one of the leading nurserymen before making haphazard purchases, for I cannot help thinking if this were done more often than it is a lot of unpleasantness between employer and employed would be avoided, and well-grown and well-flowered plants be the result.

East India House.—An abundance of moisture will be required in this house, with the admission of a corresponding amount of air, so that the atmosphere will not feel or seem stuffy when you enter the house. We syringe all our plants overhead now, but not heavily. A fine rose should be used for this operation, or a very fine spray is made by putting the finger over the nozzle of the syringe. It will not be difficult to keep up a night temperature of 70°, with a rise of 10° to 15° by day; air is left on all night by means of the bottom ventilators, which are close to the hot-water pipes.

Cattleya House.—This is just now gay with Cattleya gigas and C. g. Sanderiana, which is freer flowering than the type and carries more flowers to a spike.

Odontoglossum Harryanum is making a good show. We have several ten-flowered spikes, which as far as I have seen is as many as they produce under cultivation. We shall now remove them to their summer quarters, the cool house, where the Miltonia Vexillarium is already quartered. The latter will now be repotted, but before doing so will receive a thorough clean up. Should there be any thrips, which is almost sure to be the case, as they have been left unchecked whilst the plants have been delighting their owner with their gorgeous blossoms, one or two dippings in tobacco water will soon settle them.

Odontoglossum Rossii Majus.—What a little gem this is! quite an amateur's plant. It takes up but little room, whilst the flowers to be got from a 6-in. pan when doing well is surprising. Some three or four years ago it could be seen at the auction rooms in shoals, both in bloom and as imported pieces, but you rarely meet with it now in good condition. Flowered to death, I am afraid, must be the verdict. They last a long time in bloom, and unless the plant is relieved by cutting them off early, it must of necessity suffer, and the growths that follow be small. We treat ours somewhat different to most growers by giving them a rest after they have flowered in a light airy position, and water very sparingly, only enough in fact being given to keep the bulbs plump. They are just now breaking away and rooting freely from the base of the young growths, which is about one inch high, and will be at once repotted. I prefer doing these now to any other time, as they are now in a condition to speedily take advantage of the new material supplied, which should be good peat and fresh sphagnum moss in equal parts.

Temperatures.—Cattleya house, 65° at night, with a rise of 15° to 20° in the daytime with sun heat will do no harm. Cool house, 50° to 55° at night, with a rise of 10° by day.—*C.*

At the meeting of the Royal Horticultural Society on the 21st ult., the Orchids mentioned below were exhibited and accorded the awards recorded in each case.

Cattleya Empress Frederick.

A spike of a beautiful hybrid bearing four flowers under the above name was shown by Baron Schroder (gardener, Mr. H. Ballantine), The Dell, Egham. The seed parent was Cattleya mossiæ crossed with C. Dowiana, and as might be expected something fine is the result. The flowers are of great size, and although the sepals and petals are not very highly coloured, the lip is so. The lamina is of great size and of an intense rich purple, margined with a pale almost white hue. Considering that C. Dowiana was used as the pollen parent we should have expected a greater amount of crimson and gold in the throat; but such as it is, the result is a very handsome and we are assured a unique Cattleya, for there is only one in existence. First-class Certificate.

Lælia purpurata The Dell var.

The varieties of L. purpurata are already pretty numerous, but that under notice appears to be quite distinct from any. The sepals and petals are pale, but the lamina of the lip is of a dark purple, heavily shaded with bronze as if there was a tendency to approach the type of L. grandis. Some cut flowers shown by Baron Schroder were accorded an Award of Merit.

Sobralia Lucasiana.

The stems of this Sobralia are about 2½ ft. high, with broadly lanceolate, accuminate, many-nerved deep green leaves. A noticeable feature of it is the shortness of the various segments of the flower. The sepals are oblong and suddenly narrowed to a cuspidate point, and white or slightly tinted with blush. The petals are much broader, and tinted with lilac, but otherwise similar. The lip is bifid, lilac-purple, yellow on each side of the throat, and marbled with orange in the tube; the tube externally is white slightly tinted with yellow. A First-class Certificate was awarded when shown by C. J. Lucas, Esq. (gardener, Mr. G. Duncan), Warnham Court, Horsham.

Cattleya Amesiæ.

In this we have a large flowered white Cattleya of similar habit, size, and form to the white varieties of C. Mossiæ. The sepals are oblong and white, the petals elliptic, undulate, and crisped at the edge, and similar in hue. The lip also is white with a large, orange, bifid blotch in the throat extending to the base; the lamina shows the faintest tint of blush. Award of Merit.

Cattleya princeps.

THE stems of this Cattleya are terete, angled, and furrowed, resembling those of C. guttata, and terminated by two oblong, leathery, deep green leaves. The sepals are oblong, the lateral ones being strongly falcate, yellowish, heavily shaded, and spotted with crimson-purple, and also shaded with brown. The petals are spathulate, greenish-yellow at the base, and of a clearer purple upwards than the sepals, and yellow at the edge. The three-lobed lip is bent above the base, with ovate, white, lateral lobes; the middle lobe is clawed with an oblate lamina, heavily covered with purple warts on a white or palest lilac ground; the long claw is yellow slightly mottled with purple. Both this and the last named were shown by Messrs. F. Sander & Co., St. Albans, and received Awards of Merit.

Dendrobium Souvenir d'Alec.

THE stems of this Dendrobe vary from 1 ft. to 2 ft. in height, and are terete, slightly thickened at the nodes, bearing oblong-lanceolate leaves, which are deciduous, in two ranks. The medium sized flowers are borne in lateral clusters of one to three, and are pure white. The sepals are oblong, the petals lanceolate, and the lip ovate and revolute, undulated at the edges, and showing the faintest tint of yellow on the disc. An Award of Merit was accorded it when shown by Hamar Bass, Esq. (gardener, Mr. James Hamilton), Byrkley, Burton-on-Trent.

Cattleya Warneri marmorata.

ALTOGETHER this is a dwarf habited plant with rather showy flowers. The linear-oblong sepals are of an intense purple with a white stripe along the lower half of the midrib. The petals are elliptic with a white midrib, and splashed with white towards the sides on an intense purple ground. The lamina of the lip is crisped at the edges, and of a darker hue than the petals; the side lobes and tube are paler and splashed with white. A plant was exhibited by J. T. Gabriel, Esq., 32, Palace Road, Streatham Hill, and received an Award of Merit.

Oncidium Lanceanum.

THE flowers of imported specimens vary considerably with paler and darker hues. The sepals and petals may be described as of a rich brown reticulated with yellow, because the brown spots or blotches are so numerous that they become amalgamated almost into one piece. The lip is also very rich in colour, having the side lobes and all the basal area of a deep purple, while the reniform lamina is of a soft yet rich violet purple. An Award of Merit was accorded a plant shown by E. H. Woodall, Esq. (gardener, Mr. Hughes), St. Nicholas House, Scarborough.

Grammatophyllum Seegerianum.

THE stately and showy character of this Orchid (of which we gave an illustration in our issue for January 2) is now getting pretty well known; and it only remains for Orchid growers generally to make it popular. A single scape will bear from twenty-five to fifty or more flowers, not merely of small size, and as one would expect, but each individual of handsome size. The sepals and petals are heavily marked with large brown blotches on a yellowish ground. The lip is smaller, suffused with sepia brown on the side lobes, and has three lines of a similar hue extending to the apex of the middle lobe and forking towards their apices. An Award of Merit was accorded it when shown by C. J. Lucas, Esq.

Cypripedium Telemachus.

THE seed parent of this hybrid was C. Lawrenceanum, and the pollen parent C. niveum. The leaves are notably broad and short, elliptic, cuspidate, rather heavily netted with dark green on a greenish-yellow ground, and 3 in. to 3½ in. long. The scape is one-flowered and about 18 in. high. The upper sepal is rose with green veins and a white edge. The petals are green at the base, and rose on the upper two-thirds of their length, mottled with black. The lip is pale dull purple and marked with deeper coloured spots. A plant shown by Messrs. J. Veitch & Sons, Chelsea, received an Award of Merit.

Lælia purpurata.

A VERY superior form of this superb Lælia was in bloom recently in the collection formed by A. Gill, Esq., at Fairfield, Aberdeen. The sepals and petals were pure white, and exceptionally wide, and the lip dark purple and of great size and substance. Mr. Grigor, who is the gardener at Fairfield, is proud of it, and well he may be.—*J. McNab.*

WHAT TO DO IN THE GARDEN.

Anthuriums.—As the spathes of A. Scherzerianum and its varieties, as well as A. Rothschildianum, A. ferrierense, A. Andreanum, and others of that class, get shabby they should be cut off and the plants placed in a warmer atmosphere to encourage fresh growth. This as a rule is easy of accomplishment if the plants have during their flowering period been kept in a cool place.

Bougainvillea glabra.—If properly managed two crops of bloom in a season can be obtained from this plant grown in a stove or other warm house. After flowering they may be rested a while, and started into fresh growth. A finer display may be obtained from plants in a greenhouse, but only one crop a season can be expected, owing to the slower development of growth. Those plants from which it is intended to take two crops of bloom should be grown in pots as they can be transferred to a cooler house when it is intended to rest them.

Amaryllis.—Late batches of this class of plants hould not be overlooked in the multiplicity of work at this period of the year. The ripening of the foliage should not be unduly hastened by entirely withholding water. Rather give the bulbs a full supply until the leaves begin to change colour naturally, when a gradually smaller quantity may be used.

Valottas.—As the Valottas commence to throw up their spikes of bloom bring them into more prominent positions where their beauty will be seen. They profit largely by applications of liquid manure and plenty of light. A succession can be kept up by growing the bulbs in houses of different temperatures, or by retarding some in a cool frame.

Chrysanthemums.—Plenty of attention must now be given to Chrysanthemums which are making rapid growth. Copious waterings must be given during the prevalence of dry weather, but manure water will not be necessary till the buds begin to develop. The stems must be securely staked lest they get broken down by blustering wind, especially when accompanied by heavy showers of rain.

Vineries.—Succession houses where the grapes are now ripe should be kept cool and freely ventilated, particularly when the weather is bright, and unless there be a succession of cold wet days, artificial heat may be dispensed with. This cannot be done, however, in the case of those houses where the grapes are just commencing to colour. A warm, dry atmosphere must be maintained with free ventilation, and all damping down must be done early in the day.

Peaches on Open Walls.—Continue to lay in the young wood of Peaches and Nectarines on the open walls so that the necessary amount of wood to properly cover the same can be determined. The foliage of one shoot should not be allowed to overhang that of another, at all events not to any extent. The superfluous wood may then be removed at once. Young trees are liable to grow too extensively, and to produce branches liable to disturb the balance of the tree. Such excessively strong shoots should be tied down to a horizontal position, and any laterals they may make removed to repress their undesirable vigour.

Cherries on Walls.—See to the netting of trees on walls as soon as the fruits commence to colour, otherwise the birds will play havoc with them in a few days, particularly if the weather is dry and food is scarce. A forked stick or two should be used to keep the nets off the trees, otherwise the birds alighting on the nets can easily get at the fruit.

Strawberries.—The layering of runners in pots for next winter's forcing should not longer be delayed, otherwise it means loss of time, and good sized plants and well-ripened crowns will be out of the question. Use a compost of good substantial loam with a little well-decayed cow manure.

Roses.—Owing to the dry weather that has hitherto prevailed, green-fly is proving rather troublesome on Roses, and the leaf-rolling caterpillars are as plentiful as ever. A close watch will have to be kept on the latter, or they will do incalculable mischief to the unfolding blossoms, that require all the support they can get in the way of foliage. Clean water applied with some force by means of the garden engine would do much to free the bushes of aphides, and if necessary strong soapsuds might be applied in the case of valuable plants.

Annuals.—Late sown kinds will now require thinning; it is a mistake to think that a better display can be obtained from thick sowings, because the plants and flowers are smaller and their glory of short duration; the more crowded they are the fewer flowers are produced, as branching of the stems is impossible. A droughty time serves to hasten the evil, by causing the annuals to run to flower and seed directly.

QUESTIONS AND ANSWERS.

**** Correspondents are requested, in order to avoid delay, to address all communications to "THE EDITOR" or "THE PUBLISHER," and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa, London."*

QUASSIA WATER.—*Black Fly*: The formula is very simple, and has often been given in these columns. Boil 4 ozs. of quassia chips (obtainable at a chemist) in a gallon of soft water; strain off the chips, and dissolve 4 ozs. of soft soap in the liquid as it cools. Use it when cold, and about a quarter of an hour afterwards give a good syringing with clear water. Sprinkling tobacco powder through a dredger on the effected shoots while wet will answer just as well if you can get at the shoots readily.

PAINT FOR HOT-WATER PIPES.—*J. B. S.*: Tar should not be used under any circumstances whatever. It is most injurious to plant life, and once used is most difficult and troublesome to get off again. Lampblack and boiled Linseed oil is the best composition. Get the lampblack beaten up to a fine powder, and add oil until the mixture is of the consistency of thin paint, and put it on the pipes when warm if possible.

PARSLEY.—*Semper*: For winter use sowings are usually made about the middle of this month, a little earlier or later according to locality. It is best to sow in beds where they are to grow, so that the protection of a frame or of mats can be afforded in bad weather. Thin out as soon as the seedlings are large enough, and water well in dry weather.

LIQUID MANURE.—*Tyro*: The specially prepared fertilisers are appreciated by amateurs having small gardens because they give little trouble as regards application, and can be readily obtained, whereas horse and sheep droppings and cow manure are often very difficult to get. If either of these are procurable the best way of using them is to fill a small, coarse-grained bag and sink it in the tub from which you dip for watering. If you put in fresh manure twice a week, and every other time add a good handful of soot to the manure, you will have a very useful stimulant for all growing plants.

ELM SEEDS.—*Y.*: Collect the seeds and sow them at once, whilst green.

MEDALS.—*Experto crede*: We do not know on what basis the selection is made. You should apply to the trustees for the information.

LAYERING.—*G. W.*: Thompson, in *The Gardeners' Assistant*, describes ten different methods of propagating plants by layers, but the most general plan is to layer by tongueing, and Carnations are mostly layered in this way. You remove all the leaves from the part which is to go under ground, and then make a clean cut upwards, and on the under side, from one node to the base of the one above it. Fix the layer with the divided portions separate in some light sandy soil, give a good watering, and the operation is complete. In layering Pinks some growers do not tongue them, but simply make an incision between the nodes, and insert a small bit of wood to keep the cut parts asunder.

DOUBLE ICELAND POPPY.—*H. Bugden*: About two years ago or thereby, we described a double orange-coloured form of the Iceland Poppy (Papaver nudicaule), and therefore quite distinct from that you sent us. The wavy and crumpled white outer petals surround a series of spathulate ones, which are also white; the centre is filled up with sulphur yellow and linear petals, so that on the whole it is distinct from anything we have seen and very pretty. By seed-sowing and selection you might be able to obtain a pure white one, as well as others in which the petals are all yellow. We certainly should not rest satisfied with the acquisition as it is without some attempt at improvement.

NAMES OF PLANTS.—*T. S.*: 1, Spiræa Aruncus 2, Spiræa discolor ariæfolia; 3, Semele (Ruscus) androgyna; 4, Pyrus baccata; 5, Papaver orientale bracteatum; 6, Asparagus plumosus; 7, Asparagus plumosus nanus.—*J. S.*: 1, Cotoneaster frigida; 2, Acer platanoides laciniatum probably; 3, Ilex balearica; 4, Dactylis glomerata elegantissima; 5, Philadelphus coronarius; 6, Ruscus Hypophyllum.—*Dryas, Hawick*: 1, Iris virginica; 2, Iris graminifolia; 3, Iris sibirica; 4, Rosa spinosissima, a double variety, but we cannot say which; 5, Senecio Doronicum; 6, Cyrtomium falcatum; 7, Mertensia sibirica; 8, Anemone rivularis; 9, Diervilla rosea.

IRISH SHAMROCK.—*Dryas, Hawick*: It is very doubtful whether anyone can tell for certainty what was the plant used by St. Patrick, and to which the name Shamrock has been given. But we know what

is generally used for it in this country, and also the plants that are sent over from Ireland to this country about St. Patrick's day. Trifolium repens is sold in Covent Garden Market for the Shamrock, and Medicago lupulina is sent over from Ireland to their friends in this country. Possibly Trifolium minus is also used for the same purpose. The first two are undoubtedly used, but authorities differ as to the identical species of plant used by St. Patrick, so that the case must remain unsettled beyond the fact that it was a plant having the leaves divided into three leaflets.

COMMUNICATIONS RECEIVED.—H. B. S.—G. H.—E. C.—A. H. K.—H. J. V.—R. D.—S.—H. B.—D.—P. H. H.—E. C.—W. B.—J. D. W.—C. H.—T. L.

TRADE CATALOGUES RECEIVED.

DAMMANN & Co., San Giovanni a Teduccio, Naples.—Wholesale Catalogue of Bulbs, Roots and Orchids.

LONDON SEED TRADE.

June 28th, 1892.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report some speculative sales of Red Clover have been made at full prices. Mustard meets a moderate demand at hardening rates. Rape seed steady. New French Trifolium incarnatum shows fine quality, but value is not yet established.

COVENT GARDEN MARKET.

June 22nd.

FRUIT.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.		s. d.	s. d.
Grapes..... per lb.	1 0	3 0	Strawberries per lb.	0 3	0 9
Peaches... per dozen	4 0	12 0	Tasmanian Apples per case...	2 6	5 0
Pine apples. —St. Michael's, each	2 6	6 0			

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Asparagus.....bun.	2 0	5 0	Lettuces ...per dozen	1 6	2 0
Beans, French, per lb.	1 6	2 0	Mushrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	6 0	Small salading, punnet	0 4	
Celery.....per bundle	2 6		Spinach, per strike ...	1 6	
Cucumbers .....each	0 6	1 0	Tomatos..... per lb.	0 9	1 6
Endive, French, doz.	2 6	3 0	Turnips .....per bun.	0 6	
Herbs .....per bunch	0 2	0 6			

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, per doz.	6 0	9 0	Heliotrope, per doz.	4 0	6 0
Begonias ...per doz.	6 0	12 0	Ivy Pelargoniums, per doz. pots	4 0	6 0
Crassula ...per doz.	6 0	10 0	Lilium Harrisii, doz.	15 0	30 0
Cyperus .....per doz.	4 0	12 0	Lobelia, ...per doz.	4 0	6 0
Dracæna term., doz.	24 0	36 0	Marguerites, per doz.	6 0	12 0
Dracæna viridis, doz.	9 0	18 0	Mignonette, per doz.	4 0	8 0
Echeveria Pyramidalis.....	9 0	18 0	Musk, ...per doz.	2 0	4 0
Erica various. per doz.	9 0	24 0	Palms in variety, each	2 6	10 0
Evergreens, in var. doz	6 0	24 0	Palms, Specimen ...	15 0	63 0
Ferns, invar., per doz.	4 0	18 0	Pelargoniums, per doz.	8 0	15 0
Ferns, small, per 100	8 0	12 0	—scarlet .....per doz.	3 0	6 0
Foliage Plants, doz.	12 0	60 0	Spiræas.....per doz.	8 0	12 0
Fuchsia, ...per doz	4 0	9 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Anemone various, doz. bun.	2 0	4 0	Pelargoniums, 12 sps.	0 9	1 0
Arum Lilies, 12 blms.	2 0	4 0	—scarlet.....12 bchs.	4 0	6 0
Bouvardias, per bun.	0 6	1 0	Primula, double, bun.	0 9	1 0
Carnations, 12 blooms	1 0	3 0	Pinks .....doz. buns.	2 0	4 0
Cornflower doz bnchs	2 0	4 0	Pansies, doz. bchs ...	1 0	2 0
Eucharis ...per doz.	2 6	4 0	Pyrethrum doz bnchs	2 0	4 0
Gardenias 12 blooms	1 6	4 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Gladioli...doz. buns.	6 0	12 0	Roses, doz bunches	2 0	9 0
Heliotropes, 2 sprays	0 3	0 6	Roses, yellow, dozen	2 0	6 0
Iris (various), dz. bn.	6 0	9 0	— Red..... doz. blms.	1 0	2 0
Lilium Harrisii, doz. blooms	2 0	4 0	— Saffrano...per doz.	1 0	1 6
Liliums var., dz. blms.	0 6	1 6	— Tea ..... per dozen	0 6	2 0
Maidenhair Fern, 12 bs.	4 0	6 0	Spiræas...doz. bnchs	4 0	6 0
Marguerites, 12 bun.	2 0	4 0	Stephanotis, dz. sps.	1 0	2 0
Mignonette... 12 bun.	3 0	6 0	Sweet Peas, dz. bns.	6 0	9 0
Myosotis or Forget-me-not, doz. bnchs.	2 0	4 0	Sweet Sultan, dz. bn.	3 0	4 0
Moss Roses, dz bchs	6 0	12 0	Tuberoses, per doz	0 6	1 6
			Wallflowers, doz. bunches	3 0	4 0

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FLOWER SHOWS, &c., 1892.

[*The Editor will be greatly obliged if Secretaries of societies will communicate to him the dates of their exhibitions as soon as fixed.*]

JULY.

2.—National Rose Show at the Crystal Palace.
5.—Bagshot Rose Show.
5.—Diss Rose Show.
5.—Enfield Flower Show.
5.—Gloucester Rose Show.
5.—Sutton Rose Show.
5.—Rose Show at the International Exhibition, Earl's Court (2 days).
6.—Royal Botanic Society's Evening Fête.
6.—Croydon Flower Show.
6.—Hitchin Rose Show.
6.—Fareham Rose Show.
6.—Conference of Gardeners' Associations at Tunbridge Wells.
7.—Bath Rose and Begonia Show.
7.—Windsor Rose Show.
7.—Norwich Rose Show.
7.—Woodbridge Flower Show.
7.—Ware Flower Show.
7.—Lee and Blackheath Flower Show (2 days).
9.—Reigate Rose Show.
9.—Wood Green Flower Show.
12.—Royal Horticultural Society: Committee Meetings at Drill Hall.
12.—Hereford Rose Show.
12.—Wolverhampton Floral Fête (3 days).
13.—Royal Caledonian Horticultural Society (2 days).
13.—Bexley Flower Show.
13.—Ealing Flower Show.
13.—Bedford Flower Show.
14.—Helensburgh Rose Show.
16.—National Rose Show at Chester.
16.—Charlton Rose Show.
18.—Nuneaton Flower Show.
19.—Birmingham Rose Show (2 days).
19.—Eye (Suffolk) Flower Show.
.—Liverpool Horticultural Association's Show (2 days).
21.—Trentham Flower Show.
21.—Barnet Flower Show at Monken Hadley.
21.—Worksop Flower Show.
21.—Aylesbury Flower Show.
22.—Manchester Rose and Pink Show.
23.—Bedale Rose Show.
23.—New Brighton Rose Show.
23.—Midlothian Rose and Pansy Show, Penicuick.
26.—Royal Horticultural Society: Committee Meetings at Drill Hall, National Carnation and Picotee Show.
26.—Beckenham Flower Show.
27.—Hessle Flower Show (2 days).
27.—Bishops Waltham Flower Show.
28.—Southwell Rose Show
28.—Halifax Rose Show.
30.—Brighton "New" Horticultural Society (2 days).
30.—Ripley Rose Show.
30.—Southampton Flower Show (2 days).

AUGUST.

1.—Cottagers' Show at Earl's Court.
1.—Beddington and Carshalton Flower Show.
1.—Mansfield Flower Show.
2.—Abbey Park, Leicester, Show and Gala.
9.—Royal Horticultural Society: Committee Meetings at Drill Hall.
10.—Sevenoaks Flower Show.
11.—Taunton Deane Flower Show.
17.—Shrewsbury Flower Show (2 days).
17.—Cardiff Flower Show (2 days).
18.—Aberdeen Flower Show (3 days).
20.—National Co-operative Flower Show.
23.—Royal Horticultural Society: Begonia Conference, etc., at Chiswick (2 days).
24.—Brighton and Sussex Horticultural Society (2 days).
25.—Droitwich Flower Show.
25.—Kenilworth Flower Show.
29.—Cresswell Flower Show.
31.—Bath Floral Fête (2 days).
31.—Bishop Stortford Flower Show.

SEPTEMBER.

1.—Oxford Flower Show.
2.—National Dahlia Show at the Crystal Palace (2 days).
6.—Royal Horticultural Society: Committee Meetings at Drill Hall.
7.—Royal Caledonian Horticultural Society (2 days).
9.—Autumn Flower Show at Earl's Court (2 days).
20.—Royal Horticultural Society: Committee Meetings at Drill Hall.

OCTOBER.

4.—Royal Horticultural Society: Committee Meetings at Drill Hall.
5.—Fruit Show at Earl's Court (3 days).
18.—Royal Horticultural Society: Committee Meetings at Drill Hall.
25.—Fruit Show at Earl's Court (3 days).

NOVEMBER.

1.—Royal Horticultural Society: Committee Meetings at Drill Hall.
1.—Kent County Chrysanthemum Show (2 days).
1.—Brixton Chrysanthemum Show (2 days).
1.—Barnstaple Chrysanthemum Show (2 days).
2.—Ascot Chrysanthemum Show (2 days).
2.—Ealing Chrysanthemum Show (2 days).
2.—Portsmouth Chrysanthemum Show (3 days).
2.—Croydon Chrysanthemum Show (2 days).
3.—Steyning Chrysanthemum Show.
4.—Bolton Chrysanthemum Show (2 days).
8.—National Chrysanthemum Society at Royal Aquarium (3 days).
8.—Kingston and Surbiton Chrysanthemum Show (2 days).
8.—Enfield Chrysanthemum Show (2 days).
8.—Sevenoaks and West Kent Chrysanthemum Show (2 days).
8.—Batley Chrysanthemum Show (2 days).
9.—Bath Chrysanthemum Show (2 days).
9.—Birmingham Chrysanthemum Show (2 days).
9.—South Shields Chrysanthemum Show (2 days).
9.—Cardiff Chrysanthemum Show (2 days).
9.—Bournemouth Chrysanthemum Show (2 days).
10.—Chelmsford Chrysanthemum Show.
11.—Leicester Chrysanthemum Show (2 days).
11.—Eccles and Patricroft Chrysanthemum Show (2 days).
11.—Wellingborough Chrysanthemum Show (2 days).
11.—Dundee Chrysanthemum Show.
15.—Royal Horticultural Society: Committee Meetings at Drill Hall.
15.—Liverpool Chrysanthemum Show (2 days).
15.—Plymouth Chrysanthemum Show (2 days).
16.—Hull Chrysanthemum Show (2 days).
16.—Rugby Chrysanthemum Show (2 days).
17.—Edinburgh Chrysanthemum Show (3 days).
18.—Chorley Chrysanthemum Society (2 days).
18.—Stockport Chrysanthemum Show (2 days).
22.—Dalkey Chrysanthemum Show.

DECEMBER.

13.—Royal Horticultural Society: Committee Meetings at Drill Hall.

The Gardening World.

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*** *Advertisements for the current week, and also "Stop Orders," must reach the office not later than the first post on Wednesday Morning.*

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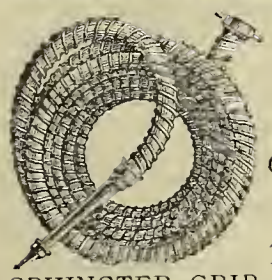
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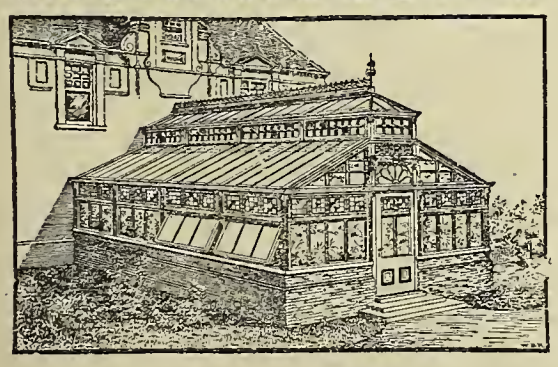

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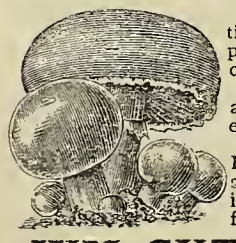

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, July 12.—Royal Horticultural Society: Committee Meetings at Drill Hall.
Hereford Rose Show.
Wolverhampton Floral Fete (3 days).

WEDNESDAY, July 13.—Royal Caledonian Horticultural Society (2 days).
Bexley Flower Show.
Ealing Flower Show.
Bedford Flower Show.

THURSDAY, July 14.—Helensburgh Rose Show.

FRIDAY, July 15.—Sale of Specimen Orchids at Protheroe & Morris' Rooms.

SATURDAY, July 16.—National Rose Show at Chester.
Charlton Rose Show.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, JULY 9th, 1892.

THE SEASON'S FRUIT CROPS.—Whilst we await with interest the returns from all parts of the kingdom which are usually furnished by competent garden observers as to the general nature of the fruit crops of the present year, we have already to notice that these returns have been to some extent anticipated by the enterprise of a firm of fruit importers and salesmen in Covent Garden, who seem to have gathered up from the chief points of the compass some information of the fruit crops in both our own and other countries.

Of course we at home have most interest in our home productions, and are pleased to learn that we have good crops, or are sorry if they be poor ones as the case may be. But then just as our own may fluctuate, so may the fruit crops of other countries, and it not unfrequently happens, as seems to be the case this year, that when our home crops are thin they are generally so elsewhere. Assuming that the returns furnished of the probable market crops of fruit be correct, it seems obvious that we shall have hardly more than one-third of a fair crop in Europe generally. That is of course bad news. A poor fruit crop signifies a deficiency in value of garden and orchard produce of many millions sterling, and thousands engaged in fruit culture are thereby all the poorer.

Perhaps later returns may show better prospects, but when these come chiefly from private gardeners who have little knowledge of the general state of the market garden and orchard crops, to which the public have to look for their supplies, it is obvious that such reports have less value than otherwise should be the case. After-all it is of little importance to learn of the abundance of small fruits. What we want to know is the prospect of Apples, Pears, Plums, Cherries, Gooseberries, Currants, and Strawberries, and if these be poor then we know that they will be dear and scarce.

THE GARDEN A SOLACE.—Amidst the whirlpool of election excitement and the fever of party political agitation from which few men may now be absolutely free, how pleasant it is to turn to the sweet solace and intelligent recreation which gardening affords. Probably there are thousands of ardent political workers who are looking with some little anticipation to the usual summer holiday, and hope to find then that rest and recuperation which many will so much need. But those who have gardens, however small, when flowers or other products are cultivated, find even amidst the turmoils of the present election some of the alleviations in gardening from which others less happily situated are debarred.

The British are not essentially an excitable race, whereas in some countries public events often arouse to the utmost the warm temperaments of the inhabitants. The very frequency with which such feelings are called into play, serve to school the mind and exhaust the force of the outbreak. Here we are a somewhat phlegmatic people, difficult to excite, hard to arouse, but once excited up to fever point, as is just now the case, the fever is hard to restrain and difficult to allay. In gardening, however, there is restraint and compensation. The work amidst flowers or plants of some description, in quietude and under the canopy of heaven where the air is pure and free, when there is absence from the busy hum of life and the brain is unvexed with questions of doubt, of antagonism and of difficulty, there is found peace and repose and recuperation.

We venture to think that very few who garden are amenable to homicidal tendencies, whilst the work seems to be so conducive to peace and contentment. We are not assuming that anyone will, hermit-like, retire absolutely from public life and bury his days henceforth in a garden; that would indeed be foolish. We want to see the enjoyment of garden labour made good healthful recreation for the busy, the enthusiastic, and the energetic, without whom the world could indifferently exist.

HORTICULTURAL INSTRUCTORS.—A notable incident in relation to the obtaining of competent instructors in gardening for allotments and small gardens is an advertisement issued by the Hampshire County Council, inviting applications for such offices from qualified persons. That there is a genuine desire on the part of the County Councils to spread abroad knowledge on gardening there can be no doubt, and this advertisement is in this instance an indication of what we state. The chief difficulties, so far as relates to the securing of really capable men, are on the side of the County Councils, though there are some notable exceptions, and are to be found in the moderate remuneration offered and the insecurity of the tenure of the office.

It must be very obvious that no capable man can undertake work of this nature so long as he is engaged as a gardener, and if he has not been or is not a practical gardener then he is somewhat unfitted to undertake duties of the nature here specially required of him. To secure the services of really able men they should not only be offered good pay, but also some prospect of permanent occupation. But competency does not alone lie in knowledge, of which plenty of men may have an abundance. It is absolutely needful that instructors should not only know just what sort of knowledge they should impart, but also have the too-rare facility of being able to impart it in a free, easy, and effective way.

The instructor who cannot hold his audience for an hour at least, if need be, will not have much success in his labours. Very few who may have inclinations to undertake duties of this kind know how much and varied is the knowledge they may be expected to possess; indeed it is needful to have every topic figuratively at their fingers ends. It would be a misfortune all the same were County Councils unable to find the needful ability, but it is not too common and should be well remunerated.

RHODODENDRONS. — We have learnt on excellent trade authority that it is the rule to export large numbers of small plants of Rhododendrons to the United States from England. Naturally that reads very much like sending coals to Newcastle, but then it so happens that whilst America is the native habitat of many of the Rhododendron family, it is not alone. Such of all the species, and some of the Himalayan varieties, as well as from other parts of India and various districts of Europe, as have been from time to time employed to cross-fertilize the American species, have developed varieties here in England which no other country seems to have been capable of producing, hence it is doubtless a fact that the home trade possess the finest collection of hardy varieties of the Rhododendron in the whole world. Therefore it is no matter for wonder if we send some of these beautiful forms to our friends in America.

Rhododendrons have had a fairly good time this year, having bloomed well and so far made good stout shoots for next year's bloom production. In some low-lying districts the young leafage suffered slightly from the severe frosts of the middle of June, but no great harm was done, as then the growth had become fairly firm. Whilst it is the rule for the bulk of the hybrids to bloom mostly in the summer there are not a few which will flower freely so early as March, April, and May. Plants of good size that are thus early merit some protection, and it is not too much to ask that some rough frame work which may be covered with canvas at night, might be fixed over these precocious bloomers as their beauty merit all care and attention.

Very early varieties planted in woods beneath overhanging trees if induced to grow will bloom profusely and suffer little during sharp frosty weather. We cannot now imagine any pretentious garden which does not possess a good selection of Rhododendrons, for these have no equals as hardy evergreen flowering shrubs.

The Oxford Union Carnation Show.—We learn from Mr. Dodwell that the date fixed for holding this annual exhibition in his garden at Oxford is Thursday, July 28th, two days after the National Society's show at the Drill Hall, Westminster.

Sir James Whitehead, Bart., who for several years past has taken such a prominent interest in the subject of hardy fruit culture, was elected, unopposed, on Saturday last, as one of the Liberal members for Leicester.

The Gardens at Sandringham.—A notice has been issued by Sir D. M. Probyn, comptroller to the household of the Prince of Wales, to the effect that the gardens and grounds at Sandringham will not be open to the public this season as they have hitherto been.

The St. Ives, Hunts, Flower Show will take place on Thursday, July 28th. Schedules can be obtained from the secretary, Mr. Walter Mann, St. Ives.

The National Co-operative Flower Show will be held at the Crystal Palace, on Saturday, August 20th, instead of on the Saturday previous as originally arranged. Intending exhibitors should note that entries will close on the 11th.

The new list of Doctors' of Science of the University of London includes the name of Mr. Bernard Dyer, on whom the degree has been conferred for contributions to the chemistry of Agriculture. The other names on the list are, in the department of Chemistry those of Mr. S. F. Dufton and Mr. W. P. Wynne, and, in the department of Zoology, that of Mr. T. Jeffrey Parker.

New Gloxinias.—At the annual summer show of the Richmond Horticultural Society, held last week, Messrs. Sutton & Sons made a grand display with their Gloxinias. The committee awarded six First-class Certificates, one to each sort shown, viz.:—Gloxinia Her Majesty, pure white flowers of great substance and perfect form, foliage dark green, and of crassifolia type; Gloxinia Duke of York, scarlet and white; and Gloxinia Sutton's New Netted Strain; Begonia, fibrous-rooted, Duchess of Edinburgh, of the semperflorens type, with large, pink flowers; and Crimson Gem, of similar habit to the above, with bright scarlet flowers.

Mr. Alderman Coldwells, of Croydon, who succeeded in gaining a seat on Tuesday in North Lambeth, his opponent being Mr, H. M. Stanley, the African explorer, is, we believe, the first member of Parliament, since the time of Sir Joseph Paxton, who has been a gardener. Mr. Coldwells worked as a gardener for several years, at which period he took an active part in forwarding the Band of Hope and Temperance movement, afterwards identifying himself with political life previous to and during the the time of the old Reform League. Since his removal to Croydon, where he went into business as as a tailor and outfitter, he has occupied a prominent position in the borough, being returned to the first and three following School Boards, and being also a member of the Local Board of Health. He took an active part in obtaining the Charter of Incorporation, and was returned one of the first members of the Corporation, and elected an alderman by his colleagues, and appointed a magistrate when the borough bench was formed.

The Growth of Asparagus.—The *American Agriculturist* states that the unusually heavy rains of last spring caused the Piasa River in Madison County, Illinois, to overflow and inundate the adjoining extensive Asparagus fields of Mr. Kellenberger. The flood thus laid bare the roots of the plants to such an extent as to afford a most useful object lesson on the growth of Asparagus. It was then shown that the roots of an Asparagus plant four years old spread out horizontally, a little below the surface of the soil, for about 13 ft. in diameter. Each root extended from 5 ft. to 7 ft. from the crown, and none struck downwards. It is therefore evident that Asparagus plants should be set a distance at least 3 ft. apart each way, to give full scope for the many roots to grow.

Sevenoaks Gardeners' Improvement Society.—About forty members and friends were present at the meeting held on the 21st ult., including a small contingent from the Tonbridge Society. The chair was taken by Mr. Aylward. Some excellent vegetables were staged by Mr. A. Hoodley, Mr. Emery, Mr. Heath and Mr. Farmer, the first-named especially showing a fine basket of produce. Mr. Searing had some good pot Strawberries, and Mr. Westcott, Mushrooms. There was a competition for prizes offered for six bunches of hardy flowers, and Mr. Duberry secured the first, and Mr. Fox the second. Cabbages were also well shown by amateurs, and prizes were awarded to Messrs. Hayward, Walfe and Reynolds in the order named. Mr. Hoodley gave an address to the meeting on Mushrooms, speaking for some fifteen minutes, after which a discussion took place, in which a number of the members joined.

National Chrysanthemum Society.—At a meeting of the general committee, held on the 30th ult., Mr. R. Ballantine presiding, a small sub-committee was appointed to make arrangements for the Conference, to be held on October 12th, to consider the proposed enlargement of show boards for Japanese blooms. Designs were submitted for the proposed Holmes' Memorial Challenge Trophies, and the subject referred to a sub committee for consideration. It was also unanimously resolved to request the schedule committee to prepare a supplement to be issued in the autumn with the society's catalogue, and bringing the lists up to date. Mr. C. Harman Payne reported with reference to the intimation made at a previous meeting, that a New Zealand amateur grower,

desiring to obtain the judgment of the society's Floral Committee on some of his seedling Chrysanthemums, proposed to send them over frozen in blocks of ice, that he had received an intimation that the blooms were on the road to England, and were expected to reach London at an early date. Arrangements were made for keeping them in a cold storage chamber until a meeting of the members of the society can be called at the Royal Aquarium, Westminster, where the exhibition of such a novelty as frozen Chrysanthemums in summer may be expected to create considerable interest. Arrangements were also made for carrying out the society's annual picnic on the 22nd inst., when a visit will be paid to the gardens at Redleaf and Penshurst Place, Kent. Seven members and one fellow were elected, and the recently formed Highbury Vale Amateur Chrysanthemum Society was admitted into affiliation.

EDWARD JOHN BEALE.

We include in our pages this week a portrait of one of the few horticultural candidates for Parliamentary honours at the present general election, viz., Mr. E. J. Beale, of the firm of Messrs. James Carter & Co., Seed Merchants, High Holborn. Mr. Beale, who contested Sir Julian Goldsmid's seat in South St. Pancras, but failed to win it, was born in county Limerick in 1836, and educated privately in Ireland and at the Birbeck Institute in London. In early life he became associated with the late Mr. James Carter, and at his death became a member of the firm of Carter, Dunnett, & Beale, which has since built up a world-wide reputation, and a business of enormous proportions. In 1866 Mr. Beale married Susannah, daughter of the late T. Child, Esq., of Devonshire Lodge, Eastbourne, and for many years has resided at Stoneydeep House, Teddington. He is a fellow of the Linnæan Society, a member of the leading agricultural and horticultural societies of the country, and corresponding member of the Horticultural Society of Geneva. It may be mentioned as a fact of interest to the curious in such things that in 1887 Mr. Beale was the first to promise an annual subscription to the proposed Gardeners' Orphan Fund, of which, on its formation, his opponent, Sir Julian Goldsmid, Bart., was elected president.

Edward John Beale, F.L.S.

THE GRAPE SCARE IN NEW YORK.

In the latter part of September much excitement was created in New York City by the Board of Health seizing a quantity of Grapes which had been sprayed with Bordeaux mixture. All sorts of rumours were rife at the time, columns of sensational matter appearing every day in the leading papers of the city and state. This, of course, seriously injured the Grape market, which, for various other reasons, was already considerably depressed. At the request of the New York Board of Trade, and in accordance with your instructions, I went to New York City when the excitement was at its height. It was found that the sensational reports to the effect that tons and tons of Grapes were being seized and dumped in the river were wholly without foundation. The Board of Health, acting upon the advice of its assistant chemist, had seized a small consignment of fruit from Ulster County, N. Y., and upon this most of the fabulous stories were based.

Soon after my arrival a meeting of the Board of Trade was called for the purpose of allaying, if possible, the fears of the public and restoring the market to its usual condition. By request I addressed this meeting, and gave a detailed account of the methods employed in treating Grape diseases, dwelling particularly on the Bordeaux mixture and its entire harmlessness when properly used. The meeting appointed a committee to confer with the Board of Health on the subject. I was invited to be presented at this conference, which took place immediately after the adjournment of the Board of Trade meeting. The committee was received very courteously by the Board of Health, and after some preliminary remarks by the president I was again asked to give an account of the Bordeaux mixture, how it was made and used, what it was used for, etc. This being done, the Board of Health gave its side of the case, which in brief was that their attention had first been called to the matter by a citizen sending in a quantity of Grapes plastered with a bluish-green substance The matter was referred to the assistant in charge, who decided that the bluish green deposit contained copper in large quantities. Search was then made at the fruit stands, commission houses, boat landings, and other places, the result being in accordance with the facts already set forth. After further deliberation the following statement was prepared by the Board of Health and given to the papers :—

(1) A copper salt is found only upon a very small part of the groups offered for sale, and the Grapes which are to be avoided are easily recognized by the greenish-coloured substance upon the berries and stems.

(2) Whenever this substance is apparent upon the berries or stems the Grapes should be washed before they are used as food or in the manufacture of wine.

(3) The board urges all dealers and consignees in this city to advise shippers and consignors of Grapes to send no more Grapes to this market upon which this substance is apparent. The board further states that it does not object to the use, at the proper time, of the Bordeaux mixture" as recommended by proper authorities, but such mixture, or any mixture containing poisonous substances, should not be sprayed or otherwise placed upon the Grapes immediately before or after they have matured, and should not appear upon them when sent to the market or offered for sale.

For the purpose of inspecting the vineyards the Board of Health, before finally adjourning, decided to send the assistant chemist to the region from which the seized fruit came. In accordance with your wishes, the division was also represented at this inspection, Mr. D. G. Fairchild being selected for the purpose. No facts of importance were brought out by the visit of the assistant chemist and Mr. Fairchild, excepting that wherever vines had been sprayed in accordance with the precautions so many times set forth by the division the fruit was in excellent condition, both as regards freedom from rot and the objectionable deposit. After this nothing further was heard of the matter, and in a week at most the market was in about its usual condition.

A large mass of facts has been collected bearing on this question, all of which will be given in the bulletin on the work of the season. Looking at the matter from all sides, no conclusion can be reached other than that the blame for the "scare" and its consequences rests about equally between the Board of Health and a few overzealous Grape-growers. There is no doubt that some growers exercise gross carelessness in unnecessarily daubing their fruit with the mixture long after the treatment should have ceased. Even when it came to send the Grapes to market, they were in some cases seemingly dumped into the baskets without the slightest effort being made to remove the bluish deposit, which was in no case found on berries properly treated. Only a few growers did this, but thousands were made to suffer thereby. On the other hand, the Board of Health acted hastily in the matter, and by its method of conducting affairs caused the press to make a mountain out of a molehill. Altogether the lesson has been a valuable one, and it again forcibly illustrates the old saying that even the best of remedies in the hands of some will often prove a curse. In some parts of the country Grape-growers were actually spraying their vines two and three times a week, thinking, as some of them have stated to me, that if twice a month was good, four or five times as often would be a great deal better.

In this connection it may be well to caution all Grape-growers in regard to the use of Bordeaux mixture in seasons of drought. In case dry weather sets in after the first or second spraying, it would be well to make the rest of the treatment with the ammoniacal solution of copper carbonate. Altogether, this course of treatment will probably be just as effective against rot and other diseases, no matter what the season may be. It is certainly cheaper, and removes at once all probability of disfiguring the fruit. It should be borne in mind. however, that the application of all fungicides should cease as soon as the fruit begins to ripen. If this be done, not the least damage to health need be apprehended from eating the fruit or drinking the wine made from the same. In fact, as has already been shown in the publications of the division, such fruit and such wine actually contain no more copper, which is the only poison to be considered, than many other foods we eat. — *B. T. Galloway, Chief of the Division of Vegetable Pathology, U. S. Department of Agriculture.*

THE LINNÆAN SOCIETY.

When Linnæus died, at the beginning of 1778, the collections he had lodged in the stone museum he built for their protection on his property at Hammarly, near Upsala, descended to his son, who died five years later, in 1783. They were then sold and, apparently, were little prized by the countrymen of the illustrious collector, for they were bought by Sir James Edward Smith, M.D., a physician who was born at Norwich, studied medicine at Edinburgh, graduated at Leyden, and practised in London. It is said that when the King of Sweden heard that the books, manuscripts, and herbarium of Linnæus were on their way to England, he made a show of indignation, and sent a man-of-war to restore them by force. They reached the Thames, nevertheless, without mishap, and formed the nucleus of the library and collections of the Linnæan Society, which was formed in 1788 by Sir James Edward Smith, in conjunction with Sir Joseph Banks. The bust of the former and the portrait of the latter face each other in the lofty and palatial library of the society at Burlington House.

Dr. Smith (he was not then Knighted) was the first president of the Linnæan Society. In concluding his introductory discourse—a masterly review of the rise and progress of natural history—he indicated what he conceived to be the peculiar

objects of the new institution. After enforcing upon his hearers the necessity of each one of them contributing all in his power to the general stock of knowledge, and insisting upon special attention being paid to the productions of our own country, he asked:—"Is it not a reproach to Great Britain that so many rarities should remain in their hands undescribed; that foreigners should eagerly catch at one or two plants obtained from our gardens, which we for years have been trampling underfoot unnoticed? Yet how, till now, could such nondescripts have been made public? It is altogether incompatible with the plan of the Royal Society, engaged as it is in all the branches of philosophy, to enter into the minutiæ of natural history; such an institution, therefore, as ours is absolutely necessary to prevent all the pains and expenses of collectors, all the experience of cultivators, all the remarks of real observers, from being lost to the world. . . . He who determines with certainty a single species of the minutest moss or meanest insect adds so far to the general stock of human knowledge, which is more than can be said of many a celebrated name.

"No one can tell of what importance that simple fact may be to future ages; and when we consider how many millions of our fellow creatures pass through life without furnishing a single atom to augment this stock, we shall learn to think with more respect of those who do. But nothing will be with more reason expected from the members of this society than a strict attention to the laws and principles of Linnæus so far as they have been found to be good. I am persuaded nothing can be done more useful to the science of natural history than working on the publications of this illustrious man as a foundation, to endeavour to give them that perfection of which they are capable, and to incorporate with them all new discoveries. Whatever we may think of the system of Linnæus, there are certain great principles laid down by him the excellence of which is now so well known and so generally admitted that none who pretend to the name of naturalist can avoid conforming to them. I hope never to see any descriptions sent into the world by this society without specific differences. They are what distinguish a true scientific naturalist from an empiric. Without strict attention to this maxim, the science will soon relapse into its original barbarism, nor can anything but another Linnæus restore it. . . . A train of events, which I cannot help calling most fortunate, having brought into my hands everything which Linnæus possessed relating to natural history or medicine, his entire library, manuscripts, and the correspondence of his whole life, as well as all the acquisitions made by the younger Linnæus in his tour through Europe, after his father's decease, but which his own premature death prevented him from communicating to the world; all these will be a never-failing resource to us in every difficulty, as well as a fund of information not easy to be exhausted. I hold these treasures only for the purpose of making them useful to the world and natural history in general, and particularly to this society, of which I glory in having contributed to lay the foundation, and to the service of which I shall joyfully consecrate my labours, so long as it continues to answer the purposes for which it is designed."

These words were spoken on the 8th April, 1788. The Linnæan Society was granted a Royal Charter of Incorporation in 1802. By letters patent the society was assigned the arms which were granted to Linnæus when he was ennobled. The crest represents a mount, on which vegetates the Linnæa borealis, with the sun rising in splendour. But these gewgaws were probably little cared for by those first fellows. The Linnæan Society followed the path indicated in such noble words by its first president; and it still maintains itself on those lines. Its object is the cultivation of the two sciences of botany and zoology, in both of which Linnæus excelled. Since it was instituted the study of natural history has spread far and wide, but the Linnæan Society has ever kept in the forefront of knowledge, following the advice of the founder in the inaugural address just quoted, "to incorporate all new discoveries." Likewise, it has been mindful of the distinction between true science and empiricism, so strongly dwelt upon in the same memorable discourse.

The amateur would find no place for the sole of his foot in the domain of the Linnæan Society. None of its proceedings can be twisted into the semblance of amusement. It has no gardens, no conversaziones, no excursions. There is an annual meeting in May, and during the session ordinary meetings are held fortnightly, when papers are read on subjects within the limits of the departments of knowledge taken up by the society. They are written by specialists for specialists, and are printed, according to their importance, either in the quarto "Transactions" or the octavo "Journal of the Proceedings."

The society numbers at present between eight and nine hundred members, and a glance down the list of fellows shows it pretty thickly studded with names known to fame, of which we can only quote Hooker, Huxley, and Owen. The foreign members are limited to fifty. Among them we find De Candolle, Hæckel, Dana, De Quartrefages, and Schweinfurth. The associates are limited to twenty-five. There are at present but two honorary members—H.R.H. the Prince of Wales and Oscar II. of Sweden. In the library, which now contains about 30,000 volumes, in addition to the herbaria, there is an album containing the royal signature of George III., the bold scrawl of William IV., the signatures of Her Majesty and the late Prince Consort, of the Prince of Wales, and the clear, decided "Oscar" of the King of Sweden, who was probably thinking, while writing it, that, had he been king, those splendid relics of the illustrious Swede would never have reposed in the library of the Linnæan Society. There are in that album signatures of men less exalted, though not less illustrious. Among them one sees that of Sir Joseph Banks, of the founder, James Edward Smith, of Thomas Furly Forster, of Jonas Dryander, librarian to Sir Joseph Banks, in Dean Street, Soho. It was Dryander who chiefly framed the laws of the society when it was incorporated in 1802. He was the first librarian, and died at the society's house, then in Soho Square, in 1810. These names are but a few out of many belonging to the hewers out of paths of knowledge that are written in that wonderful album at Burlington House.—*From the Echo.*

NATIONAL ROSE SHOW.

The annual show of the National Rose Society was held at the Crystal Palace on Saturday last, and seemed fully up to the averageof previous years as far as quantity is concerned, but although there were many splendid exhibits, one could not fail to see here and there traces of an adverse season, especially amongst the Teas. The cold winds and late frosts having injured some of the outer petals of the expanding blooms, the latter had been kept bound up for a long time and retained traces of the injury after expansion. The quantity of Roses at the Palace, however, testified plainly that a large number of cultivators battle bravely against adverse circumstances in the culture of their favourite flower.

The Champion Challenge Trophy for 72 distinct Roses was bravely carried off by Mr. Frank Cant, Rose Grower, Braiswick, Colchester. Some of his finest H. P. blooms were Her Majesty, Baroness Rothschild, Ulrich Brunner, Suzanne Marie Rodocanachi, Victor Hugo, Chas. Lefebvre, Pride of Reigate, Jeannie Dickson, Horace Vernet, Marie Baumann, Rosierist Jacob, Souvenir de la Malmaison, Crown Prince, Mrs. J. Laing, and Annie Wood. Good Teas and Noisettes were Niphetos, Karoline Kuster, The Bride, Maréchal Niel, Souvenir d'Elise Vardon, Margaret Boudet, Comtesse de Nadaillac, Souvenir d'un Ami, and others. All were of fair size, not too much expanded, and very fresh. Mr. B. R. Cant, Colchester, had some weak blooms in an otherwise good exhibit, and took the second place. In this exhibit he had the finest Tea or Noisette in the exhibition as far as nurserymen were concerned, in Souvenir d'Elise Vardon, which seems to be generally fine this year. Messrs. Paul & Son, Cheshunt, took the third place with some fine blooms in their exhibit. Mr. F. Cant again came in for the premier award for the 48 trusses, three of each. Some of his best blooms in this case were Merville de Lyon, Etienne Levet, Ulrich Brunner, La France, Her Majesty, Madame Isaac Pereire, Mrs. John Laing, François Michelon, Madame Gabriel Luizet, Madame Cusin, Cleopatra, Hon. Edith Gifford, Madame de Watteville, and Souvenir d'Un Ami. Mr. B. R. Cant was again a good second, showing some of the leading varieties in good style. Mr. C. Turner was third with small but neat and fresh blooms. Messrs. Geo. Cooling & Sons, Bath, had the best 48 blooms, in single trusses. Good blooms were Marguerite de St. Amand, A. Dumesnil, Merville de Lyon, Duppuy Jamain, Ernest Metz, Anna Olivier Madame Caroline Kuster, and others. The second prize went to Messrs. G. & W. H. Burch, Peterborough; and the English Fruit and Rose Co. (Cranston's Limited), was third. Mr. Will Tayler, Hampton, Middlesex, took the leading award for 24 distinct blooms set up with foliage, and therefore different from the stereotyped method of setting them up. Mr. J. Mattock, The Market, Oxford, was second; and Mr. G. W. Piper, Uckfield, Sussex, came in third. The first award for 24 trusses, three of each, was taken by Messrs. D. Prior & Son, Myland Nursery, Colchester, with a good exhibit; Messrs. G. & W. H. Burch, Peterborough, were second; and Mr. Geo. Mount, Canterbury, third.

In the amateurs class for 48 distinct blooms the first award was carried off by Mr. Alfred Tate, Downside, Leatherhead. Fine blooms were Baroness Rothschild, La France, Merville de Lyon, Earl of Dufferin, Horace Vernet, Ulrich Brunner, Xavier Olibo, Hippolyte Jamain, Madame Gabriel Luizet, Anna Olivier, Rubens, Madame Cusin, Comtesse de Nadaillac, Madame Hoste, Madame de Watteville, Souvenir de S. A. Prince and others. He also had the best Tea or Noisette in the amateurs classes in Souvenir d'Elise Vardon. Mr. S. P. Budd, 8, Gay Street, Bath, was second in this class; and the Rev. J. H. Pemberton, Havering Atte Bower, Essex, was third, his blooms being rather far expanded. Mr. J. Brown, gardener to Mrs Waterlow, Great Doods, Reigate, had the best 36 blooms, some of which were very fine. T. B. Haywood, Esq., (gardener, Mr. C. J. Salter,) Woodhatch Lodge, Reigate, was second with some fresh blooms; and the Rev. A. Foster-Melliar, Sproughton Rectory, Ipswich, was third. Mr. Walter Drew, Uplands, Ledbury, had the best 24 blooms, showing some fine examples of Her Majesty, François Michelon, Dupuy Jamain and others, mostly of large size. The second award went to Mr. A. Hill Gray, Beaulieu, Newbridge Hill, Bath. For 16 varieties, three trusses of each, E. B. Lindsell, Esq, Bearton, Hitchin, Herts. took the leading award with some fine blooms. Mr. S. P. Budd, was second with much smaller flowers; and A. Slaughter, Esq., Jarvis Villa, Steyning, was third. A fine stand of twelve varieties, three blooms of each, was shown by Mr. Walter Drew, who was first. He was followed by Mr. J. Brown who was a good second. For 12 blooms of any H. P., the latter took the leading award with Mrs. John Laing in fine condition. Mr. A. Hill Gray was second with La France. For 24 blooms in another division, the Rev. W. J. Romaine, (gardener, Mr. J. Guttridge,) The Priory, Old Windsor, took the first award. His flowers bore evidence of good culture, especially the foliage of Souvenir d'Elise Vardon, which was of enormous dimensions and leathery. J. C. Tasker, Esq., (gardener Mr. J. Perry), Middleton Hall Brentwood, was second. Mr. E. Bethune, Denne Park, Horsham, had the best 18 blooms; and F. T. Baker, Esq., Holmfels, Reigate, was a good second. For 12 distinct varieties, W. H. Fowler, Esq., Claremont, Taunton, was first, showing Tea Roses solely Frederick Warde, Aldon, Addington, West Malling, was second with H. P. varieties, which were very good. For 8 varieties, three trusses of each, E. Wilkins, Esq., Monksdene, Sutton, had the best 8 varieties, 3 trusses of each; P. G. C. Burnand, Esq., Reigate, was second with neat and fresh blooms. Mr. E. M. Bethune had the best 9 blooms of any H. P. in this division with Madame Gabriel Luizet; E. Wilkins was second with the same sort. Dr. Tucker, Swanley Junction, had the best 12 blooms, and C. J. Grahame, Esq., Coombe Road, Croydon, was second. The Rev. H. B. Biron, Hythe, had the best 9 blooms, and was followed by the Rev. F. S. Taylor, Evesham. Dr. Tucker was again first for 6 varieties, three of each; and O. S. Orpen, Esq., West Bergholt, Colchester, was second. For 6 Roses of any H. P., Dr. Tucker was given first with Her Majesty; Mr. H. Foster, North Street, Ashford, Kent, was first for 9 distinct varieties. Edward Horne, Esq., Park House, Reigate, had the best 6 and the best 4, three trusses of each. For the best 6 in another division, W. H. Fowler, Esq., took the leading place, with Tea Roses solely. R. H. Langton, Esq., Raymead, Hendon, had the best 6 Roses grown within eight miles of Charing Cross. The Rev. J. H. Pemberton had the best 6 new Roses in the amateurs' class, showing Madame Caroline

Testont, T. W. Girdlestone, Gustave Piganeau, Mrs. Wm. Watson, and Jeannie Dickson, etc.

In the nurserymen's classes for Tea or Noisette Roses, Mr. Geo. Prince, 14, Market Street, Oxford, took the leading award as usual for 24 blooms. They were of medium size, but neat and fresh, and included Madame Furtado, Comtesse de Nadaillac, Souvenir de S. A. Prince, Madame Cusin, Ernest Metz, Cleopatra, Marechal Neil, Catherine Mermet, Adam, Rubens, Niphetos, Marie Van Houtte, and Souvenir d'un Ami. Mr. Frank Cant took the second award with a good exhibit; and Mr. B. R. Cant came in third with somewhat older blooms. Mr. J. Mattock, New Headington, Oxford, had the best exhibit of 18 Tea or Noisette varieties, which were in fine form. Messrs. D. Prior & Son were second, and Messrs. J. Burrell & Co., Howe House, Cambridge, took the third place. The first award for 12 blooms of any Tea or Noisette was taken by Mr. F. Cant with Madame de Watteville. Messrs. G. & W. H. Burch were second, and Mr. B. R. Cant was third. Mr. Geo. Prince again came to the front in the class for 18 varieties of Teas, three blooms of each, and was followed by Mr. J. Mattock. For 18 single trusses of Teas in the amateurs' class, Mr. A. Hill Gray took the premier honours, the Champion Challenge Trophy, with some grand blooms. The Rev. F. R. Burnside, Birch Vicarage, Hereford, was second; and the Rev. H. Berners, Harkstead Rectory, Ipswich, was third. For 12 blooms, W. H. Fowler, Esq., was first with a fine stand. A fine even lot of 12 varieties of Teas, 3 of each, was shown by Mr. A. Hill Gray, taking the first award in a good competition; the Rev. F. R. Burnside was second with a good lot. The first award for the best 9 of any Tea or Noisette was taken by the Rev. A. Berners with a magnificent stand of Innocente Pirola. Mr. O. G. Orphen had the best 12 varieties. Mr. E. Wilkins had the best 9 varieties, and P. G. C. Burnard, Esq., took the leading place for 6 sorts. C. J. Grahame, Esq., had the best 6 of any Tea in Madame Cusin. Ed. Mawley, Esq., Rosebank, Berkhamstead, had the best 9 varieties in another class; Mr. C. Cuthbert, Birch, Hereford, had the best 6 sorts, showing Madame Cusin in fine condition. In the open class for 12 blooms of any yellow Rose, Mr. G. Prince was first with Comtesse de Nadaillac. For 12 of any white except Niphetos Mr. F. Cant took the leading award with The Bride. Mr. B. R. Cant had the best 12 crimson Roses, in Dupuy Jamain. Mr. Geo. Mount was first for velvety crimson sorts, showing Fisher Holmes. Mr. A. Hall Gray was first for 12 Maréchal Niel. Mr. G. Mount had the best stand of Marie Baumann. Mr. F. Cant was first for 12 blooms of Mrs. J. Laing in a good competition. The stand of A. K. Williams, shown by Mr. B. R. Cant, consisted of small but neat blooms and took the first award. Messrs. Keynes, Williams & Co., Salisbury, had the best stand of Niphetos; and Mr. F. Cant had the best stand of Her Majesty. The latter had the best 12 of any H. P. not named in the schedule, with Madame Gabriel Luizet, in a great competition. Mr. Geo. Prince had the best 6 of Catherine Mermet and as many of The Bride. The best 12 blooms of any new Rose came from Mr. B. R. Cant, who showed Gustave Piganeau. Messrs. Paul & Son had the best 12 new Roses.

The collections of old-fashioned garden Roses created a considerable amount of interest amongst visitors. Messrs. Paul & Son had the finest collection in the nurserymen's class, and it included Moss Roses, Rosa rugosa, W. A. Richardson, and others of that type. Messrs. G. Cooling & Sons took the second place; and Mr. E. F. Such, Maidenhead, was third. In the amateurs' class Mr. C. E. Cuthell, Chapel Croft, Dorking, took the leading award for a collection, showing amongst others the Austrian Yellow, Austrian Copper, W. A. Richardson, Polyantha Roses in variety, Rosa rugosa, R. lucida, R. macrantha, and others. The Rev. J. H. Pemberton was second with an interesting collection. Miss Mellish, Hodsock Priory, Worksop, Notts, took the third place. Amidst such a plethora of Roses it might well be asked where the Cabbage Roses are, which used to be the glory of the garden in our grandmothers' time. Roses suitable for making buttonholes were also the centre of great attraction, for, being cut in the bud state and set up in bunches, they certainly were very charming. The first award for 12 bunches was taken by Mr. J. Mattock, who had Ma Capucin, Rubens, Comtesse de Nadaillac, Anna Olivier, Amazone, Niphetos, and others. Mr. Alfred Evans, Marston, near Oxford, was second with a fine exhibit. The first award for 9 bunches of single-flowered Roses was accorded to Mr. C. E. Cuthell, who showed several of the single kinds above mentioned.

A number of miscellaneous exhibits were arranged round the sides of the central transcept, and another space alongside of it in the palace. Messrs. J. Laing & Sons, Forest Hill, had a collection of Caladiums, Dracænas, Palms, Begonias, Roses, Gloxinias, and others on a table edged with Maidenhair Fern, &c, They had also a large collection of Delphiniums, Pinks, Pentstemons, Pyrethrums, Pansies, Irises, and other herbaceous plants. Messrs. J. Carter & Co., High Holborn, had a collection of Cacti, including Cereus, Mamillarias, and others, as well as the curious Bird's Nest Moss or Resurrection Plant. A large collection of herbaceous plants—including Delphiniums, Iris, Poppies, Digitalis, Pæonies, and Gaillardias—was shown by Messrs. Barr & Son, Covent Garden. A fine group of Calodiums, edged with Maidenhair Fern, was set up by Messrs. J. Peed & Sons, West Norwood. Messrs. J. Veitch & Sons, Chelsea, exhibited a collection of Tea and H. P. Roses. The Right Hon. Lord Penzance, Eashing Park, Godalming, had an interesting collection of seedling Roses. Double Begonia flowers set up in trusses upon a background of Ferns were shown by Messrs. H. Cannell & Sons, Swanley, Kent. A large group of cut Roses set up in different ways was shown by Messrs. Wm. Paul & Son, Waltham Cross. Mr. C. Turner had some boxes of Roses not for competition, and Mr. Wm. Rumsey, Waltham Cross, had another small collection of Rose flowers.

PITLOCHRY.

Horticulturists visiting the north of Scotland might do very much worse than spend a few days at the Athole Hydropathic, at Pitlochry. A few years ago the establishment was purchased by Mr. W. Macdonald, of Orchid fame, and he has since done much to add to the beauty and interest of the extensive and delightful gardens and pleasure grounds. The Hydropathic occupies a commanding position on the summit of a hill some 500 ft. above sea level, and on all sides most magnificent scenery may be enjoyed.

The pleasure grounds are beautifully undulated, and have been most judiciously planted with Conifers and other choice trees and shrubs. At the time of my visit, recently, the Rhododendrons, Laburnums, Thorns, etc., were in full beauty, and numbers of plants were in bloom on the various bits of rockwork that have been introduced. Capital archery, cricket, lawn tennis, and croquet grounds are provided for the use of the visitors, and near the main building are situated the Orchid houses, which contain a nice collection of Cattleyas, Lælias, Dendrobes, Oncidiums, Cypripediums, etc., all in their turn providing choice flowers for cutting. The conservatory was very gay with tuberous Begonias, Celosias, Pelargoniums, Gloxinias, Hydrangeas, etc., and the principal rooms are nicely decorated with plants and cut flowers. The rooms are large and well furnished, and the cuisine and attendance excellent; indeed, I have met with few places where I have enjoyed so much pleasure and comfort.—*Rusticus.*

A New London Garden.—Another addition was made last week to the open spaces of London by that useful body, the Metropolitan Public Gardens Association. The new garden surrounds St. Anne's Church, and was originally the burial-ground of Soho parish. It is a picturesque little plot of three-quarters of an acre, and will be a great boon to the twenty thousand inhabitants of the parish, who before this had no open space in their midst, for Soho Square is closed against them. The opening ceremony was undertaken by Lady Hobhouse, who at the outset was presented by a flower-seller with a handsome basket of flowers made by the donor specially for the occasion It is interesting to note that ninety-nine acres of open spaces have been added to London since the association began its valuable work in 1884. One thousand seats have been placed in gardens, trees planted in many thoroughfares, and grants of £3,000 made towards the formation of gardens and gymnasia by the association. Last week also the old burial ground, Hackney Road, was opened as a garden.

FLORICULTURE.

A Selection of good Tulips.

In giving a select list of Tulips, I shall name only those which, while worthy of being cultivated, can yet be obtained, and are moderate in price. Of feathered bizarres: Lord Lilford, Masterpiece, Royal Sovereign, and Sir Joseph Paxton. Of flamed bizarres: Sir J. Paxton, Dr. Hardy, and Prince of Wales. Of feathered Roses: Heroine, Julia Farnese, Mabel, and Modesty. Of flamed Roses: Aglaia, Annie M'Gregor, Lady Catherine Gordon, and Madame St. Arnaud. Of feathered byblœmens: Adonis, Lord Denman, Violet Amiable, and William Parkinson. Of flamed byblœmens: Duchess of Sutherland, Lord Denman, and Talisman. There are other varieties of a choicer and more expensive character, but it is always well for a young beginner in the art of cultivating any choice flower to commence with varieties that are fairly cheap while good, and add more valuable varieties to his collection as his capabilities as a grower develop.

While it is scarcely in my power to recommend sources from which Tulips can be obtained, I would advise all who are desirous of forming and growing a collection to write to Mr. James W. Bentley, the secretary of the Royal National Tulip Society, Stakehill House, Castleton, Manchester, who will, we think, be able to give information on this point. It is very important the bulbs be obtained from unexceptionable sources, so that the amateur grower may feel sure he has obtained what he desires to possess.

Breeder Tulips are in most cases so beautiful that a few flowers in the unbroken form should be grown, and also because prizes are offered for them at Tulip shows. Then there is the additional interest of watching them break into character, as time after time they change from the self-coloured to the rectified form. The following would comprise a very useful collection:—Bizarre breeders: Garibaldi, Sir Joseph Paxton, Sulphur, and William Wilson. Byblœmen breeders: David Jackson, Glory of Stakehill, Lord Denman, Nimbus, Queen of May, and Talisman. Rose breeders: Annie M'Gregor, Mabel, Mrs. Barlow, and Miss Burdett Coutts.

At the end of September or early in October, the Tulip growers go through their collection of bulbs, and by stripping off the old skins and otherwise cleaning them, prepare them for planting in November. It is then at that season of the year anyone desirous of obtaining bulbs should make application for them.—*R. D.*

Gleanings from the World of Science.

Pear Blight.—For a good many years past a disease has been giving some trouble in American orchards amongst Pear trees. It is known as Pear blight and is caused by a fungoid organism or germ that hitherto has not been found to produce spores. The germ possesses movement, and this has been determined to be due to the presence of cilia, which by their lashing propel the germ about in any nutrient fluid in which it can live. It attacks the flowers, destroying them, and gains an entrance through bruised or injured spots, but naturally through the nectaries of the flowers to which it is carried by means of insects, and may therefore be progagated to any extent by insect agency, thus ruining the chances of a crop in a very short time. According to the report of the chief of the division of Vegetable Pathology, United States for 1891, trees can be protected while in bloom by means of bags of paper, cheese cloth, mosquito netting, or anything that will prevent insects from gaining access to the flowers. Some of the varieties of Pears when so protected failed to set any fruit, but Duchess and Seckel set fruit without insect aid. Other experiments were made to test whether the trees could be saved from injury by means of spraying. The flowers were inoculated with the germs of the disease and afterwards sprayed with Bordeaux mixture, ammoniacal solution of copper carbonate, and a 3 per cent. solution of chloride of lime in different cases. The spread of the disease was by these means prevented, and from 98 to 100 per cent. of the infected blooms and the destruction of the blooms prevented.

REDLEAF.

Redleaf is one of those historic old gardens that should possess a peculiar interest to the members of the National Chrysanthemum Society who may visit it on the 22nd, for at a very early date in the annals of this popular flower it was grown there with considerab'e success. Upwards of 70 years ago Readleaf was occupied by a Mr. Wm. Wells, an ardent horticulturist, who, it may easily be imagined, was not slow to add some plants of the then almost newly discovered autumn flower to his collections. His gardener's name was Joseph Wells, and it is in a great measure to him that we owe the rational culture of the Chrysanthemum, because, previous to his discoveries as to its wants, the flower was treated in a very curious way viewed from our present stand-point.

For years prior to 1821, the orthodox method of cultivation was to take cuttings from the side branches in August, plant them in shallow pans in a warm shaded spot, and cover them with a hand-glass. In a month or six weeks the cuttings were rooted and shifted into 60-pots, then placed in a warm situation until November, when they were placed in a frame for the winter. About the end of April the young plants were repotted into 32's and set out in a well sheltered border for the summer. When the buds began to form, which was usually about the beginning of October, the plants were housed and rotected from wind, rain, and frost.

This was entirely altered by the gardener at Redleaf, who took cuttings in May or early in June and succeeded in getting his plants to bloom the same year. Mr. Joseph Wells only allowed three shoots to grow on a plant, and when they began to show for bloom thinned out the buds the same as we should do now. In December 1821 he published a full account of his proceedings and said he had adopted it for three seasons. His plants were occasionally watered with rich liquid manure, a practice commenced by him that season at the suggestion of a Chinese, who informed him that it was constantly employed in the cultivation of that plant in China.

Mr. Wells' method of cultivation was afterwards very generally adopted with the exception that the cuttings were taken a little earlier than he recommended, and five years later Mr. Joseph Sabine, the secretary of the Horticultural Society of London, said that the great improvement that had then taken place in the cultivation of the Chrysanthemum was due to the information communicated by Mr. Wells.

Although Redleaf has undergone many a change since those old times, yet the lesson that was taught there in the second decade of the century has not been forgotten but still further improved upon, and the members of the N. C. S. at their annual outing will no doubt be interested in knowing the above facts.—*P.*

HOW TO PRESERVE FRUITS.

An American lady who appears to be well informed on this subject, states that it is important when drying fruit not only that it shall be sound and of good quality, but also that it shall be quickly prepared and rapidly dried. When all moisture is expelled it will keep for years in a dry place. One method of drying is to cook the fruit a long time, reducing it as nearly as possible to a paste; spreading this in thin sheets and drying in the sun or by evaporation. When free from moisture this fruit can be packed in boxes and will keep indefinitely. Another process of drying is to cook the fruit for a long time with sugar and water, and then partially dry it. In this case the sugar is largely the preservative agent, and the drying goes on only until no syrup drips. Then the fruit is packed closely in boxes or jars and will keep well in any climate; hardening, of course, when exposed to the air for a considerable period. This fruit is ready for use at any time, but is more of a confection than a sauce.

The more modern process, and by far the most useful and healthful, is that of canning. The destruction of germs and the exclusion of air are the principles upon which canning is based. The article to be preserved is cooked for a short time and then put in jars from which the air has been expelled by heating them to the boiling point. They are then sealed, and when cold are set in a cool, dark place. If all the conditions be right the fruit will keep for an unlimited number of years, and when opened will be found to have nearly all the freshness and aroma of newly-gathered fruit. Now, this is true of the majority of fruits, but not of all. The Strawberry subjected to this process, will come out a pale, spongy, insipid thing, whereas the Raspberry seems to have its colour, flavour and odour intensified. If, however, a generous amount of sugar be added to the Strawberry in cooking, it will retain its shape, colour and flavour. It is an error to attempt to can this berry without sugar or with only a small amount.

Some fruits can be canned without heat or sugar. The jar should be packed full of the fruit and then placed under a faucet, having the water run in rapidly for a moment, that all the air in the jar be displaced; then sealed and put away in a cool dark place. Perhaps not many kinds of fruit would keep if put up in this manner. Certainly I should have no expectation of success with juicy fruit of any kind. I have, however, been successful with Rhubarb. Green Gooseberries and some kinds of Plums can be preserved in this manner. It is a question with me if the acid in these fruits does not have a good deal to do with the keeping quality.

FICUS ELASTICA.

This is one of the most popular plants for a window or hall table that we have. It has a stately and majestic appearance, is very easily grown, and retains its healthy character for many years if afforded reasonable attention. Now there are India rubber plants and India rubber plants; some have been pushed up as quickly as possible in order to get a market plant of saleable size in as short a period as can be managed. Although these plants have a very taking and healthy appearance at first, they very soon show signs of the tropical existence they have hitherto experienced in the forcing heat of a stove temperature.

What the majority of my readers require are plants that have been grown on in an ordinary greenhouse or conservatory for some six or twelve months before they purchase them. Such are more hardy and will consequently thrive much better under dwelling house treatment than those removed direct from a moist and growing temperature that was fully twenty to thirty degrees in excess of that you would naturally desire in a dwelling room. As a little guide to purchasers, I may point out that the foliage of a "hard" grown and consequently hardier plant of this popular Ficus is of a much paler green, stiffer, and more rigid altogether, and not so large as the leaves of a highly-forced subject. Choose a plant that is clothed with foliage to the bottom, and with the sheath of the unexpanded leaf in a healthy state, but not too succulent and sappy. When purchased the plant is almost certain to be clean, and if you are to succeed with it for any length of time it must be kept so.

Insect pests do not trouble the India rubber plant to any great extent; and the few spongings that will be necessary to cleanse the foliage from dust will generally speaking be quite enough to keep the plants free of all insect enemies. India rubber plants are of slow growth, and with very stout and leathery leaves. In all such instances it is more than ever necessary to keep the pores of the leaves open and clean, so that the plants may feed upon the atmosphere. Plant life, especially those of slow growth and thick foliage, is in many respects very similar to animal life, that is, they require a medium treatment and great cleanliness, never going to either extreme. While advising the above treatment to a friend of mine in town a short time back, he replied, "you say treat the plant as naturally as possible, and yet they never get washed with soap and water out of doors and when in their natural habitat." Quite so, but they *do* receive a grand equivalent for the same in the rains and dews. A weak solution of soapy water, say at the rate of two ounces of soft soap to a gallon of water, is a grand cleanser for these plants.

The Ficus elastica does not require a large pot compared to the size of the plant, and should therefore not be shifted on too freely. Presuming then that the plant is in suitable compost when purchased, I would not repot it the first season. Older subjects may be repotted at once, great care being taken not to injure their fleshy and succulent roots, to use clean pots and potsherds, and to keep as nearly as possible to the same class of compost as they are already thriving in. For the help of any possessing a plant that does not thrive, I will name a compost that is very suitable for this plant. Spongy peat one-fourth, fibry loam one-fourth, leaf soil one fourth, the remaining part to be made up of well-decayed manure, broken charcoal, and coarse river sand. It is particularly essential that they be well drained, as the India-rubber plant requires a quantity of water, and must never be allowed to get into a stale or sodden state.

Watering is a difficult subject to treat upon in any definite manner, as no hard and fast rule can be laid down, a plant often requiring as much during one day as would suffice for a week or two under other conditions of light, draught, and temperature Your aim must be to keep it in a fair state of moisture without allowing it to become unduly wet. I have seen plenty of plants that have not succeeded, but this can generally be traced to one of the three following causes:—An indifferent plant to commence with, one grown in stove heat and moved direct from thence to the purchaser; inattention to watering; too much pressure when cleaning the foliage, and consequent injury to the cuticle of the leaf, etc. Cold and cold draughts have a very injurious effect upon these plants. They should never have a temperature of less than 40° Fahrenheit, or more than 90° during the heat of the summer season, if you are to keep them in health and in a suitable condition for room culture.

Probably there is no plant more easily grown, or one that will give more general satisfaction as a room or window subject, than Ficus elastica. All it needs is a little care at the proper time, and to start with a plant of fairly robust and hardy constitution. —*Experience.*

ON PACKING ROSES.

Mr. John N. May, one of the most experienced of American Rose growers, considers that the proper packing of Roses is a matter of more importance than many suppose, particularly when the plants have to travel long distances, and in the *American Florist* states that there are two main considerations to bear always in mind; first, that the plants shall arrive at their destination in the best possible condition, and second, that the package be as light as possible, for the express companies now charge full first-class rates on all shipments of plants, and double first-class rates on any packed without a firm cover over them, as they claim such cases take much more room, as nothing can be placed on top of them.

The style of packing most generally in use for this class of plants, is what is known in the trade as close, tight packing, and for all seasons excepting during very warm weather it is very much the best. Take boxes about the size required to hold the number of plants ordered; but these should not as a rule be more than eight inches deep. If the weather should be very cold, carefully line it with two thicknesses of good stout paper, then a thickness of cotton wadding, covering this again with another stout course of paper, taking care that all joints are well overlapped. It is best to fold the sheets of paper so that each is slightly longer than the sides or ends, press them in close to the corners, then cover the bottom in the same way: this done, the box is ready to receive the plants; these should first be wrapped singly in a piece of brown straw paper of suitable size, to go twice around the ball of earth and covering at least a part of the foliage. Commence placing a row of plants across the end of the box, with the tops facing toward the centre of the box; place each ball as close to the next as possible without pressing the soil out of shape; this done, commence another row across the box, laying them as closely to the first row as possible; the paper which partly covers the foliage will protect it from injury. After placing two, three or four rows across, according to the size of the plants, commence the next row by reversing the plants, laying the tops over the balls of the last row and continue doing so until the whole layer is completed, and should there be any small space at the finish not quite filled up, pack this tight with a little moss, excelsior, or like material. Cover this bottom layer over thinly with the same class of material, then commence with the next layer at the same end the bottom layer was finished at, and pack exactly as the first was done, finishing off in the same way, and continue doing so until the box is quite full, which for two-inch stock will be about four layers of

plants; then cover with paper, etc., the same as the box is lined with, bringing the side papers over on top of this again, which, when the lid is nailed on tight makes a very close, warm covering. Before the covering is put on, and with the last plant put in the box, be sure a label with the name of the variety plainly written on it is placed with this plant. Where several varieties have to be packed in the same box, each and every variety should be distinctly labelled, and a sheet of paper differing in colour to the general packing paper placed over the last variety packed before commencing with another. I prefer a sheet of newspaper doubled for this purpose, allowing it to overlap considerable of the last sort placed in the box, which clearly indicates to the person unpacking them that there is a division intended here.

As soon as all danger of frost is passed, this lining of paper, etc., can be reduced, and in warm weather is better dispensed with altogether. For very long distances in extremely cold weather, it is advisable to put an inch of dry sawdust all around the outside of the paper lining, or rather, between it and the box: this will effectually stop any frost from getting into the plants, even if exposed for two or three hours to zero.

As the season advances to July or August, there is considerable danger in packing plants tight as above, on account of their liability to heat. To avoid this, we prefer to take a box deep enough to allow the plants to stand upright in without breaking their tops; wrap each plant singly as above, then commence at one end, stand the plants upright, and where they are large plants placing two rows, one plant resting on and standing between two of the bottom row. A little practice at this, and the packer will soon become proficient in placing these securely. Between every two tiers of plants thus packed, a strip strong enough to hold them should be nailed. Continue placing the plants and strips in the same way until the box is full, nailing another strip in securing the last row tightly. Nail strong strips over the top and mark the box "this side up." By this means, plants can be shipped long distances in a perfectly fresh condition and secure from damage, because the foliage can get fresh air, and will not get bruised or pressed out of shape. If the packing is carefully done they cannot get out of place in the box. But when packing plants this way, never have a bud or bloom on the plants or they may get moved out of the box long before they reach their destination, and oftentimes the plant as well as the bloom. This means losing the whole package aud lots of trouble all around. If necessary to ship plants in bloom, then the whole must be protected.

Shipping plants by freight, particularly for long distances, is not advisable excepting for large plants that have been previously somewhat hardened off to enable them to stand for one to two weeks without water, and even then they often suffer more damage than the cost per express would have been.

GLOXINIAS.

SELECT strains of Gloxinia are now so plentiful and so good, as by comparison with what existed but a few years ago, that the practice of specially naming varieties is gradually going out of date, and as in the case of the Cineraria and some other popular and greatly improved flowers, we shall soon know them by name no longer. At the present time the floral committee is most chary in granting certificates to them, and all but the extra specially good fail to get the coveted award. And this is as it should be in the case of all plants so easily raised as the Gloxinia, and with which every care is taken by lovers of them to select only the very best for seed. Many an amateur now finds delight and pleasure in the cultivation of these floriferous and handsome flowers, and marvellously well many succeed with them, but in all our experience we have met with few who can so justly lay claim to amateur championship honours as Dr. J. S. Slater, of Seafield, Lytham, an illustration of one of whose plants accompanies these remarks. Dr. Slater has very kindly communicated to us the details of his mode of treatment, and we have much pleasure in giving them in his own words, for the benefit of those of our readers who may be less successful.

Dr. Slater writes:—"I generally raise a batch of young plants every year from seed that I save from carefully selected varieties. I sow the seed on January 1st and prick them out in due course. I let them flower about one bloom, to test their quality, and weed out the useless ones. I then ripen off the selected seedlings, and when the foliage has quite died off I store the tubers away in old biscuit tins with dry sea-sand, of which we have plenty at Lytham. I keep them in my photographic dark room, perhaps in a temperature of 55° Fahr., and when they begin to show signs of growing, which they do about Christmas, I take them out and set them in shallow boxes, with sand, in the greenhouse and syringe them.

"I keep them in this moist state till they have pushed their growth and are just beginning to root, then I pot them in a compost of sea-sand, leaf-soil, old manure (from disused hot-bed), good loam, and a little peat dust that is shaken out of Orchid peat. I pot them *lightly* and put them near the light, but as the sun gets stronger towards April I shade them a little. In watering I am most careful, as herein lies the secret of success. I never water the foliage by any chance, as it causes rust and disfigures the foliage.

"My plants generally grow the second year to a large size. I thin out the foliage in the centres of the plants of the upright flowering kinds. This allows the buds to receive more light, air, and space, and a better shaped plant is the result. If this be not done some of the very free flowering kinds will literally choke themselves in their efforts to find space. I always pot and handle the plants myself, and allow my gardener to water only. I have had scores of plants with from 50 to 80 blooms expanded at one time, with apparently as many buds below ready to follow in their turn. I carefully each evening pick off all faded flowers.

"There is no plant I think that produces such a wealth of bloom in a given space as the Gloxinia. Their cultivation is very simple, their greatest drawback is their brittleness. They last a long time when cut if put at once into water. Watering on the foliage causes excessive brittleness both in the bloom and the leaves. I have grown these plants many years and tried many experiments with them. I first fell in love with them at Reading at Messrs. Sutton's nurseries. I had a packet of seed from them in the first instance and have tried to emulate their cultivation. I find I can hybridise and get new varieties every year. I believe the upright spotted varieties are the most floriferous.

"I do not believe in keeping tubers beyond the third year, they get so cabbagy in their habit. I have one, as I write, quite a yard across, with leaves more like Rhubarb; but it has not the same proportion of flowers which younger plants bear under exactly the same conditions."

A SPECIMEN GLOXINIA GROWN BY DR. SLATER, OF LYTHAM.

THE HERBACEOUS BORDER.

Choice Plants in Flower.

ŒNOTHERA FRUTICOSA.—Various names are given to this plant in gardens, a fact due to its being somewhat liable to variation. The red stemmed form to which the name Œ. f. Youngi is given in gardens is very pretty, dwarf and floriferous. The stems usually range from 12 in. to 18 in. high, and are branched in the upper portion, the primary stem and the branches ending in a short corymbose raceme of bright yellow flowers, which contrast well with the red stems and dark green foliage.

ŒNOTHERA SPECIOSA.—This is probably the best of the white species for the ordinary herbaceous border, on account of its upright habit. The flowers are large and produced in succession in elongating racemes. Although the habit is similar to that of Œ. fruticosa in some respects, the leaves are deeply serrate, and underground rhizomes send up suckers here and there, even at some distance from the plant in loose ground, thus affording a ready means of increase. The flowers are very choice in their way with a pale yellow blotch at the base.

PENTSTEMON GLABER.—There are several Pentstemons that are of a highly ornamental character independently of the species which has been taken in hand by the florist. P. glaber is one of them, and has ovate or ovate lanceolate, slightly glaucous leaves. The flowers are large, somewhat inflated, and of various shades of colour if raised from seeds, such as pink, purple, and various shades of blue. They are produced in a long, terminal, one-sided thyrse, that is in cymose clusters, densely arranged along the main axis. It is therefore of a showy character and well worthy of attention being paid to its improvement.

VERONICA TEUCRIUM LATIFOLIA.—This variety differs from the type in its broader, ovate leaves, and more robust, erect habit. The flowers are abundantly produced in long racemes in the axils of the upper leaves of the stems, which grow to a height of 12 in. to 18 in., according to the character of the soil and its moistness. They are also of good size for a Veronica, and bright blue with darker veins.

LATHYRUS GRANDIFLORUS.—Of the tall growing sorts of Lathyrus, that under notice is amongst the first to come into bloom, and is noticeable on account of the great size of its flowers, which are produced in pairs, not in racemes like those of the better known Everlasting Pea. The standard is of a soft rose, much intensified at the base, while the wings are crimson. The plant may be increased by division of the stools, or better and more extensively from seeds.

CAMPANULA PERSICÆFOLIA MAXIMA.—The varieties of Peach-leaved Bell flower are now pretty numerous, the difference being chiefly in the size and colour of the flowers, by being single or double, or having the calyx enlarged and coloured like the corolla. The stems of the variety under notice grow 2 ft. or 3 ft. high, and the blue flowers are of great size. It may simply be looked upon as a giant form, and is therefore deserving of a prominent position in the border.

SENECIO MACROPHYLLUS.—The general appearance of this bold and striking species does not remind one of its congeners, the Ragworts. The glaucous leaves are ovate or heart-shaped suddenly contracted at the base and decurrent upon the petiole, and at a short distance reminding one more of a Cauliflower or Broccoli rather than a Ragwort. The flowers are yellow and produced in a terminal thyrse on stems 2 ft. to 3 ft. high. It may be increased by the separation of the crowns. The rootstock should not, however, be disturbed oftener than can be helped, especially if a vigorous growth is desired.

GEUM CHILOENSE GRANDIFLORUM.—As the latter name would suggest, this variety is notable for the size of the flowers, which are twice as large as those of the type, semi-double, and of a bright scarlet. Of all the cultivated forms of Geum, none are more popular or showy than those of G. chiloense with its several varieties, single and double, which keep on flowering all the summer till late in autumn, provided the plant is in a soil and position favourable to good growth.

GILENIA TRIFOLIATA.—This plant is closely allied to the herbaceous Spiræas, but the petals are very much longer and not so regularly disposed. The red stems are slender, bearing thinly disposed leaves of three leaflets, and generally grow about 2 ft. high, so that the plant should be placed in the second or third line of the border.

CENTAUREA DEALBATA.—The foliage of this Centaury is once or twice divided in a pinnate manner, and, in addition to this, is white on the under surface. The heads are of large size, bright rose-purple, and produced on stems just arising above the foliage. The plant is well fitted for border culture, or for placing on the elevated parts of a rockery. Increase is obtained by seeds or by division.

VERBASCUM PHŒNICEUM.—The bulk of the species of Mullein in gardens have yellow flowers, but that under notice is exceptional in having violet, purple, rose, pink, cream, mauve, or white flowers; in fact, seedlings are very variable, and when once this strain is obtained, almost any of the above mentioned, as well as other shades, may be obtained by seed. Cultivators would do well to select the more distinct types, preserve them under names, and so propagate by division. Seed-sowing and selection could also be continued.

GARDENING MISCELLANY.

PHILADELPHUS MICROPHYLLUS.

THE dwarf habit, the densely branched stems, and the small ovate leaves of this plant show it to be the tiniest and most distinct of all the Mock Oranges. The flowers are large in proportion to the other parts of the shrub, pure white, and deliciously fragrant; there are four oblong petals. Each shoot terminates in a single flower, but owing to the numerous, slender twigs, given off from the main upright stems, they appear to be produced in sprays. Those who take delight in flowering shrubs should add this one to their collections. It is a native of New Mexico, but appears to be hardy in this country, in the more southern portion at least.

CHRYSANTHEMUM ZAWADSKII.

THE hardy species of Chrysanthemum of similar habit to our native C. Leucanthemum are more numerous than one would imagine; and considering that Marguerites are so popular, a number of these hardy Chrysanthemums might well be grown to furnish cut flowers. The bulk of the leaves are confined to the base of the stems, and are also thickly set on the barren shoots. All these are ovate, twice divided, and of a light green. The stem leaves are more thinly scattered, and three-lobed to five-lobed, the uppermost ones being small and trifid only at the apex. The flowers are of good average size, freely produced, and have white rays with a yellow disc. The whole plant grows only about a foot in height.

PHORMIUM TENAX.

OUT of doors in this country the New Zealand Flax usually produces leaves 2 ft. to 3 ft. long, with a flower stem proportionately higher, but under the more favourable conditions of a stove or greenhouse they attain much finer dimensions. A specimen in a small conservatory at 5, Dorset Gardens, Brighton, is now in bloom. The leaves are 8 ft. long, and the flower stalk about 10½ ft long. Some of the glass of the roof had to be taken out to allow it to complete its growth. The flowers are 1½ in. to 2 in. long, dull orange red, with crimson projecting and curved filaments, with an abundance of oranged coloured pollen. The species has flowered several times in this country although by no means common, and some have even ripened seeds in the open air as far north at least as the suburbs of London. It is regrettable that the plant is not more hardy in our climate, for it gives a sub-tropical aspect to the garden. Plenty of moisture is necessary for its vigorous development, and from that point of view is sometimes planted on the margins of streams and ponds with fine effect.

FABIANA IMBRICATA.

FOR walls as well as pot culture I can recommend this fine old plant. In a sheltered nook trained against a wall in Messrs. Laird & Sinclair's nursery, Monefeith, N.B., is a fine specimen 8 ft. high, covering about the same in width, and literally covered with its snow-white Erica-like flowers. I have known this plant and watched its progress for many years, and it stands the climate well as far north as this district. It is a charming plant as seen here.—*Rusticus.*

MIMULUS CUPREUS PRINCE BISMARK.

BY some botanists this is considered a variety of the Common Monkey Flower (M. luteus), and, whether that is the case or not, it is very distinct for garden purposes. The ovate leaves are relatively of small size and of a rich dark green colour. The flowers of the type are of a coppery-orange, and produced in more or less abundance from early summer onwards, dependent upon the richness and moistness of the soil in which it is growing. Keeping off the seed pods would probably prolong the flowering season, and plenty of moisture would encourage growth. The variety to which the name Prince Bismark is given has rich crimson flowers much about the same size as those of the type when well grown. A small bed of it in the flower garden would be very effective. Messrs. Laing & Sons, Forest Hill, had a Certificate for it last year.

MYOSOTIS RECKSTEINERI.

IN general appearance this looks like a miniature form of M. palustris, the true Forget-me-not. It is a native of mountainous regions on the continent, and is therefore well adapted for planting on moist situations of the rockwork. The leaves are of a light green, like those of M. palustris or M. lingulata, and lie close on the ground, while the flower stems rise only about 1 in. to 1½ in. above it.

GENISTA TINCTORIA HUMIFUSA.

THE typical form of this British wilding generally grows about a foot in height in a state of nature and stands erect. Several much taller forms coming from different countries hardly seem to differ except in stature. The variety under notice has short, procumbent stems spreading upon the ground as the varietal name implies, and merely elevating its flower stalks above the green mass. The plant in all its forms is well adapted for cultivation on the rockery, but that under notice is hardly suited for garden purposes in any other way. It thus gets elevated above the general surroundings, and its bright yellow flowers are brought more directly under the eye. All superfluous moisture can run away, leaving the plant dry, while the deeply penetrating roots are able to search deeply for it amongst the rocks. This particular form has not yet become very common, but we noted it with Messrs. Laing & Sons, Forest Hill.

LINARIA PILOSA.

THE trailing or procumbent stems and the peduncles of the flowers of this Toad Flax are pilose; hence the specific name. The flowers are purple with a yellow and white palate, and on the whole resemble those of L. pallida, but are slightly smaller, being intermediate between those of the latter and L. Cymbalaria. As may be gathered from this description, it is well suited for planting on rockwork, where it may ramble about amongst the stones. It has been flowering for some time past with Messrs. J. Laing & Sons, Forest Hill.

PEACOCK POPPY.

As a rule when Poppies are blotched, the dark colouring is confined to the base or forms a dark blotch in a central position at the base; but in Papaver pavoninum there is a departure from the usual arrangement. The petals are scarlet with a black horse-shoe shaped band at some distance above the base; inside of this band the ground colour deepens to an intense red, with a small purple blotch at the very base. The leaves are twice divided with narrow segments, and the stems are about 18 in. high. The calyx is curiously bristly; and altogether this is so striking a Poppy that it might well be taken in hand by the florist. It is a native of Central Asia including Afghanistan.

MITRARIA COCCINEA.

THIS grand old plant is much neglected and not often seen, but in the conservatory at Balmedie, near Aberdeen, I recently saw a very fine plant trained up the roof. It is well adapted for this purpose, and has intensely brilliant scarlet flowers, which show to great advantage. The plant referred to is in robust health, showing a great number of buds as well as fully developed flowers, and will remain in perfection for a very long time. Let me advise those who are interested in the growing of good greenhouse plants to try it.—*Rusticus.*

MOIR'S GIANT COCKSCOMB.

AMONGST the many fine examples of high cultivation to be seen in the gardens at Clement's Park, Lockee, Dundee, is a superb lot of the above. The strain has been carefully selected for years by Mr. Moir the gardener. They adorn the stages of the flowering house, and are most conspicuous by their size and habit, which is dwarf and most compact, about a foot high. The combs measure fully 2 ft. over from tip to tip lengthways, and a foot through, of the most intense colour. The plants are arranged with Begonias, Pelargoniums, Fuchsias, Liliums, Hydrangeas, etc., and form a most pleasing contrast, the whole of the stages being finished off by a row of Harrison's Musk well-flowered, and producing a charming effect.—*Rusticus.*

SPIRÆA ARUNCUS.

STRONG-GROWING plants are never seen at their best except when allowed to attain a considerable size. Good garden soil well enriched with manure, and especially when attended by a wet season, will enable the stems to attain considerable height; but something more is still needed, and that is to allow the plant to increase in width until it forms a huge bush as wide as high. Such a specimen of Spiræa Aruncus may be seen in the garden of Wm. Marshal, Esq., Auchinraith, Bexley. He grows a number of herbaceous plants of the best kinds, and that under notice is 4 ft. to 5 ft. high, and more than that in diameter, the top being one mass of feathery-like panicles.

GERANIUM ARMENUM.

IN this we have one of the darkest flowered Geraniums in cultivation. Even the well-known G. sanguineum is pale by comparison. The stems generally attain a height of 18 in. to 2 ft., and in good soil produce large crimson-red flowers in great profusion, fading to a decided blue with age. It flowers best and most regularly in a stiffish or good holding soil, so that the light material in some gardens would be much benefited by a good top dressing of farmyard manure where this Crane's Bill is attempted to be grown. There are probably few gardens, however, where it would fail to give satisfaction, and then only where the early part of the season has been unusually dry. In large beds or clumps it is very effective.

EPILOBIUM SPICATUM.

A PLANT under this name in one of the borders at Kew appears to be a miniature form of E. angustifolium, which varies to some extent even in a wild state. The stems of the pigmy in question vary from 6 in. to 16 in. height and terminate in the usual way in a raceme of flowers; the latter are indeed reduced in size, but the petals are rose, and the calyx, ovaries, and stems of a deep red. The leaves are linear-lanceolate, and to all intents and purposes like those of E. angustifolium only reduced in size. If it proves less inclined to run at the roots and to throw up suckers from the creeping rhizomes like E. angustifolium, it will be an acquisition for the border, especially in small gardens and confined spaces, where the strong growing character of the type could not be tolerated.

LEUZEA CONIFERA.

AT a casual glance this is not unlike a species of Centaurea or Rhaponticum. It is a native of the western Mediterranean region, and appears to be the only one of three known species introduced. The stems are only 6 in. to 9 in. high, with curiously lobed, twice divided leaves that are of a snowy whiteness. The flower heads are solitary on each stem, pale purple and surrounded with rounded, pale yellow or honey coloured, dry bracts. Its dwarf habit renders it suitable for cultivation on the rockery, and the rootstock to all appearance does not grow very rapidly. The latter may, however, be increased by division when growth is commencing in spring; and the plant is also raised from seeds. A plant may be seen on the rockery at Kew.

SILENE MARITIMA ROSEA.

THE flowers of the typical form of the Maritime Catchfly are, as is well known, white. Occasionally one may find plants growing wild in dry and gravelly places near the coast, with the inflated bladdery calyx of a more or less bright rose colour, contrasting with the white petals. A variety has now turned up with the sepals of a soft rosy hue as well as the petals. The plant in all its forms is well adapted for rockwork, and should be planted where the barren stems and flowers could hang over the ledges and be seen to best advantage. We noted the rose variety in the nursery of Messrs. J. Laing & Sons, Forest Hill.

INTERNATIONAL HORTICULTURAL EXHIBITION.

ROSE SHOW, *July 5th and 6th.*

FOLLOWING so closely on the heels of the National Rose Society's show at the Crystal Palace, on the 2nd inst., one would have expected that the show held at Earl's Court, on Tuesday and Wednesday last, would have suffered, but from the fact that the season is a late one, the Roses profited by the three days' grace, and appeared on the show boards in larger size and brighter colours. The Tea and Noisette Roses generally were larger and finer. Begonias, herbaceous plants and table decorations were also marked features of a thoroughly representative exhibition of flowers and fruits in season. The executive were again favoured with the presence of a considerable number of foreign horticulturists, among whom we noticed Mr. H. Vilmorin, of Paris, Mr. Edward Pynaert, of Ghent, Mr. Louis Van Houtte, of Ghent, Mr. A. Truffaut, of Versailles, Mr. P. Lambert, Trier, Germany, Mr. Inspector Joly, Vienna, Mr. Doebner, Vienna, Mr. W. Lauche, Eisgrub, Germany, Mr. P. Paulig, Lubeck, Mr. De Brie, Paris, Mr. Kuntz, Berlin, &c. Most of these gentlemen acted as judges, and at the luncheon which followed the conclusion of their labours, the toast of "The Judges," given with much cordiality by Mr. Milner, was responded to by Mr. Vilmorin, Mr. Pynaert, Mr. Truffaut, Mr. Lambert, Mr. Doebner and the Rev. H. H. D'Ombrain. The weather on the afternoon of the first day was unfortunately very wet, but was more favourable on the second.

The premier award of 72 blooms of Roses, distinct varieties, was taken by Mr. Frank Cant, Braiswick Nursery, Colchester. His blooms generally were of large size and in a fresh condition, and some of the finer hybrid perpetuals were Gustave Piganeau, Pride of Waltham, Her Majesty, Comte Raimbaud, Suzanne Marie Rodocanachi, Etienne Levet, Dupuy Jamain, Charles Lafebvre, Baroness Rothschild, Victor Hugo, Marie Verdier, Sir Rowland Hill, Le Havre, and Jean Soupert. Fine Tea and Noisette varieties were Souvenir d'un Ami, Jean Ducher, Innocente Pirola, Madame Cusin, Niphetos, Comtesse de Nadaillac, Marie Van Houtte, Anna Olivier, Etoile de Lyon, and Hon. Edith Gifford. The second award went to Mr. R. B. Cant, Colchester, who had fine blooms of Gustave Piganeau, Dr. Andry, Earl of Pembroke, Jeannie Dickson, Madame Gabriel Luizet, Her Majesty, Thos. Mills, La France, Niphetos, Comtesse de Nadaillac, The Bride, and Souvenir d'Elise Vardon. Messrs. Paul & Son, Cheshunt, came in third with rather smaller blooms. Mr. R. B. Cant took the leading place in the class for 36 blooms, showing fine samples of La France, Lady Mary Fitzwilliam, A. K. Williams, Madame Gabriel Luizet, Comte Raimbaud, Mrs. John Laing, Ulrich Brunner, Comtesse de Nadaillac, Marechal Niel, and Madame de Watteville. In this case Mr. Frank Cant took the second place, showing many fine blooms. The third award went to Mr. Geo. Prince, 14, Market Street, Oxford. The competition was good, as it was also in the class for 24 distinct varieties. In this latter class Mr. C. Turner, Slough, took the first prize, showing some fine blooms of Her Majesty, La France, Mrs. J. Laing, Maurice Barnardin, Ulrich Brunner, Marechal Niel, and Pride of Waltham. Messrs. G. & W. H. Burch, Peterborough, came in second with some fine blooms of Comte Raimbaud, A. K. Williams, etc. The third award went to Messrs. Keynes, Williams & Co., Salisbury. For 48 Roses, three blooms of each, Mr. B. R. Cant took the leading place, showing some fine triplets of Madame de Watteville, Her Majesty, Chas. Lefebvre, Suzanne Marie Rodocanachi, Souvenir d'Elise Vardon, Lady Mary Fitzwilliam, Jean Soupert, Souvenir d'un Ami, and Innocente Pirola. Messrs. Paul & Son, Cheshunt, took the second place, and Mr. F. Cant took the third place. Each exhibitor required six stands to display his 144 blooms, and the effect was telling. The last named exhibitor was first in the class for 24 Roses, three of each variety, and some of his more striking blooms were Marie Baumann, Ernest Metz, Gustave Piganeau, Marie Finger, and The Bride. He was followed by Mr. C. Turner, while Mr. George Prince was third. The blooms generally were very large and the competition in this class was very heavy. Mr. E. B. Lindsell, Bearton, Hitchin, Herts, had the best 18 varieties, three o each, in the amateurs' classes, showing some fine blooms of Her Majesty, François Michelon, La France, Ulrich Brunner, &c. The Rev. J. H. Pemberton, Havering Atte Bower, Essex, was second in this class with a good exhibit; and Mr. H. V. Machin, Gateford Hill, Worksop, took the third place. Mr. E. B. Lindsell again took the leading award for 48 blooms, and also the Gold Medal in the amateurs' classes for general excellence. Some of his finer blooms were Horace Vernet, Ulrich Brunner, Comtesse de Nadaillac, and Marechal Niel. He was followed by the Rev, J. H. Pemberton; and Mr. Henry V. Machin was third with smaller but neat blooms. Mr. R. Knight, Botting, Sittingbourne had the best 18 bloom, showing Camille Bernardin, Ulrich Brunner, &c., in fine form. Mr. P. Perry, gardener to J. C. Tasker, Esq., Middleton Hall, Brentwood, was second; and Mr. J. Bateman, Archway Road, N., took the third place.

Tea and Noisette Roses were generally in grand form, and the first award in the Nurserymen's Classes was taken by Mr. B. R. Cant, with fine blooms of Souvenir de S. A. Prince, Ernest Metz, Souvenir d'Elise Vardon, Madame Hoste, Marechal Niel, Madame Cusin, Anna Olivier, Innocente Pirola, &c. The second award went to Mr. F. Cant; and Mr. G. Prince came in third. Mr. Geo. Mount, Canterbury, was the leading prize winner in the class for eighteen Tea and Noisette blooms, showing Souvenir d'Elise Vardon, Ethel Brownlow, and Anna Olivier well. The second place was accorded to Mr. G. W. Piper, Uckfield, Sussex, with fine blooms of Madame de Watteville, Souvenir de Madame Pernet, and Madame Hoste; Messrs. Paul & Son were third. For twelve blooms of any Tea or Noisette, Messrs. Keynes, Williams & Co., Salisbury, came in first with a grand stand of Climbing Niphetos; Mr. B. R. Cant was second with Madame de Watteville in fine order; and Mr. G. Prince was third with Comtesse de Nadaillac. In the class for eighteen Tea or Noisette Roses, three blooms of each, Mr. F. Cant again came to the front with some fine triplets of Souvenir d'Elise Vardon, Madame de Watteville, Jean Ducher, Ernest Metz, Innocente Pirola, Caroline Kuster, Catherine Mermet, and Ethel Brownlow, all of which were fine. Mr. Geo. Prince was a good second; and Mr. G. Mount was third, also with a good exhibit. In the Amateur Classes for Tea and Noisette Roses, Mr. E. B. Lindsell took the leading award for eighteen distinct varieties, having fine blooms of Madame Cusin, Souvenir d'Elise Vardon, Catherine Mermet, and Madame Hoste. The Rev. J. H. Pemberton came second with a good exhibit; and Mr. H. V. Machin was third. The first prize for twelve H.P. blooms of any one sort in an open class was taken by Messrs. Perkins & Sons, Coventry, with Lady May Fitzwilliam. The third award went to Mr. B. R. Cant for Gustave Piganeau. In the open class for twelve blooms of any Tea Rose, Mr. B. R. Cant was first with some fine samples of Innocente Pirola. Mr. F. Cant had a good second in Madame de Watteville; and Mr. Geo. Prince was third with a stand of Marechal Niel. There were two entries in the class for thirty-six bunches of Garden Roses, and the leading award went to Messrs. Paul & Son, who showed L'Ideal, hybrid Teas, Moss Roses, Polyantha Roses, Rosa rugosa, and R. r. alba. Mr. E. F. Such, the Nurseries, Maidenhead, received the second award.

In the nurserymen's class for a group of single and double tuberous Begonias, arranged with foliage plants for effect and in a space not exceeding 150 square feet, the first award was accorded to Mr. T. S. Ware, Hale Farm Nurseries, Tottenham. The white, scarlet, and yellow varieties were well distributed for effect, mixed with light and graceful Palms, and the whole evenly sloped up to a background of tall Palms in a central and prominent position. Messrs. J. Laing & Sons, Forest Hill, were second with a group that would have been difficult to beat if a little more care had been exercised in arrangement. The quality of the blooms, both single and double, was fine. The last-named firm had the best group of foliage Begonias in an open class, showing Begonia Haageana, B. gogoensis, dark varieties of B. incarnata, and many varieties of the B. Rex type. A second prize in au open class for Gloxinias was awarded to Messrs. J. Peed & Sons, Roupell Park Nurseries, Norwood. They were partly arranged with Maidenhair Fern. There were two collections of hardy herbaceous and bulbuo

plants in the nurserymen's class, and a second prize was awarded to Messrs. Barr & Son, Covent Garden, where a first might well have been given. Delphiniums, Liliums, Erigeron glaucus, English Irises, Gaillardias, and Centaureas were prominent objects in the group. A third prize was awarded to Messrs. Paul & Son for a smaller collection. More prominence might be given to these hardy plants which the million can grow. In the amateurs' class for 18 bunches of hardy herbaceous plants Mr. G. Sage, gardener to the Earl of Dysart, Ham House, Richmond, obtained the leading award, with some fine bunches of Centaurea macrocephala, Iceland Poppies, Lilium candidum, Lathyrus latifolius, Delphiniums, Campanula persicifolia coronaria, Eryngium alpinum, and other fine subjects. Mr. E. Tricker, gardener to John Watney, Esq., Shermanbury House, Reigate, was second with Spiræa Aruncus, Liliums, Delphiniums, Campanulas, Delphinium nudicaule, etc. The first prize for 12 bunches went to Mr. James Gibson, gardener to H. Berkeley James, Esq., The Oaks, Carshalton, who had Aquilegia chrysantha, Campanula grandis, C. persicifolia, Lilium Martagon, Spiræa Aruncus and others.

Great interest was created amongst visitors by the numerous exhibits of table decorations—the tables being laid out for twelve persons. This class was open, and the first award went to Mr. Sidney T. Spaulding, Avenue House, South Darenth, Kent, who had three lightly made crystal vases along the centre of the table, arranged with Water Lilies at the base, and surmounted by Asparagus plumosus nanus, Gipsophila, Oncidium flexuosum, and other graceful subjects. A cordon of small glasses, connected by silver chains stood round the central vases, and were gracefully decorated with young and highly coloured Maidenhair Fern, Aquilegia chrysantha, A. canadensis, Gipsophila, Pancratium flowers, Epidendrum vitellinum majus, and other appropriate subjects. Within this cordon were some lighted lamps. Mrs. Helen Butt, 16, Gwendwr Road, West Kensington, was second with some graceful vases in the centre filled with Aira cœspitosa, Asparagus plumosus, and a large quantity of the yellow Sultan (centaurea suaveolens). At each corner of the table stood a small Palm (cocos Wedelliana). The third table was done up chiefly with Roses, which were appropriate to the occasion, but the whole design was more heavy than the above. A large vase stood in the centre with five smaller ones round it. A Gold Medal was awarded to Margaret Hodgkins, 5, Beaufort Avenue, Didsbury, Manchester, for a fine collection of skeletonised leaves, fruits, ferns, etc. Messrs. J. Peed & Sons took the first prize in the nurserymen's class for 12 plants suitable for table decoration. Messrs. B. S. Williams & Son, Upper Holloway, were second, also having fine plants. In the amateurs' class for six plants of the above class, Mr. C. Lane, gardener to H. Coles, Esq., Burntwood, Upper Catterham, took the leading award. Mr. C. Turner was awarded a first prize in an open class for 12 blooms of the Malmaison Carnation set up in a vase. He showed the pink variety. In the market classes Mr. R. Drost, Kew Nursery, Richmond, was awarded a prize for a group of market foliage and flowering plants. Some grand plants of Hydrangea paniculata grandiflora were very prominent in the centre, and Lilium speciosum in the body of the group.

There was a considerable number of exhibits in the miscellaneous class. Two large groups of magnificent Palms were shown by Messrs. Wills & Segar, Royal Exotic Nursery, Onslow Crescent, South Kensington. Amongst the noblest specimens were Kentia Forsteriana, Seaforthia elegans, Areca Baueri, and others. A Silver Gilt Medal was awarded to Messrs. J. Laing & Sons, for a collection of herbaceous plants including Delphiniums, Campanulas, Iris, Pentstemons, Geum miniatum, Pansies, &c. They also showed a collection of Roses. A Silver Gilt Medal was also awarded to M. Ed. Pynaert-Van Geert, Ghent, Belgium, for a magnificent specimen of Sobralia macrantha nana, 6 ft. across, with 105 buds bearing three or four flowers each, many of them being in full bloom. A similar award was made to Messrs. John Peed & Sons, for a collection of Sarracenias, Nepenthes, and Bertolonias. They also had a Silver Medal for two group of Caladiums edged with Ferns. A Silver Gilt Medal was awarded to Messrs. H. Cannell & Sons, Swanley, Kent, for a fine collection of double Begonia blooms in many fine colours and set up in bunches. A Gold Medal was awarded to Messrs. Ed. Shuttleworth & Co., 256, Peckham Rye, for five groups made up of Cycas revoluta, Dracænas, Crotons, Caladiums, Palms, &c. A similar award was made to Messrs. Wm. Paul & Son, Waltham Cross, for an extensive collection of Roses and other subjects arranged on three large tables. Baskets were filled with Roses of one kind in each. A Bronze Medal was awarded to Messrs. Cutbush & Son, Highgate, for a group of Palms, Dracænas, Caladiums, Heaths, &c. A similar award was made to Mr. R. Drost for a large group of Lilacs retarded so that they are now in bloom long after those out of doors are over. His Lilies (Lilium speciosum and L. s. album) were also fine. Another Bronze Medal was awarded to Mr. A. Hopcraft, gr. at the South Kensington Museum, for a small group of double rose-coloured Oleanders. Pansies, Carnations, and Roses were shown by Mr. A. Smith, Downley, near High Wycombe. In a compartment off the main building of the exhibition a large and showy collection of Delphiniums, Iris Kæmpferi, Gaillardias, Evening Primroses, and other herbaceous plants was exhibited by Messrs. Kelway & Son, Langport, Somerset. Near by was a fine collection of Orchids from Messrs. F. Sander & Co., St. Albans. They were arranged on a T shaped table, and consisted of Cattleyas, Odontoglossums, Miltonia vexillaria, Dendrobium Phalænopsis Schroderianum, Masdevallias, &c., set up with Palms and Ferns, and were awarded a Gold Medal.

FRUIT.

THE fruit classes, though numerous, did not bring out a large amount of produce, though that which was staged was of the best. With a superb dish of Madresfield Court, Mr. Thompson, gardener to Messrs. Wells, Hounslow, was first for three bunches of black Grapes; Mr. J. Taverner, gardener, Woolmer, Liphook, being second with very good black Hamburghs; and Mr. Bowerman, Hackwood Park, Hants, third with the same variety Mr. Bowerman took premier honours in the white class with well finished Buckland Sweetwaters; and with the same variety Mr. C. Osman, Ottershaw Park, Chertsey, came in second; Mr. Thompson being third with Muscat of Alexandria, somewhat green. Very handsome Queen Pines were staged by Mr. Coomber, The Hendre Gardens, Monmouth, and Mr. Slade, Clumber Gardens, Worksop, and the awards went in the order named. The best Melon was The Countess, shown by Mr. W. H. Divers, Ketton Hall, Stamford; and the same variety exhibited by Mr. Bowerman also came in third; Mr. Coomber being second with a good fruit of Blenheim Orange. Mr. Divers also won the first prize for a dish of Strawberries, with a grand sample of Laxton's Latest of all; Mr. G. H Sage, Ham House Gardens, coming in second with Dr. Hogg; and Mr. G. R. Allies Old Warden Park, Beds, third with James Veitch, both exceedingly good. The best three dishes were contributed by Mr. Gibson, gardener, Halstead Place, Sevenoaks, and consisted of Laxton's Noble, Auguste Nicaise, and Sir Joseph Paxton. Mr. G. H. Sage was second with Dr. Hogg, Premier, and Sir Charles Napier; and Mr. J. Gibson, The Oaks, Carshalton, third. For two dishes of Peaches, in a fair class Mr. Divers again came to the front with large and well-coloured fruits of Stirling Castle and Royal George; and in a similar competition with Nectarines, Mr. Robins, gardener, Hartwell House, Aylesbury, won with magnificent examples of Stanwick Elruge and Spencer, both being very large and superbly-coloured. Mr. P. Blair, Trentham, was a good second with grand specimens of Lord Napier and Violette Hative; and Mr. A. Ocock, Havering Park, Romford, third with Elruge and Lord Napier. In the miscellaneous class Mr. Thompson took a Silver Medal with a very fine basket of Madresfield Court Grapes, grand bunches and berries, and only wanting a little more colour to make them perfect. Mr. W. Allan, Gunton Park, secured a similar award for seven very fine boxes of Strawberries, consisting of Countess, James Veitch, President, Sir Joseph Paxton, Lord Suffield, Gunton Park, and Empress of India.

The classes arranged for market growers and salesmen brought but very few entries. The Gold Medal went to Messrs. Parsons & Bourgaize, Covent Garden, for a fine lot of produce consisting of some twenty-six baskets of black and white Grapes, Melons, Peaches, Tomatos, and Figs, all of the best quality. The same firm also had the best "Shallow" of white Grapes, a well-ripened sample of Muscat of Alexandria. Mr. F. Le Poidevin, La Porte, Castel, Guernsey, took a Silver-gilt Medal for a fine collection of English and Channel Islands fruit, mainly Melons and Tomatos, packed as sent to market; and Mr. T. Sharpe, Virginia Water, took a bronze medal for fifty punnets of Strawberries of very good size and colour.

FARNINGHAM ROSE SHOW.

THE committee of the Farningham Rose and Horticultural Society were decidedly unfortunate in having to hold their annual show, generally the first provincial one at which Roses are a leading feature, on the Wednesday of last week, and consequently closely following upon a storm of thunder, lightning, and rain that will remain a memorable event in that part of Kent for many a year to come. The amount of damage done to the crops from the excessive downpour of rain alone was enormous, and that the show should suffer to a great extent was inevitable. The Rose classes, perhaps, suffered most of all and the numerous blanks told a silent yet pitiful tale of blighted hopes. What blooms were forthcoming were exceedingly good for such an early date this late season. In the open class for 36 distinct, Mr. G. Mount, Canterbury, took first honours, beating Mr. R. N. West and Colonel Pitt, Turkey Court, Maidstone, in the order named. Major R. N. Knight, Botting, Sittingbourne, was first for 12 Teas or Noisettes in the same division, and in the amateurs' and gardeners' division secured also the premier awards for 18 varieties, and for six blooms of one variety dark; Colonel Pitt having the best 9 Teas and Noisettes; and R. L. Knight, Esq., Sittingbourne, the best stand of light Roses—Innocente Pirola. Dr. Tucker, The Limes, Swanley, took the National Rose Society's Silver Medal for the best bloom in this division with a clean, bright Comtesse de Nadaillac.

In the competitions confined to gardeners and amateurs residing within a radius of three miles of Farningham, Dr. Tucker came in first for 12 varieties, and took also the N. R. S. Silver-Gilt Medal for the best bloom in the division, a very good one of A. K. Williams; while the premier award for 9 varieties was taken by the Hon. Secretary of the Society, Lieut. General Stanley Edwardes, C.B., The Croft, Farningham, and in his stand was found the second best bloom—a well-coloured La France, which took the N. R. S. Bronze Medal. In the ladies' division Miss Wood was first for three vases with a singularly pleasing arrangement of show Pelargonium blooms and Maidenhair Fern. A class for three shoulder sprays for ladies was an exceedingly good one, and the prizes went to Miss Freeman, Miss K. S. Soloman, and Miss Edith Smith. The class for table decorations was also a good one, and the awards went to Mr. Sydney T. Spalding, Avenue House, South Darenth, Miss Hassell, Southfleet, and Mr. J. D. Abbot, gardener to Sir W. Hart Dyke, Bart., Lillingstone Castle. The last named exhibitor also had the best group. The Messrs. Cannell & Sons, Swanley, also sent a pretty group, and also a group of six gigantic stems of Verbascum olympicum in full bloom, which were a good feature. The fruit and vegetable classes were small, but the vegetables generally were very good for the season.

ORCHID NOTES AND GLEANINGS.

Cypripedium spectabile.

IN spite of the numbers of this Cypripedium which have been introduced to this country, one seldom meets with it in any condition in private establishments. Too often it gets planted in exposed situations that are too dry to meet its requirements in the matter of moisture, and the result is that the underground portion of the plant gradually dwindles, and at last dies. The nature of the ground itself is often such as to prevent a healthy development of the rhizomes and roots, so that good growth and flowers the following season cannot be expected. When under conditions suitable for the development of good growth, few hardy plants are more attractive and certainly none of the other species of Cypripedium are a match for it. The pure white sepals and petals form a fine background to show off the huge, inflated, rose-coloured lip. It should be grown in a peaty soil, in a well lighted, but somewhat shaded position.

Odontoglossum Harryanum.

MOST of the growers of this fine Odontoglot have a difficulty in growing it with any degree of satisfaction, especially in localities unfavourable to Orchids generally. The petals as a rule have a strong inclination to curve inwards, thus spoiling the effect of the flower. If in robust health and vigour, the petals will retain their position afterwards, should the grower turn them backwards when they first

expand. On the contrary, if the petals are thin they will always be refractory. We noted a splendid variety the other day in the gardens at Falkland Park, South Norwood Hill, the residence of J. McMeekin, Esq. The sepals were of great breadth and substance, deep chocolate with yellow tips and a few scattered bars of the same hue. The petals are marked with white and purple at the base, but are otherwise similar. The lip is of great size and the most striking feature of the flower; the side lobes and base of the flower are violet striated with branching white lines, while the terminal lobe is pure white; the basal portion, including the curious fringes, is golden yellow inclined to orange at the very base. At certain times of the day, chiefly in the morning, the flowers emit a strong fragance. Mr Wright, the gardener, is proud of it as well he might be.

WHAT TO DO IN THE GARDEN.

Stove Plants in the Conservatory.—Provided always the weather remains moderately warm, such things as Allamandas, Bougainvilleas, Dracænas, and similar things in pots, will require a considerable amount of water, but all delicate subjects should be watered carefully, especially in dull, cold, or wet weather. The best plan in such a case is to keep them on the dry side.

Atmospheric Moisture in the Conservatory.—In some establishments it is necessary to do the watering in the conservatory at an early hour, so that the floor of the house may be kept perfectly dry. If the day previously has been wet, few of the plants may require water; but should the sun come out brightly, many plants will suffer greatly before nightfall, and the flowering period of many things will be shortened. To counteract this it is a good plan to pour some water down the gratings over the hot-water pipes, and elsewhere out of sight. The pots and staging might also be damped down occasionally with the syringe.

Climbers.—Now that these are in full growth, both in stoves, greenhouses, and conservatories, the soil of the borders in which they are grown must be kept moist, not necessarily by frequent waterings, but by giving a good soaking occasionally, so that all parts may be thoroughly moistened. Note also that the water is not running away by the sides of the border owing to a shrinkage of the soil.

Camellias. — When large plants are grown, planted out in beds or borders, heavy supplies of water must be given from time to time during the summer months, but particularly in droughty times. A basin at least a yard wide should be made around the stems of the trees or bushes, and filled once or twice at each watering, according to the size of the plants, and the facilities the water has to drain away.

Chrysanthemums.—Those intended for autumn flowering should now receive their final shift, so that the pots may get well filled with roots, and the growth matured in good time, without which they cannot be expected to produce fine flowers. Good fibrous loam, not heavily charged with animal manures should be used for potting purposes. Stimulants can be given later on when the buds are well set.

Melons.—Where the plants have been in position for some time, and the mounds of soil thoroughly permeated with roots, it will now assist them greatly to have an addition of fresh material firmly pressed down over the old. Fresh impetus is thereby given, and greatly add to the weight of the crop.

Peaches.—Succession houses will now be coming on rapidly. Lay in all the necessary young wood, stopping those shoots which are growing too rampantly. Get all fruits well elevated above the foliage by the time it commences to colour. The roots may require watering, and that should be given without stint. Cold spring water should not be used. Fire heat will not now be necessary, but if it is desirable to hasten maturity, close the house early, allowing the temperature to run up to 90° with sun heat.

Strawberries.—It is acknowledged everywhere that the Strawberry season is all too short, and it is therefore worth while to risk getting a chance crop in the autumn by planting out in a well-exposed position a batch of plants that were forced. If planted much later than this, fruiting can hardly be expected.

Figs on open walls.—In order to encourage the ripening of the first crop of fruit, and also to favour the development and maturing of young wood for next year's crop, the trees should be gone over now and the best placed shoots laid in, while the superfluous ones are removed. This allows the walls to get heated up with the rays of the sun, and the beneficial effect of the heat thus reflected upon the trees and fruit is well known. Furthermore when the shoots are thus judiciously thinned out the winter pruning is reduced to a minimum.

Sub-tropical Bedding.—Now that the ground in the southern portion of the country at least has recently received a thorough drenching by the recent thunderstorm, the labour of watering such plants as Wigandias, Cannas, Castor Oil plants, Eucalyptus, Solanums, and similar plants will be obviated for some time. It is a good plan to give them a top-dressing of horse droppings, which when neatly spread on the ground are not unsightly, and while preserving the moisture they feed the plants.

Celery.—The main crop of Celery may be planted out as soon as the trenches can be got out and prepared. Give a good watering to settle the soil about the roots as soon as the planting is completed. When the earliest batch gets to a height of 12 in. or 16 in. the first earthing up may be given. Remove the small outer leaves and suckers from the crown, and be careful to prevent soil from getting into the crowns of the plants.

Shallots, &c.—Lift the bulbs when the foliage begins to decay, and store them after having been thoroughly matured and dried by exposure to the sun. Garlic may be treated in the same way where that pot-herb is still grown. Weak liquid manure given to spring-sown Onions at this period assists them greatly.

QUESTIONS AND ANSWERS.

*** *Correspondents are requested, in order to avoid delay, to address all communications to* "THE EDITOR" *or* "THE PUBLISHER," *and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa, London."*

NAMES OF PLANTS.—*Simplex*: 1, Muscari comosum monstrosum; 2, Sisyrinchium Bermudianum, which seeds freely and comes up from self-sown seeds; 3, Phormium tenax.—*R. N. N.*: 1, Adiantum trapeziforme; 2, A. tetraphyllum Hendersoni; 3, A. affine; 4, A. caudatum; 5, Pteris cretica; 6, Asplenium bulbiferum.—*K. W.*: The Bird-Cherry, Prunus Padus.—*S.*: Ænothera Youngi.—*Omega*: The orange-coloured flowers were the Orange Hawkweed (Hieracium aurantiacum); the other is the Showy Erigeron (Erigeron speciosus), there does not seem to be a popular name for Erigeron.—*J. W.*: 1, Spiræa Filipendula flore pleno; 2, Campanula garganica; 3, Veronica Teucrium var., but we cannot say which variety without good and characteristic foliage; 4, Campanula garganica augusta: 5, Allium Moly; 6, Ajuga genevensis: 7, Philadelphus coronarius; 8, Thalictrum aquilegifolium.

BOOKS.—*Saman*: *The Propagation and Improvement of Cultivated Plants*, by F. W. Burbidge (William Blackmore & Sons).

ROWAN TREE.—*J. Scott*: Pyrus aucuparia, commonly called the Mountain Ash in England.

TWIN CUCUMBER: *D. Ladds*: The growth of two Cucumbers together is not an uncommon occurrence. We have seen many of them, and also some Vegetable Marrows, which have grown in the same way.

OSMUNDA REGALIS CRISTATA.—*Felis*: A British Fern certainly, and therefore eligible in a class for hardy Ferns.

WILD GRASSES.—*M. C.*: Miss Plue's *British Grasses* (Lovell, Reeve & Co.) would perhaps help you, but if you have any botanical knowledge Babington's *Manual of British Botany* (Van Voorst), or Hooker's *Students' Flora of the British Islands* (Macmillan), would be better.

MELON AND VEGETABLE MARROW.—*Young Gardener*: Botanically both are fruits, but for ordinary purposes the former is classed as a fruit, and the latter, being cooked before being eaten, is considered a vegetable.

BULLOCK'S BRAINS.—*New Cross*: We have not seen the name in books, but have heard of it as being applied by costermongers to flowering plants of Sedum spectabile. These gentry have a nomenclature of their own, which is not to be found in the books, and which would seem to be founded on the rules of contrariety, thus they call Gardenias "Stinks."

TOMATO LEAVES INJURED.—*J. C.*: The leaves of your Tomatos have been greatly injured by Thrips, of which we could see numerous small yellow specimens. The appearance of the leaves themselves would also suggest Thrips, as they are spotted all over irregularly, and shining in some places as if covered with a layer of some greasy or oily substance. You must close the house and fumigate lightly on two successive nights, as for green-fly, or else syringe them with soapy water or a solution of Gishurst Compound, being particularly careful to get at the under side of the leaves where the Thrips are mostly lodged. Ventilate freely afterwards in order to get rid of the superfluous moisture in the atmosphere, to avoid encouraging some of the fungoid diseases which delight in a humid and stagnant atmosphere.

INSECTS.—*J. Wisden*: Your Apple shoots have been bored by the young caterpillars of the wood Leopard Moth, Zeuzera æsculi. Go over the tree carefully, and where you find one of its burrows work a piece of wire into it, and so kill the caterpillar if there is one inside.

PINKS.—*Laced Pink*: None of the seedlings are true laced Pinks, having but the faintest trace of lacing on the petals. They are ordinary border varieties only and of no commercial value. To get good laced varieties you must save seeds from carefully fertilised flowers of the best varieties, and even then you may grow some hundreds of plants before getting one really good one. Now is the time to propagate them by means of cuttings commonly called pipings.

COMMUNICATIONS RECEIVED.—J. H. B.—C. H. P.—G. J. I.—S. & S.—E. D. S.—R. S—W. R.—F. H. K.—F. R.

TRADE CATALOGUES RECEIVED.

E. D. SHUTTLEWORTH, & Co., LIM., Albert Nurseries, Peckham Rye, S.E.—Trade List of Stove and Greenhouse Plants.

LONDON SEED TRADE.

July 5th, 1892.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report no demand; few new samples of Trifolium incarnatum. Mustard and Rape seed sell slowly on former terms.

COVENT GARDEN MARKET.

July 6th.

FRUIT.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.		s. d.	s. d.
Grapes..... per lb.	1 0	3 0	Melons.....each	1 6	2 9
Peaches... per dozen	4 0	12 0	Strawberries per lb.	0 3	0 9
Pine apples. —St. Michael's, each	2 6	6 0	Tasmanian Apples per case...	2 6	5 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Beans, French, per lb.	1 6	2 0	Lettuces ...per dozen	1 6	2 0
Beet..... per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages ... per doz.	1 6	2 6	Onions.....per bunch	0 4	0 6
Carrots ... per bunch	0 6		Parsley ... per bunch	0 6	
Cauliflowers, Eng. dz.	3 0	6 0	Radishes... per dozen	1 6	
Celery.....per bundle	2 6		Small salading, punnet	0 4	
Cucumbers .....each	0 6	1 0	Spinach, per strike ...	1 6	
Endive. French, doz.	2 6	3 0	Tomatos..... per lb.	0 9	1 3
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, per doz.	6 0	9 0	Heliotrope, per doz.	4 0	6 0
Begonias ...per doz.	6 0	12 0	Ivy Pelargoniums, per doz. pots	4 0	6 0
Crassula ...per doz.	12 0	24 0	Lilium Harrisii, doz.	15 0	30 0
Cyperus .....per doz.	4 0	12 0	Lobelia, ...per doz.	4 0	6 0
Dracæna term., doz.	24 0	36 0	Marguerites, per doz.	6 0	12 0
Dracæna viridis, doz.	9 0	18 0	Mignonette, per doz.	4 0	8 0
Echeveria Pyramidalis.....	9 0	18 0	Musk, ...per doz.	2 0	4 0
Evergreens, in var. doz	6 0	24 0	Palms in variety, each	2 6	10 0
Ferns, invar..per doz.	4 0	18 0	Palms, Specimen ...	15 0	63 0
Ferns, small, per 100	8 0	12 0	Pelargoniums, per doz.	8 0	15 0
Foliage Plants, doz.	12 0	60 0	—scarlet .....per doz.	3 0	6 0
Fuchsia, ...per doz	4 0	9 0	Spiræas.....per doz.	8 0	12 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Anemone various, doz. bun.	2 0	4 0	Mignonette... 12 bun.	3 0	6 0
Arum Lilies, 12 blms.	2 0	4 0	Moss Roses, dz bchs	6 0	12 0
Bouvardias, per bun.	0 6	1 0	Pelargoniums, 12 sps.	0 6	0 9
Carnations, 12 blooms	1 0	3 0	—scarlet.....12 bchs.	3 0	4 0
Carnations, doz. bun.	4 0	6 0	Primula, double, bun.	0 6	0 9
Cornflower doz bnchs	2 0	3 0	Pinks .....doz. buns.	2 0	4 0
Eucharis ...per doz.	2 0	4 0	Pansies, doz. bchs ...	1 0	2 0
Gardenias 12 blooms	1 6	4 0	Pyrethrum doz bnchs	2 0	4 0
Gladioli...doz. buns.	6 0	12 0	Orchid Bloom in var. per bloom, from	0 2	0 8
Heliotropes, 2 sprays	0 3	0 6	Roses, doz bunches	2 0	6 0
Iris (various), dz. bn.	6 0	9 0	Roses, yellow, dozen	2 0	6 0
Lilium Cand.dum, doz. bun.	12 0	24 0	— Red..... doz. blms.	1 0	2 0
Lilium Harrisii, doz. blooms	2 0	4 0	— Saffrano...per doz.	1 0	1 6
Liliums var., dz. blms.	0 6	1 6	— Tea ..... per dozen	0 6	2 0
Maidenhair Fern, 12 bs.	4 0	6 0	Spiræas...doz. bnchs	4 0	6 0
Marguerites, 12 bun.	2 0	4 0	Stephanotis, dz. sps.	1 0	2 0
Myosotis or Forget-me-not, doz. bnchs.	2 0	4 0	Stocks .....doz. bun.	3 0	6 0
			Sweet Peas, dz. bns.	3 0	6 0
			Sweet Sultan, dz. bn.	2 0	4 0
			Tuberoses, per doz	0 4	0 6

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FLOWER SHOWS, &c., 1892.

[The Editor will be greatly obliged if Secretaries of societies will communicate to him the dates of their exhibitions as soon as fixed.]

JULY.

12.—Royal Horticultural Society: Committee Meetings at Drill Hall.
12.—Hereford Rose Show.
12.—Wolverhampton Floral Fête (3 days).
13.—Royal Caledonian Horticultural Society (2 days).
13.—Bexley Flower Show.
13.—Ealing Flower Show.
13.—Bedford Flower Show.
14.—Harlestone Rose Show.
14.—Helensburgh Rose Show.
16.—National Rose Show at Chester.
16.—Charlton Rose Show.
18.—Nuneaton Flower Show.
19.—Birmingham Rose Show (2 days).
19.—Eye (Suffolk) Flower Show.
20.—Liverpool Horticultural Association's Show (2 days).
21.—Trentham Flower Show.
21.—Barnet Flower Show at Monken Hadley.
21.—Worksop Flower Show.
21.—Aylesbury Flower Show.
22.—Manchester Rose and Pink Show.
22.—National Chrysanthemum Society's Annual Picnic.
22.—Ulverstone Rose and Pansy Show.
23.—Bedale Rose Show.
23.—New Brighton Rose Show.
23.—Midlothian Rose and Pansy Show, Penicuick.
26.—Royal Horticultural Society: Committee Meetings at Drill Hall, National Carnation and Picotee Show.
26.—Beckenham Flower Show.
27.—Hessle Flower Show (2 days).
27.—Bishops Waltham Flower Show.
28.—Southwell Rose Show
28.—Halifax Rose Show.
28.—St. Ives Flower Show.
28.—Oxford Union Carnation Show.
30.—Brighton "New" Horticultural Society (2 days).
30.—Ripley Rose Show.
30.—Southampton Flower Show (2 days).

AUGUST.

1.—Cottagers' Show at Earl's Court.
1.—Beddington and Carshalton Flower Show.
1.—Mansfield Flower Show.
2.—Abbey Park, Leicester, Show and Gala.
9.—Royal Horticultural Society: Committee Meetings at Drill Hall.
10.—Sevenoaks Flower Show.
10.—Queen's Park, Longton, Flower Show.
11.—Taunton Deane Flower Show.
17.—Shrewsbury Flower Show (2 days).
17.—Cardiff Flower Show (2 days).
18.—Aberdeen Flower Show (3 days).
20.—National Co-operative Flower Show.
23.—Royal Horticultural Society: Begonia Conference, etc., at Chiswick (2 days).
24.—Brighton and Sussex Horticultural Society (2 days).
24.—Kingswood, Gloucester, Flower Show.
25.—Droitwich Flower Show.
25.—Kenilworth Flower Show.
29.—Cresswell Flower Show.
31.—Bath Floral Fête (2 days).
31.—Bishop Stortford Flower Show.

SEPTEMBER.

1.—Oxford Flower Show.
2.—National Dahlia Show at the Crystal Palace (2 days).
6.—Royal Horticultural Society: Committee Meetings at Drill Hall.
7.—Royal Caledonian Horticultural Society (2 days).
9.—Autumn Flower Show at Earl's Court (2 days).
20.—Royal Horticultural Society: Committee Meetings at Drill Hall.

OCTOBER.

4.—Royal Horticultural Society: Committee Meetings at Drill Hall.
5.—Fruit Show at Earl's Court (3 days).
18.—Royal Horticultural Society: Committee Meetings at Drill Hall.
25.—Fruit Show at Earl's Court (3 days).

NOVEMBER.

1.—Royal Horticultural Society: Committee Meetings at Drill Hall.
1.—Kent County Chrysanthemum Show (2 days).
1.—Brixton Chrysanthemum Show (2 days).
1.—Barnstaple Chrysanthemum Show (2 days).
2.—Ascot Chrysanthemum Show (2 days).
2.—Ealing Chrysanthemum Show (2 days).
2.—Portsmouth Chrysanthemum Show (3 days).
2.—Croydon Chrysanthemum Show (2 days).
3.—Steyning Chrysanthemum Show.
4.—Bolton Chrysanthemum Show (2 days).
8.—National Chrysanthemum Society at Royal Aquarium (3 days).
8.—Kingston and Surbiton Chrysanthemum Show (2 days).
8.—Enfield Chrysanthemum Show (2 days).
8.—Sevenoaks and West Kent Chrysanthemum Show (2 days).
8.—Batley Chrysanthemum Show (2 days).
9.—Bath Chrysanthemum Show (2 days).
9.—Birmingham Chrysanthemum Show (2 days).
9.—South Shields Chrysanthemum Show (2 days).
9.—Cardiff Chrysanthemum Show (2 days).
9.—Bournemouth Chrysanthemum Show (2 days).
10.—Chelmsford Chrysanthemum Show.
11.—Leicester Chrysanthemum Show (2 days).
11.—Eccles and Patricroft Chrysanthemum Show (2 days).
11.—Wellingborough Chrysanthemum Show (2 days).
11.—Dundee Chrysanthemum Show.
15.—Royal Horticultural Society: Committee Meetings at Drill Hall.
15.—Liverpool Chrysanthemum Show (2 days).
15.—Plymouth Chrysanthemum Show (2 days).
16.—Hull Chrysanthemum Show (2 days).
16.—Rugby Chrysanthemum Show (2 days).
17.—Edinburgh Chrysanthemum Show (3 days).
18.—Chorley Chrysanthemum Society (2 days).
18.—Stockport Chrysanthemum Show (2 days).
22.—Dalkey Chrysanthemum Show.

DECEMBER.

13.—Royal Horticultural Society: Committee Meetings at Drill Hall.

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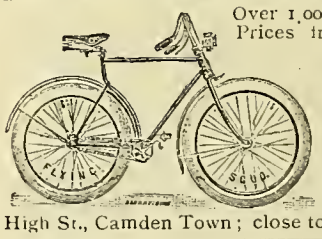

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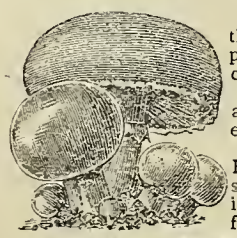

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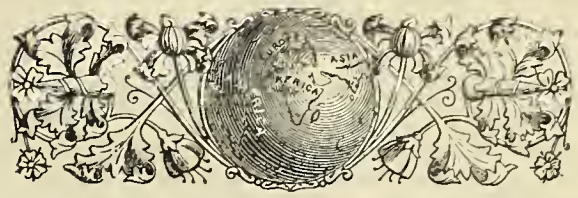

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, July 18.—Nuneaton Flower Show.
TUESDAY, July 19.—Birmingham Rose Show (2 days).
Eye (Suffolk) Flower Show.
WEDNESDAY, July 20.—Liverpool Horticultural Association's Show (2 days).
THURSDAY, July 21.—Trentham Flower Show.
Barnet Flower Show at Monken Hadley.
Worksop Flower Show.
Aylesbury Flower Show.
FRIDAY, July 22.—Manchester Rose and Pink Show.
National Chrysanthemum Society's Annual Picnic at Penshurst.
Ulverstone Rose and Pansy Show.
Sale of Orchids at Protheroe & Morris's Rooms.
SATURDAY, July 23.—Bedale Rose Show.
New Brighton Rose Show.
Midlothian Rose and Pansy Show, Penicuick.

The Gardening World.
Edited by BRIAN WYNNE, F.R.H.S.
SATURDAY, JULY 16th, 1892.

THE GARDENERS' GATHERING AT TUNBRIDGE WELLS.—Gardeners are such a hard headed practical race of men, and as a rule bring so much good business capacity and tact to bear upon whatever matter they take in hand, that it is with much regret we have to record the failure, for all practical purposes, of the meeting of delegates from various Gardeners' Mutual Improvement Societies held at Tunbridge Wells on the 6th inst. From what could be gleaned from the prospectus sent out by the managers of the local society the subject to be discussed at the conference was the desirability of forming a union of gardeners' societies to promote practical and technical education in all branches of gardening; the holding of annual practical examinations in the art of gardening under competent judges; and the granting of certificates of proficiency to those who came out of the ordeal successfully.

It was not unnaturally anticipated that those who called the meeting together had thought out a practical scheme for carrying into effect the laudable object they had in view, or at least were prepared to submit their ideas in some definite form for the consideration of the meeting. But they did nothing of the kind, they had no scheme, no programme to present to the meeting, and when the question was badly put without a word of argument for or against, "Is it desirable to form an amalgamation of gardeners' associations?" no one replied, as indeed no one could, for the conveners of the meeting had provided nothing to work upon, and even when a few pertinent questions were asked they expressed their inability to answer them!

The Secretary read a paper in which he advocated co-operation between the various existing gardeners' societies so that the

many could assist the few in all matters pertaining to the avocation of the members, and particularly the protection of the profession from those who may be gardeners only in name. The reader disavowed any antagonism to employers, and protested that anything like trade unionism was not intended, but it was evident that the majority of the visitors had their doubts about that, and these were intensified when another speaker advocated combination among gardeners for trade purposes, and the co-operation of labour and capital in order to secure a greater share of the profits for labour. "Fruit Culture as an Industry" was the burden of another speech, and that subject being foreign to the object for which the meeting was called only helped to make the confusion worse confounded.

It was decidedly incumbent on the promoters of the meeting, if they believed it was desirable to form a union of gardeners' societies to have presented some sort of scheme that the delegates who attended the meeting could have accepted, or rejected wholly or in part, and so have answered the question that was put to them. Our own opinion is that an amalgamation of existing societies for the purpose of improving the status of gardeners by means of properly conducted examinations would be a distinct gain to horticulture, but for such an amalgamated society to gain the universal sympathy and support of gardeners, and attain any respectable measure of success, it must have its headquarters in London. No local or provincial body can hope to deal with the subject in a sufficiently comprehensive way to render any such organisation of value to the whole gardening community, and unless it does that, it had better be left alone. A union or combination of societies for any other purpose than that which we have indicated, or rather we should say plainly for "protective" purposes, would be distinctly disadvantageous to the craft, and would receive no support from us. While gardening in its highest form remains a luxury for the wealthy and affluent, trade unionism can do nothing for gardeners, and every sensible man knows it.

The Peas of the Season.—Amongst the more pleasant of the functions which some few times in the course of the summer the working committees of the Royal Horticultural Society are called upon to undertake, are the gatherings at the Chiswick Gardens when flowers, fruits, and vegetables, old and new, are examined and awarded marks according to merit. The old practice of granting a smaller award of lesser than the maximum number of marks seems to have happily died out, as anything that is not good enough to receive the full Award of Merit can hardly be considered good enough to merit any award at all.

Just recently the Fruit and Vegetable Committee met at Chiswick to go over the trial of Peas which is annually instituted there, with the unusual result that only one new variety received an Award of Merit, although several old ones had previous awards confirmed. Peas are not always consistent, showing diverse features in different seasons according to soil or moisture or other considerations; any variety that is always reliable under all conditions is therefore specially meritorious. This element of consistency is very marked in Duke of Albany, one of the most popular Peas of the day, and taking it as a standard of merit the Committee found it very difficult indeed to discover in other varieties qualities that excelled it.

The only new one was a dwarf form, if it may be so termed, of Duke of Albany, as it is about 3½ feet in height and is perhaps even earlier than is the taller form. This was on the ground not unfitly named Duke of York, and we may add that it was sent for trial by Messrs. Cooper, Taber & Co., of Southwark Street, S.E. So good as well as plentiful are Peas now that it is obvious only varieties that have extra special merit should receive awards. We have all that can be desired in productiveness, pods, colour, and size of Peas, variation in heights, etc., but there is room for the introduction of greater flavour, and therein some of the newer Peas are not so good as some of the older ones.

The Colchester Roses.—The remarkable success which has so far attended upon the exhibits in Roses of the Messrs. Frank & B. R. Cant, of Colchester, shows that there must be some forces at work in that part of Essex which tend to produce flowers of exceptional excellence. Why Colchester should enjoy this proud distinction over other localities where in the past wonderfully fine Roses have been produced is perhaps a mystery to most, yet to those acquainted fully with the conditions under which the flowers are produced, easily explained. With those conditions we do not profess to be fully familiar; certainly they are not absolutely climatic, because there cannot be so constantly such diversities of climate as between Colchester and other famous Rose growing centres as should create such diverse results in flower production.

We may take it for granted too that there is no special diversity in skill or in knowledge of the elements of good culture. The problem seems to be solvable only in connection with the soil, and that may not be the correct solution. In any case the Messrs. Cant have shown to us at the various Rose exhibitions some glorious flowers, as bright, fine, and beautiful as could be. Whatever may have been the atmospheric conditions earlier in the year, and they generally seemed to be leaden enough, there has been no lack of fine Roses in some localities, whilst flowers have been abundant everywhere.

We saw but the other day at Croydon some very fine blooms of what was regarded as the finest Rose of its day, Her Majesty, and they served to remind us that although it has not justified by a long way yet all that was expected from it, yet it is a grand Rose still, and it may be a few years hence, when its weak points are better understood, it will take rank amongst the most widely shown of Roses.

Frozen Flowers.—It need hardly be said that the frozen consignment of flowers of the Chrysanthemum which is on its way to this country from Mr. J. Earland, of Wellington, New Zealand, and expected to arrive in the Thames at the end of next week, will be looked for with exceeding interest. It may be that the flowers when they reach here, if in ever such fresh condition, may be not at all up to the standard of quality now seen so generally in this country. That is not to us a matter of much moment, although it may be so to the gentleman who is taking such pains and incurring such expense to enable us to see the form of the best of the New Zealand seedlings.

But whatsoever may be the quality of the blooms it is obvious that there may be behind the experiment, if successful, a great future. Of course there is no novelty whatever in sending perishable commodities in a frozen state very long distances, but the one on which we are commenting certainly is novel, so far as relates to flowers. Once it is shown that Chrysanthemum blooms come many thousands of miles, and are found at the end of the journey to be fresh and sweet, then may we see many such consignments, and the flora of distant colonies, as it were, brought to our doors. Not that because of this possibility there is any need whatever that our market growers of flowers should take alarm lest our markets should be flooded with Australian flowers. Whatsoever may come, and there is no telling what may yet happen, at least the cost of bringing flowers so far, even should the method of transit be ever so perfect, must prevent their being sold here in competition with those of home growth.

But if we can have flowers sent so far in fresh condition, may we not return the compliment by sending so far also, and what possibilities of trade in plants and seeds may not grow up between our colonies and other countries with us if sample flowers may be thus safely sent to all parts of the world. The matter is one of considerable moment, and the success or failure of the new experiment shall be fully reported.

Princess Beatrice and Prince Henry of Battenberg visited the International Horticultural Exhibition on Saturday afternoon, and were shown round the gardens by Mr. H. E. Milner. The Royal party also inspected the side shows, including the floral maze, the ant house, and the Indian tea garden, with all of which they were much interested, and afterwards went to the Welcome Club, to listen to the band of the Belgian "Guides."

Mr. W. J. Dale, late gardener at Walburton Park, Arundel, has been engaged as gardener to Leicester Hibbert, Esq., Holfield Grange, Coggeshall, Essex.

Rose Show at Moseley Botanic Gardens, Birmingham.—We hear that the entries for this exhibition on the 19th and 20th inst. are most satisfactory, and that a very fine display is expected. Many years ago Birmingham was celebrated for its annual Rose Show in the Town Hall. Now there is every possibility of this being continued on an extensive scale at these gardens, recently opened, and so pleasantly situated in one of the best localities adjacent to Birmingham, and easily got to by tram and rail.

Trinity College Botanic Garden, Dublin.—One of the chief events of the Fellows' garden party in connection with the tercentenary of Trinity College, Dublin, last week was the planting of a Mulberry tree by Miss Salmon, the daughter of the Provost. The ceremony took place in the presence of T.E. the Lord Lieutenant and the Countess of Zetland, the Marquis and Marchioness of Dufferin, and several thousand visitors. Miss Salmon was presented with a beautiful silver and bog oak spade, and was assisted in her task by Mr. Burbidge, curator of the Gardens.

The Oxford Carnation and Picotee Union.—Since making the announcement last week that the annual exhibition of the Oxford Union would take place on the 28th inst., which was Mr. Dodwell's desire, in order not to clash with the Carnation Show at Earl's Court on August 1 and two following days, a meeting of the Midland counties growers has taken place at Birmingham, and a strong representation was made to Mr. Dodwell that they would have no flowers in full bloom by the 28th, the plants being backward through the dull showery weather. Acting upon this the Oxford Show will now be held on Tuesday, August 2, as usual, in Mr. Dodwell's garden, Stanley Road, Oxford. There is no doubt a very fine exhibition may be looked for.

Plants Certificated in Ghent.—At the meeting of Belgian horticulturists held at the Casino early last week, Certificates of Merit were awarded to M. Ed. Pynaert for a new variety of Streptocarpus grandiflorus; to M. Leon Poelman for Clivia Dr. H. Van Cleemputte; to MM. Vervaet et Co. for Miltonia vexillaria leucoglossa; to M. Jules Hye for Cypripedium Crossianum superbum, Oncidium Lanceanum Odontoglossum Pescatorii sulphureum and Cattleya Mossiæ alba Wagneri.

Brighton Flower Shows.—We are requested to state that the shows of the Brighton and Sussex Floricultural and Horticultural Association, as advertised by Mr. E. Carpenter, have all been cancelled. The show of the Brighton and Sussex "New" Horticultural and Mutual Improvement Society will be held as arranged, the summer show on August 30 and 31, and the Brighton and Hove Chrysanthemum show on November 1 and 2.

The National Chrysanthemum Society's Picnic.—The members of this society are reminded that the annual outing takes place on Friday, July 22. The party will leave Charing Cross at 9.28, and London Bridge at 9 35, but does not call at Cannon Street. The train is timed to reach Penshurst Station at 11.5, and the visitors will pass through the gardens at Redleaf on the way to Penshurst village; 12.30, cricket match between the N.C.S. and local societies on the cricket ground at Penshurst Place; 2, dinner; 2.30, visit Penshurst Place, gardens, and state apartments; 5.30, tea; 7.15, leave Penshurst village for railway station; 8.9, train leaves, and arrives at Charing Cross at 9 57, calling at London Bridge and Cannon Street. The distance from the village to the railway station is two miles.

Fire Arrangements at Earl's Court.—Very complete arrangements have been made to protect the buildings at Earl's Court from fire. Large high pressure mains run through the principal galleries, the theatre, lecture hall, etc., to which are connected twenty fire stations with standpost hydrants, hose, hand-pumps, and buckets. Small fire engines are also distributed through the buildings. These arrangements, as in previous exhibitions, have been carried out by Messrs. Shand, Mason & Co. Supt. Duck is in charge of an efficient staff composed of men who have served in the Metropolitan Fire Brigade.

Birkbeck Building Society.—The 41st annual meeting of this society was held on the 7th inst., at the offices, 29 and 30, Southampton Buildings, Chancery Lane. The report adopted states that the receipts during the year which ended 31st March last, reached £9,362,005, making a total from the commencement of the society of more than one hundred and fifty millions (£151,128,183). The deposits received were £8,570,062, and the subscriptions £230,052. The gross profits amounted to £300,406. The surplus funds have been augmented by £505,573, and now stand at £5,544,530, of which £1,638,090 is invested in Consols and other securieties guaranteed by the British Government, upwards of two millions (£2,006,305) registered in the books of the Governor and Company of the Bank of England, and the cash in the hands of the bankers is £258,378. The Permanent Guarantee Fund stands at £150,000, and the balance £150,406, making together £300,406 in excess of the liabilities. The whole amount being invested in consols. The subscriptions and deposits withdrawable on demand amount to £5,674,713. The surplus funds (which are invested in readily convertible securities) are sufficient to pay the depositors 113¾ per cent. on the amount of their deposits. The new accounts opened during the year were 10,545, and there are, altogether, 63,145 shareholders and depositors on the books. Since its establishment the society has returned to the shareholders and depositors more than one hundred and a quarter millions (£125,444,436), the whole amount having been repaid upon demand.

Insect-eating Plants.—On the occasion of the afternoon meeting of the Royal Horticultural Society on the 26th inst., Mr. A. J. Manda, of the Hextable Nursery, Swanley, will read a paper on "Insect-eating Plants." We understand that Mr. Manda has given the subject some attention, and it is to be hoped he will be present to read the paper himself.

United Horticultural Benefit and Provident Society.—The quarterly meeting of this society was held on Monday evening last at the Caledonian Hotel, Mr. Joseph Wheeler in the chair. One new member was elected, making a total in the two quarters of 37. Sickness amongst the members has been light during the quarter, two only being on the funds at the present time. It was arranged that the annual dinner shall take place in the last week in September (due notice of which will be given), and it is proposed to present the treasurer, Mr. James Hudson, with a testimonial on the occasion, in consideration of the valuable services he has rendered to the society during the past ten years.

RANUNCULUS ACONITIFOLIUS FLORE PLENO.

THE EARL'S COURT EXHIBITIONS.

THE extremely beautiful flower show held at the International Horticultural Exhibition, on the 5th inst., was described by so distinguished a judge as M. Henri Vilmorin, of Paris, as one of the most beautiful he had seen. Being the second of the series, we were naturally much interested to learn how our numerous foreign visitors who so largely constituted the judging staff of this latter exhibition regarded it.

Now there may be reasons why flower shows held as these Earl's Court shows are, as purely business enterprises, should be looked upon with some dubiety; we, however, fail to find any such reasons in this case. Certainly the exhibition is one of the most delightful of places in or near London at which shows of this kind can be conducted. There is no noise, but much that is refined and beautiful in the surroundings. The shows have the advantage of being held in very roomy, cool buildings, where they are secure from those ills which sometimes afflict shows in tents. They are very easy of access for exhibitors, and they are for the convenience of visitors right in the centre of one of the best parts of London, and accessible by rail from anywhere. No wonder then that these flower, fruit, and vegetable shows are being regarded with exceeding favour by exhibitors generally.

The next will be a large exhibition of cottage garden produce, if rural exhibitors will compete. Then comes the new great fruit show of August 26 and 27, when also the gardeners' dinner will be held, and there are further shows in September and October, at all of which we hope to see many of the gardening craft from all parts of the kingdom.

WHITE BACHELORS' BUTTONS.

SEVERAL popular names are given to Ranunculus aconitifolius flore pleno. The latter might be translated as the double Aconite-leaved Ranunculus. The leaves are deeply divided into five segments, and are of a rich dark green, so that the allusion to the Aconite is aptly made. It differs in these respects from most if not all of the other species of Crowfoot in cultivation. Besides the above it is also known as Fair Maids of France and Fair Maids of Kent, and is a popular, as well as an old inhabitant of gardens. The flowers are perfectly double, pure white, and not unlike a button, so that the heading of this note is very suggestive. They are comparatively of short duration in a dry season like the present, if the plant is grown in soil liable to be affected by drought, more especially in the southern counties. Cultivators therefore cannot pay too good heed to the nature of the soil in which they plant it. A fairly retentive or even moist soil should be selected for it in the south, and the grower may rest assured that it will amply repay for any little trouble in that direction taken with it. The neat habit and the white flowers render the plant one of the most ornamental subjects in the open border in spring, and may also be used to advantage for cut flower purposes as it is, by those in whose gardens it thrives.

BEDDING VIOLAS.

THE true value of the various varieties now in cultivation, amounting probably to quite 200 sorts, for standing useful decorative work is to be seen now after the experience of the months of May, June and July, and testing their qualities as to having constitutions strong enough to stand the influence of hot sunny days, and being excellent bloomers of good habit and of telling colours.

At the Sparkhill Nurseries, Birmingham, a few thousand plants of leading sorts are planted out with the view of testing fully their value for decorative work. These are in long rows, planted out in the spring in rather poor soil and they make a brilliant mass of colour, some sorts giving way much more than others to the influence of solar heat and drought.

In the Midlands, we are having a most suitable season for the Viola as we have not had much great heat and there has been a preponderance of cool and showery weather, and Violas are seen everywhere in gardens and are very beautiful and striking objects: and popular as the plant now is, the wave of popularity will greatly increase. We are now having so many new shades of colours, many of

them very lovely, and beds or borders of mixed colours are pleasing objects of beauty. One thing however is most desirable in order to ensure the lasting character of the Viola, and that is early autumn planting except in damp cold situations. In such, spring planting is advisable, but autumn planting when it can be done so that the plants may get fine root hold and strong before winter sets in is the best. Plants should be obtained in September or October if possible. With later purchases, it is safest to plant in a sheltered place, close together when the plants can be protected from cutting winds which harm a great deal more than severe frost, and transplant with balls of earth at the end of March or early in April.

Some of the very best for masses are the following sorts, which are generally well known and are very cheap, viz.:—

WHITES.—Countess of Hopetoun, first and best of all, dwarf and compact, a wonderful and early bloomer, and universally grown. Countess of Wharncliffe (syn. with Lord Fitzgerald), pure snow white and of excellent close habit. Mrs. McDonald, a stronger growing variety and a profuse bloomer and excellent. One of the most effective and charming of all is Mrs. Pearce, white tinted with lavender and very fragrant, as so many are. It has a close compact habit and is a wonderful bloomer, and not one plant out of quite 150 has given way to the heat we have had.

YELLOWS.—Bullion, rich deep yellow and a most profuse bloomer. Yellow Boy: there is more of the Pansy habit in this variety, but it is a good yellow of excellent constitution, good habit and a very free bloomer, and stands hot weather well. Ardwell Gem is a pale yellow of good close habit and a very free bloomer, but when late planted gives out in hot weather. The Queen, pale yellow, similar in colour to Ardwell Gem but taller and a very free bloomer and excellent bedder.

BLUES.—True Blue; there is more of the blue colour in this variety than in any other, dwarf and compact in habit, medium sized flower, very early and continuous in bloom, and of good constitution. The best blue variety. Ormonde is of the Holyrood type, a very free bloomer and grand in a mass, the colour so rich and telling, a blue violet. Mrs. Charles Turner is of very dwarf compact habit, very free blooming, of a bright blue tinted violet colour.

Of other shades of colour The Mearns stands out prominently, bright rosy-purple with light top petals; Lady Amory is deeper in the rich purplish tint of the lower petals with light top petals; Mrs. Grant is a light flower with darker centre; Gaiety and Goldfinch are also excellent bedders, both light coloured flowers with a yellow tint in them. These are all excellent bedding varieties, and many others could be added, but when large masses are wanted the above named are most desirable.—*W. Dean.*

THE MISSOURI BOTANICAL GARDEN.

FOUNDED BY HENRY SHAW.

IN the year 1851 Henry Shaw, a prosperous merchant of St. Louis, Missouri, spent some time visiting the World's Fair at London and other points of interest in England. While walking through the famous gardens of Chatsworth, where the chiefs of the great house of Devonshire had for several hundred years lavished much wealth, Mr. Shaw first planned to have in his own country a garden of somewhat similar nature. It was here according to his own statement, that he said to himself: "Why may I not have a garden too? I have enough land and money for something of the same sort in a smaller way." Out of these plans and questionings grew the famous Missouri Botanical Garden and Tower Grove Park, which stand as a monument of what Mr. Shaw has done for the cause of horticulture, for they were given by him to the people. The bequest will increase in worth and usefulness as time goes on, for it has a broad business-like basis.

Henry Shaw was born in Sheffield, England, July 24, 1800. His father was a manufacturer of grates, fireirons, etc. The family removed to Canada in 1818, and the next year Henry, then of age, after spending some time in Louisiana, went to St. Louis, at that time a small trading post. With the assistance of an uncle he bought a small stock of cutlery, and through habits of industry and self-denial and good business methods he acquired a large fortune by the time he had reached his fortieth year.

The finest garden in St. Louis at the time Shaw began business there belonged to Madame Rosalie Sangrain. Her daughter many years afterward recalled how young Shaw, while taking his daily afternoon horseback rides into the country would stop at the garden fence, admire the flowers and exchange pleasant words with the owner.

The Missouri Botanical Garden, Mr. Shaw's first work in extensive public gardening, was begun in 1857. The area included in the garden, of which we give illustrations on pages 405 and 407, was 44.7 acres, divided as follows; garden proper, 9.4 acres; arboretum, 20.5 acres; fruticetum, 8 acres; vegetable garden, 3.5 acres; grove, 6 acres; lawn, 2.7 acres. The grounds about the garden include an equal or greater acreage of pasture-land, and can be used for any extensions which may from time to time be found desirable for the garden. Two large greenhouses and several smaller ones afford facilities for the cultivation of exotics, and for the propagation of tender and half-hardy plants used for bedding during the summer.

In 1866, Tower Grove Park, adjoining the garden and comprising 276.76 acres, was given to the public by Mr. Shaw. The museum building was erected in the garden as early as 1858-9, partly at the suggestion of Sir William J. Hooker, the director of Kew Gardens, England, who wrote thus to Mr. Shaw: "Very few appendages to a garden of this kind are of more importance for instruction than a library and economic museum, and these gradually increase like a rolling snowball." The selection of books for this library was wisely intrusted to Dr. Engelmann, in consultation with Hooker, Decaisne, Brown, and other of his botanical friends. At this time Dr. Engelmann urged Mr. Shaw to purchase the large herbarium of the then recently deceased Prof. Bernhardi, of Erfurt, Germany, and this was at once done. The herbarium contains about 20,000 mounted specimens of flowering plants and some 4,000 of cryptogamous plants. It is impossible, according to a recent report of the garden, at present to state the exact number of species cultivated in it, but the number is large and receives constant additions. From a descriptive list of the economic plants cultivated in the garden in 1886, it appears that it then contained 232 such species. The inventory made by the administrator of the estate shows 55 named species or varieties of agave and 106 species of named palms; and the collections of cactus and of several other plants that interested the late Dr. Engelmann is quite large. The educational features of the garden are also supplemented by the extensive variety of trees and shrubs growing in the adjacent Tower Grove Park, which was given to the city by Mr. Shaw: although the management of this park is entirely distinct from the Botanical Garden, and they were primarily intended for quite different purposes.

More than 20,000 trees have been planted in the park proper since 1866; and these trees were all raised in the arboretum of the garden. Mr. Shaw used to say when planting them, that he did not expect to see the trees reach maturity; but nearly all the trees in the collection that he helped to plant and nurse, were fully grown when in August, 1889, his coffin was borne beneath their shade to his mausoleum in the garden. Mr. Shaw's trusted assistant, James Gurney, is still superintendent of the grounds.

It was the aim of the liberal founder of these grounds to omit nothing that could make them the perfection of a pleasure ground. Throughout the large area of the garden there are abundant walks and drives. There is a pool devoted to aquatics, a labyrinth, an observatory, a summer house and playground, and a music stand and a concourse, besides many other features designed to interest and amuse.

Mr. Shaw's purpose in establishing the Missouri Botanical Garden was clearly set forth in his will. The bequest to the public ran as follows: "To establish and endow a Botanical Garden, easily accessible, which should be for ever kept up and maintained for the cultivation and propagation of plants, flowers, fruit, forest-trees, and other productions of the vegetable kingdom; and a museum and library connected therewith and devoted to the same and to the science of botany, horticulture and allied objects, for the promotion of science and knowledge." To provide for its maintenance for ever Mr. Shaw bequeathed additional real estate, the income from which affords an ample fund for prosecuting the work of the garden. Tower Grove Park, also given to the public by Mr. Shaw, and planted at his expense, depends for maintenance upon the city of St. Louis.

In its educational aspect the Missouri Botanical Garden occupies a unique place among institutions of its kind. Provision is made here for giving (free) adequate theoretical and practical instruction to young men desirous of becoming gardeners. The course of instruction in this department does not duplicate that now offered by the numerous state Agricultural Colleges of the country, but is quite distinct, and limited to what is thought necessary training for practical gardeners. It is not intended that many pupils shall be trained at one time. Six scholarships for such pupils have been established, and admission thereto is based on the results of competitive examinations, with certain exceptions in favour of young men between the ages of 14 and 20. Vacancies, as they arise, are filled annually after public announcement.

Garden pupils, under the conditions of acceptance, are regarded as apprentices in the botanical garden, and as such are required to work in it, under the direction of the head gardener. They are advanced from simpler to more responsible tasks, and from one department of the garden to another, until they are thoroughly familiar with the work of all. Garden pupils are paid for their services in the garden, and the absence of pecuniary means need not deter any young man from obtaining horticultural training. Each regularly appointed garden pupil holding a scholarship is entitled to the following wages, payable fortnightly: For the first year, $200; for the second year, $250; and for each year after the second, $300. Plain, but comfortable lodgings, convenient to the garden, are also furnished. After the first year pupils are not required to do manual labour in the garden for more than five hours a day. The remainder of their time is devoted to the study of horticulture, forestry, botany, entomology, and they are granted free tuition in the School of Botany.

The Henry Shaw School of Botany was founded about the year 1883, with the assistance and advice of the late Dr. Asa Gray, of Harvard College. With the concurrence of a board of directors Mr. Shaw endowed the school as a department of Washington University, with real estate yielding a revenue of over $5,000, and placed it in such relation with the largely endowed Missouri Botanical Garden and Arboretum as would practically secure their best use for scientific study and investigation, to the professor and students of the School of Botany. A professorship of Botany was therein established, known as the Engelmann Professorship, which has been filled since September, 1885, by Professor William Trelease, formerly of Wisconsin University. The working year for the School of Botany is divided into three terms. Classes for the study of particular groups of plants, and special work for advanced students, are planned as the demand for them appears. On the application of six persons, a class for day or night work, in any branch that can be taught with profit, will be formed whenever practicable. The elementary classes are so conducted as to require no previous knowledge of botany; but admission to advanced classes depends upon a sufficient familiarity with the subjects to render the work profitable.

Several other special bequests were made by Mr. Shaw in the interests of the Botanical Gardens, among them these:

"One thousand dollars annually for a banquet to the trustees of the garden, and to the guests they may invite—literary and scientific men, and friends and patrons of the natural sciences; $409 annually for a banquet to the gardeners of the institution, and invited florists, nurserymen, and market gardeners of St. Louis and vicinity, said banquet to be presided over by the director of said botanical Garden; $500 annually for premiums or prizes for any flower show or exhibition that may be established by amateurs and horticulturists of St. Louis; $200 annually to the Bishop of the Episcopal Church of this diocese, in consideration (if he approve of the same) that an annual sermon be preached in such church, and by such minister as he may select, on the wisdom and goodness of God as shown in the growth of flowers, fruits, and other products of the vegetable kingdom—to be paid annually out of the funds of the said Botanical Garden."—*American Gardening.*

THE HERBACEOUS BORDER.

Choice Plants in Flower.

PENTSTEMON BARBATUS TORREYI.—The scarlet flowers of P. barbatus are sufficient to recommend it to cultivators of hardy plants generally. The variety under notice is larger in all its parts than the type, but there are many who would like to see the flowers enlarged, although they are undoubtedly very pretty. The hardiness of the plant is one of its chief recommendations, as it will live altogether unprotected far north of the Tweed. Propagation is readily effected by division in spring or by cuttings of the half-ripened barren shoots.

GERANIUM SANGUINEUM LANCASTRIENSE.—The Lancashire variety of G. sanguineum is dwarfer and more procumbent than the type, while the flowers are equally large and even more attractive in colour. The ground hue is pale pink or almost white, beautifully netted with branching, bright rose-coloured veins. Owing to its dwarf habit it is suitable either for the front row of the herbaceous border or for the ledges of rockwork, over which it may be allowed to trail and flower all the summer.

ERYNGIUM OLIVIERIANUM.—The habit of this plant is very similar to that of the old-fashioned but fine species, E. Alpinum. From the latter it differs by its deeply divided leaves which abundantly clothe the stems. The bracts surrounding the head are numerous, spiny along the edges, and of pale but somewhat varying steel blue colour. The rootstock increases slowly, but the number of plants can be multiplied by division if done with care just when growth commences in spring. Seeds apparently cannot be obtained.

HELENIUM BOLANDERI.—The maroon or brown disc of this Composite adds much to the general appearance and distinctness of the plant. The broad and lobed, golden yellow rays are similiar to those of H. autumnale pumilum, but the leaves are spathulate and very much longer. The stems grow 12 in. or 18 in. high according to the soil, its richness and moisture. Altogether it is easily grown and should find its way largely into collections of herbaceous plants.

CENTAUREA PULCHRA.—The stems vary in height from 12 in. to 18 in. according to the variety or individual. The leaves are also much or little divided and white beneath. Each stem terminates in a single head of large size, surrounded with pale scarious scales and having purple flowers. On the whole the plant resembles a bold thistle without the customary spines. A head or two in a bunch of cut flowers has a bold effect, and the plant is equally telling in the herbaceous border.

ERIGERON GLABELLUS.—One of the finest of the dwarf Erigerons is E. glabellus, with smooth green leaves mostly lying close to the ground, and having fewer and shorter ones on the stems. The latter are 6 in. to 10 in. high and branched towards the top bearing a large number of flcwer heads not much inferior in size to those of E. speciosus, and much of the same shade of lilac.

LINARIA VULGARIS PELORIA.—Compared with the ordinary form of the common Toadflax, the variety here noted is somewhat singular in having five spurs instead of one, and a tubular, regularly five-lobed corolla of a pale yellow with an orange throat. The plant is therefore not only ornamental, but highly interesting from a botanical point of view. Increase can be effected by division of the rootstock. The plant naturally thrives on dry banks, sometimes even in the neighbourhood of water, but high enough to be dry at the roots, and is therefore well suited for similar places in the garden or on rockwork.

ONONIS NATRIX.—Most of the species of Ononis in gardens have rose, pink, or purple flowers, but that here mentioned has bright yellow flowers beautifully striated with red on the outer face. The red lines are of course most conspicuous in the bud state. On the whole the plant is highly ornamental and the wonder is why it should not make more headway in British gardens, seeing that it was originally introduced from South Europe in 1683. It may be propagated by cuttings of the half-ripened young shoots during summer.

CAMPANULA LATIFOLIA VAN HOUTTEI.—This fine Bellflower is said to be a garden hybrid, and whether so or not it is certainly both distinct and beautiful. The pendent flowers are of varying shades of blue, narrowly bell-shaped and about 2 in. in length. The flower stems seldom exceed a height of 12 in., so that the flowers are out of all proportion to the height and bulk of the plant when compared with C. latifolia itself, which grows to a height of 3 ft. or 4 ft.

SCABIOSA CAUCASICA AMŒNA.—The variety amœna flowers about two or three weeks before the type, and is in other respects an acquisition on account of the great size of its light blue rays. The disc is white or of the palest lilac, and the dwarf habit of the plant likewise renders it a great acquisition to the herbaceous bordei.

THE SUMMER SOLSTICE.

HE has a dull eye to the beauties of nature who cannot see on every hand a wealth of leafy beauty and greenery in the landscape of this country, which cannot be witnessed even in tropical countries except under very favourable conditions, and that only at certain periods of the year, when heavy rains start vegetation of every kind into full vigour. It is not sufficient to say that the trees are merely green, for the tints are so varied that one tree cannot fail to show off the beauty and particular characteristic of the other by contrast.

The Horse Chestnuts, that a little while ago were of snowy whiteness or resplendent with pyramids of red blossom, are now of a sombre dark green, save here and there where the globular, spiny fruits show themselves. Elms, Beeches, and Sycamores are also of a rich but different shade of green; while the Silvery Maple vies with the White Poplar in presenting an ever-changing picture according to the amount of white and dark green exhibited when ruffled by the wind. The Hoary Poplar (Populus alba canescens) is of an intermediate character, not being so white on the under surface, but the size the tree attains with its great umbrageous arms, cannot but fill the beholder with admiration at this season of the year. The landscape planter might well be abroad at this season making notes of the different trees and the effects they are capable of producing when they attain their majority.

The Oriental Plane and the London variety of it are mostly of a light rich green compared with any of the above; and the Ash-leaved Maple (Negundo) is of a lighter almost yellow hue by comparison. A Purple Beech here and there with its bronzy purple hue peering out from amongst clumps or masses of Oak, Sycamore, Lime, or even Scotch Pines, is a veritable burlesque on nature, and seems as if it had been burnt or dyed, so striking is the contrast between it and the surrounding vegetation at the summer solstice. The Scotch Pine exhibits a softer and glaucous hue, and the sombre tinted Cedars of Lebanon, which are the glory of the landscape in winter, have put on a lighter green summer garment beneath which the old one may still be seen. The Holly too is less rigid than when prepared for the cold blasts of winter. The change that has come over the sombre tinted almost immutable Ivy is very marked as if in tender mood, for the young leaves completely hiding the old are of a pleasing light green.

A number of trees are now in bloom, and the effect even at a distance is conspicuous and handsome. The Limes are laden to such an extent with fragrant, pale yellow blossom that the pendulous branches give one the impression that they are borne down by the weight of the flowers. For some time past the Sweet Chestnut, with its long, finger-like leaves, has been preparing to flower, and the myriads of spikes of male blossom give the tree even a lighter hue than it would otherwise have. In a few days it will be a pyramidal mound or variously shaped mass of white. The common Robinia, or False Acacia, has lasted well, but is now almost over. From between them, in the more immediate neighbourhood of gardens or pleasure grounds, are huge bushes of Mock Oranges, lading the atmosphere with their fragrance, and yonder are rambling masses of the many flowered Rose (Rosa multiflora) in some form or other. Pleasant is the sight from some neighbouring hill or elevation where the villa gardens in the suburbs of some large town are well stocked with trees of various kinds. The Lombardy Poplar is always a characteristic and striking tree in broken lines, or in perfect isolation here and there, whether in town or country. Collectively the sight that meets the eye in suburbs where taste prevails in the matter of tree planting, is suggestive of *rus in urbe*. On the banks of streams both Willows and Poplars are at home. The White Willow is less common than the blue-leaved variety (Salix alba cærulea), and between them the Babylonian Willow waves its long, slender tresses of light green.—*Taxus.*

SCOTTISH NOTES.

SCOTTISH HORTICULTURAL ASSOCIATION.

THE monthly meeting of this society was held on 4th July, the chair being occupied by Mr. R. W. Morrison, one of the vice-presidents. On the conclusion of the formal business of the meeting a paper by Mr. Alex. Hutton, Dundee, was read, the subject being the "Flora of Ceylon." The lecturer commenced with a description of the physical features of the island, and an account of its history and general appearance. It was stated that comparatively little was known regarding Ceylon till the companions of Alexander the Great, on returning from their Indian expedition, brought with them accounts of what they had seen and heard. Pliny, in the first century of our era, gave a more definite account, while Ptolemy showed an amount of information which had evidently been derived from the merchants of Egypt and Arabia who frequented the island. It was stated that to a traveller fresh from Europe arriving at Point de Galle the first impressions of tropical scenery were such that were never to be forgotten, the hills being draped with a vegetation of a kind only seen in our larger botanical gardens, while in the distance is seen the sacred mountain of Adam's Peak with its summit enveloped in the clouds.

The red appearance of the sea during the south-west monsoon was explained to be caused by the presence of millions of infusoria, while the climate was said to contrast favourably with that of the great Indian Peninsula. It was explained that although the vegetation of the island is for the most part evergreen, still the changes in the leaf exhibit colour as bright as exhibited in autumn in the woods of Scotland or Canada, it being the younger shoots and not the decaying leaves that show their brilliant colour, the extremities of the branches exhibiting tufts pale yellow, pink, crimson, and purple, giving them at the distance the appearance of clusters of flowers.

The Flora of the island was stated to consist of 3,250 species, of which 3,000 are flowering and 250 cryptogamic, the botanical richness of the island being extraordinary when compared with its area. After dealing with the origin and history of the "Flora," Mr. Hutton gave a descriptive account of many of the Trees and Palms that are indigenous to Ceylon. Reference was made to the Tea Gardens and to the great increase in cultivation which has recently taken place in that valuable article of commerce. The lecture concluded with an interesting description of a tropical forest, where almost every tree is seen to support numerous forms of vegetation —Ferns and Arums ascending the smoothest trunks, while numerous gigantic climbers hang from every branch.

The following were the exhibits at the meeting:—From Mr. Henderson, Clermiston, blooms of a very fine seedling white Begonia named "Pearl," and Streptocarpus hybrids. From Mr. Chapman, Easter Duddingston Lodge, cut blooms of several herbaceous plants; and from Mr. A. McMillan, Trinity Cottage, a plant of the Japanese Chrysanthemum Puritan in flower, the flower stem being only 13 inches high; also fine blooms of Chrysanthemum Sunflower, Madame Lacroix and Madame Desgranges, and a plant of Lilium giganteum.

ALLIUM KANSUENSE.

NOTWITHSTANDING the large number of Alliums that are known to science, very few of those that are grown merely for ornamental purposes have ever become popular. The powerful odour of Garlic which pervades a great many of them, is no doubt against them. White and purple flowered species are pretty common, and have furnished the greater number of popular, ornamental kinds. The yellow A. Moly is also a widely disseminated species. That under notice has an umbel of drooping, clear sky-blue flowers, bell-shaped, and apparently never opening very widely. They are of medium size, but very pretty in the mass, and collectors of distinct-looking flowers would do well to add it to their collection. The leaves are semiterete, and like the flower stems, are about a foot high, dark green, and rush like. It has been flowering at Kew for some time past.

FLORICULTURE.

Seasonable Notes on Florists' Flowers.

The Auricula.

The plants at this season of the year may be said to be perfecting the growth they made after being potted at the end of May. They are doing good rootwork, and slowly forming the hearts which will yield bloom for the next season. The best position for the plants at this time of the year is a north aspect in a frame raised above the level of the ground, and the plants standing upon an ash bottom. The lights can be altogether removed by day and night, except when storms and heavy rains threaten, and then they should be put on, at the same time giving plenty of air to the plants. A great abundance of water is by no means necessary. What is required is enough of water to keep the soil about the roots cool and fairly moist; rot will frequently happen in the case of newly-potted plants when the soil is wet and moisture stagnated in the soil. The plants should be kept free from green-fly, and a sharp look-out kept for a small green caterpillar which at this season of the year eats its way into the hearts of the plants, and if undiscovered does them almost irreparable mischief.

Carnations and Picotees.

On the whole the weather since the last week in June has been favourable to the well-being of the plants. It has been warm—sometimes quite hot, and a good and kindly growth has set in, hastening the development of bloom. The recent rains had a decided stimulating effect, cleansing the plants to some extent from insect pests. Cleanliness is all important; the flower stalks should be kept neatly tied to stakes, and those who require large blooms for exhibition purposes must see that disbudding is attended to. We are now getting very near to the Carnation shows. The National Society holds its exhibition at the Drill Hall, Westminster, on the 26th; the Oxford Union follows on the 28th; and then on August 1st, Bank Holiday, follows the Earl's Court Carnation Show. There is at present every appearance of a fine display on each occasion.

Dahlias.

A grower of Dahlias remarked the other day that in order to have blooms for the early shows the Dahlias require a great deal of coaxing. During the past fortnight, helped by the acceptable rains, good headway has been made, and what is now required is fine, sunny, growing weather, and occasional showers. While the weather is dry copious waterings overhead in the evenings will be found of great advantage, keeping the soil open about the roots and keeping the shoots securely tied to stakes to prevent injury by the gusty winds which appear to be unusually prevalent this summer, and a source of trouble to the gardener. Insect pests are frequently very troublesome, slugs and earwigs in particular. The old plan of trapping them by placing a small flower-pot with a little moss in it inverted on the top of the main stake is one of the best remedies which can be employed, and a good many can be trapped in this way if the pots are examined once or twice daily.

Hollyhocks.

So far where the soil is rich, and the plants have been well looked after, Hollyhocks have done very well. They are plants which take a great deal out of the soil, and so should be planted in well-manured ground. They should have a good mulching with fat dung during the summer, be well looked after in the matter of watering, and be encouraged to make a free and vigorous growth. Already some plants show that the disease is taking hold of them, and there is therefore nothing like good cultivation. Careful staking is necessary to keep the plants from being injured by wind. Formerly seeds of Hollyhocks were not sown until June, but in later times it is the practice to sow much earlier. By sowing in heat in January, the plants can, if properly attended to, be so pushed on that they will flower at the end of the summer; and then anything specially good can be lifted, the plants potted up for the winter, and so preserved from the perils of the open ground. The old method was to prepare a piece of ground in the open in June, and on this draw drills, 2 in. deep, and a foot or so apart. Then an inch or so of finely sifted soil was placed in each drill, the seeds sown thinly upon it, and covered to the depth of ¼ in. If the weather proved dry, a gentle soaking of water was occasionally given, and a dusting with soot kept vermin from injuring the young plants. In September the plants could be potted up for protection or planted out in a cold frame, and so preserved from the effects of bad weather.

Pansies.

Cuttings should now be taken from any particularly fine varieties. If put into a well-prepared bed of fine sandy soil in a shady position under a hedge or wall, and covered with a hand-light, there should be no trouble in striking them. There is all the more reason why the grower should endeavour to obtain increase of a fine variety, because plants are prone to die off, and so it is a wise precaution to obtain increase of such as soon as possible so as to save a stock of a valuable variety. Seed will now be ripe and fit to gather, and can be sown for succession. It was the belief of the florists of forty and fifty years ago, that seed taken from well-developed flowers of high quality and rich markings produced finer flowers than seed taken from the same plants at a later period of time, when the flowers were smaller and less pronounced in colour. This may be so, but I am not sure if the results have been demonstrated by actual experiment.

Pelargoniums.

The plants which have gone out of flower should be gradually dried off in order to ripen their wood previous to being cut down. This is a matter to which importance has always been attached by Pelargonium growers, and for two reasons—they held that the old wood was benefited by the ripening process, and the cuttings rooted better. One can quite understand there would not be such a flow of sap from the ripened wood as from that of a less hardened character. Cuttings strike best in a small spent dung frame. There should be a cutting bed of fine light sandy soil, and in this the cuttings should be inserted, pressing the soil firmly about them, keeping them fairly close for a time and shading from the sun.—*R. D.*

SPRING FLOWERING BULBS.

The receipt of several new bulb lists comes as a timely reminder of the near approach of the season when these will require attention. There are very few things that are more easily managed than a good and successional display of spring-flowering bulbs. I designate them spring-flowering, but in reality they are both winter and spring-blooming subjects, as they only require potting up earlier and to receive a little more heat after their roots have got well to work to extend their time of flowering. By introducing them into heat a few at a time and letting them be potted up into a couple of batches, a grand show of flowers may be kept up from Christmas until the end of April and May.

Freesia refracta alba is undoubtedly one of the most pleasing and sweetly-scented flowers that an amateur can possibly have. These, with a little trouble, may be had in flower from Christmas until August. I shall pot my first batch of these early in August, also my first batch of Allium Neapolitanum, Gladiolus, "The Bride," and some few other extra early bulbs. The second batch of these will be potted at the end of September. In each case, as soon as they are potted, I shall stand them in a cool pit or frame and plunge in Cocoa-nut fibre refuse and sand. Soil of a moderate moistness will be used, and from seven to eight bulbs placed in a 5½-in. pot. The compost used will be fibrous loam one-third, leaf-soil one-third, and the remainder made up of decayed manure from an old Melon or Mushroom bed, with a dash of sharp sand. No water will be afforded them until the young growth shows through the plunging material, and even then they will be kept upon the dry side all the while they remain in the pit or frame. As a few pots at a time are introduced into heat, water will be applied very freely as soon as the bulbs respond to the increased temperature.

The earliest of the Freesias and Alliums will be in bloom by Christmas, after which there will be no break in the supply until the early part of August. These later flowers will be obtained from seedlings sown in January and left in their seed pans or boxes. A stove heat, with much the same treatment—with the exception of pricking off—as that afforded to seedling Begonias, will secure this end; and, at the same time, give you a fine lot of bulbs for the latest batch of potting to produce late spring flowers the following season. Choose only the first sized bulbs for potting, replacing the smaller ones into boxes or pans and giving them the same treatment as the earliest batch. These will then form splendid sized bulbs for future use. There are few bulbs which increase so freely as the Freesias, and they may consequently be purchased very cheap.

The Alliums and Gladioli increase freely also, and may be potted up into two sizes in the same manner. Then there are the Cape Cowslips (Lachenalias), Ixias, Sparaias, Babianas, Fritillarias, Muscaris, Calochortuses, and a great many others that are not nearly so frequently cultivated by amateurs as they deserve to be. I purposely omit giving any notes upon Hyacinths, Tulips, Crocuses, Snowdrops, etc., as these are certain to be brought before my readers' attention; but I feel sure that grand as these last bulbs are, they might be advantageously supplemented with those more particularly treated upon in this short paper.—*Experience.*

STRAWBERRIES AT CHISWICK.

Late as the season has been, it is now almost over as far as Strawberries are concerned. Those who have plantations of old plants may be able to keep up a supply for a short time longer; but where one year old plantations are depended upon for a supply the season is practically over. Most of the plantations in the gardens of the Royal Horticultural Society at Chiswick this year consist of last year's runners, and a few consist of plants that had borne a crop in pots before being added to the collection last autumn. It is largely from them that the notes hereunder were gleaned, as the fruit was about ten days later than the rest in ripening. The relatively large amount of sunshine during the past six weeks or so has also hastened the ripening of early fruits of all kinds. The gathering of the Strawberries commenced about the 20th of June, and was practically finished on the 9th inst. at Chiswick, being a duration of 20 days.

The collection of new or little known varieties is extensive, and very few of the well-known and standard varieties are here mentioned. Competitor is moderately early, conical, somewhat flattened, carmine scarlet, and rather rich in flavour. A crimson, more deeply pitted fruit is Sensation, but we cannot recommend it for flavour although a fine looking fruit. John Ruskin is an early variety, but here, rather flavourless, and of a bright scarlet. A crimson fruited and pubescent variety named Sargeant has soft fruit, of moderate flavour. The fruit of Teutonia is large, globular and soft, although it finds great favour in Germany as an early variety. Jenning's White bears a profusion of small globular, deliciously flavoured fruits that are white except on the side exposed to the sun. Crown Prince has large and rather richly flavoured fruits. The fruit of Eleanor is conical or wedge-shaped when it attains a large size, crimson with a red flesh, and rather soft but of good flavour. Monstrosity and La Monstreuse seem to be identical, and have globular crimson fruits of very fair flavour. Albert is even of greater promise, with globular, dark crimson fruits of rich flavour, and is a great bearer.

The varieties now to be noticed include a number of those that were planted out of pots last autumn after having borne a crop. Brown Wonder has wedge-shaped, deeply pitted, rather firm fruits of rich flavour and bright red colour. The fruit of John Powell is conical or wedge-shaped, and somewhat lobed when it attains a large size. The surface is very deeply pitted and the flesh rather rich in flavour. The fruit of McMahon is of a glossy vermillion, firm, rather well flavoured, and the flesh internally is of a rich colour. It is both fertile and bears large fruits, and may be reckoned a main crop variety. Latest of All has conical or wedge-shaped, or sometimes lobed fruits of great size. They are of a clear red, except at the tip, which generally remains white, and the fairly firm flesh is moderately rich in flavour. The true fruits, popularly termed seeds, are rather prominent, because the surface is very slightly pitted. As a large, late fruit it will probably find a good many cultivators.

A variety of great repute in the north is Aberdeen Favourite, a conical, very deeply pitted, bright crimson fruit of very fair flavour. The seeds are deeply inserted in the surface. It is largely grown in the north, and succeeds in the south. The oblong or

conical fruit of Victory is bright red, moderately deeply pitted, and of good flavour. Those of Duke Magenta are globose, of moderate size, very rich in flavour, bright red, and moderately deeply pitted. The fruit of Reeves' Eclipse is conical, crimson externally, but rather pale internally, moderately pitted, and of good flavour when ripe. Napoleon III. finds many admirers on account of the great show of fruit it makes, but ultimately it proves rather disappointing, because a great quantity of it remains small and does not come to maturity. The fruit when of fair size is oblate, rounded on the top, soft, pale in colour, and of peculiar flavour, although by no means appetising. The surface is pubescent or covered with small hairs as in the case of Sargeant.

The following are also new kinds of which we cannot say much until they have had further trial, but they are more or less promising, namely:—General, an early kind; Royal Sovereign, which received a certificate last month from the Royal Horticultural Society; Admiral, White Knight and Scarlet Queen. The last-named was obtained from Noble crossed with King of the Earlies, and bears large, conical, vermillion-scarlet fruits. White Knight was also certificated last year, and is pale scarlet on the exposed side, white where shaded, and said to be of a rich vinous flavour.

The number of varieties that continue to be raised not only in this country but on the Continent and elsewhere is very great, and naturally makes the selection of the most meritorious kinds a difficult operation. A few years, however, serve to thin the ranks as different kinds get abandoned on account of worthlessness, or it may be that they are unsuitable for the soil and locality. Those which have been raised in some other country from our own frequently prove unsuitable for the new surroundings under which they are placed. A great change has been made in the size of many new kinds, but they are frequently deficient in flavour. Attention ought to be given to this, as mere size alone is not desirable.

EARLY COLOURING OF APPLES.

The dry weather which has hitherto prevailed with slight exceptions during the past summer had the effect of diminishing the Strawberry crop and shortening the season, but the greatly increased amount of sunshine has already had a telling effect upon the colouring of the fruit of Apples. In the suburbs of London, cultivators are pleased to obtain a little colouring by the time the fruits attain maturity. The first or second week in July is therefore unusually early for Apples to assume their wonted hues; but what is more remarkable is that some of them which do not as a rule possess any colour at all, show more or less of some dark shade of red, purple, or bronze at this early stage. Irish Peach comes into the market of a greenish yellow hue when mature, but the appearance of the fruit now in the gardens of the Royal Horticultural Society, at Chiswick, would give the impression that it is Devonshire Quarrenden or something of that kind. The rapidly swelling fruits are of a bright red nearly all over, and this has been the case almost since the fruits began to be conspicuous amongst the foliage. Cox's Orange as a rule has not very much colour, but now the fruits are of a deep purple all over the upper half, while the crop is very heavy as in the case of the Irish Peach. A little known variety named Ramhagher is likewise of a deep bright red. Mank's Codlin is well known for its light green hue changing to yellow, but already the light coloured fruits have a red cheek on the sunny side. A large culinary sort named Mrs. Barron is well known to be a green fruit changing to yellow as it matures, but already the fruits are red over the exposed side and the top.

We never look for colour in Lord Suffield at any stage of its growth or maturity, as it is well known to be a pale or Apple green fruit becoming of a lighter or yellowish shade if kept long in the fruit room. Beauty of Kent does not as a rule assume much colour in the neighbourhood of London, although it often does so in other places less subjected to a cloudy atmosphere. Already, however, the fruits are of a deep purple red over the greater part. Yellow Ingestrie will have to fade before it resumes its wonted pale green hue later on to become clear yellow. The Old Nonpareil has a considerable amount of its surface of a russety hue even when mature, but at present it is of a brownish red on the upper half. Schoolmaster and Small's Admirable are both red on the exposed side, but Reinette Van Mons is of a deep purple red over the greater portion of its surface as in the case of Cox's Orange. This unwonted phenomenon, which is generally very prevalent, should prognosticate a crop of highly coloured fruit of good quality in the coming autumn. Under such circumstances it is to be regretted that the International Fruit Show proposed to be held on the Thames Embankment was postponed till next year.

Adiantum Sanctæ Catharineæ and A. Victoriæ.

TWO GOOD ADIANTUMS.

The finely divided species of Adiantum are the most popular for cutting from, but independent of that use they are required for decorative work in the stove, and few are more handsome than A. trapeziforme Sanctæ Catherinæ and A. Victoriæ. The last named is the dwarfest, but the former is even more effective for certain purposes when well grown. A. trapeziforme is a tall and strong growing variety, but the variety under notice and which is represented at the left hand of the accompanying illustration is a dwarf form about 12 in. to 15 in. high, and forms a handsome bushy plant when well grown. The pinnules are broader than those of the type, and more or less deeply lobed. The stove is the proper place for it, as the fronds soon get brown and rusty when kept in a cool dry atmosphere. In the warmth and moisture of the stove the fronds retain their light green hue throughout the winter. In this respect it may be compared to A. tenerum Farleyense.

A. Victoriæ represented on the right hand side of the illustration is of garden origin, and is said to be a hybrid between A. Ghiesbreghtii and A. decorum, but might be a dwarf form or seedling from the former, some authorities say from A. tenerum Farleyense. At all events it is suitable for the decoration of the stove in small sized pots, as its height is only 4 in. to 6 in., and has broad, somewhat triangular or rhomboidal pinnules of a light green. It appeared about 1882, and does best in stove temperature.

PARK EMBELLISHMENT.

In a thoughtful paper on this subject, read recently before the New York Florists' Club, Mr. John R. Johnson said:—

In selecting a piece of land for a public park the idea conceived is to provide for the healthful recreation of all classes of citizens from the poor to the rich, a place where the toilworn artisan or tradesman, the cramped office clerk, and the weary housewife may repair to enjoy a breath of free, pure air; to inhale the fragrant perfume of beautiful flowers, and to refresh and strengthen their toilworn senses with a glance at the bright colours of nature. This fact of what the place was originally intended for should be borne in mind, and should guide somewhat the arrangement and decorating of the grounds. It will then be obvious that in order to carry out this idea great care should be taken in the arrangement; that everything which would be calculated to give the park a cramped, weazened appearance and character should be avoided, and free access should be readily obtained by means of good, wide, shady avenues and roads to all points of vantage. Probably one of the most important features in the construction of a park is good, solid, wide roads, and these, being made essentially for use rather than show, should be so constructed as to be firm, smooth, and dry at all seasons of the year. Carriage roads should, as far as it is possible, intersect with all the choicest places, and in every case should be made to accommodate themselves naturally and unobtrusively to the shape of the ground, avoiding all steep and precipitous inclines. The grade should be so arranged as to alternately ascend and descend, offering thereby every facility for rapid and easy driving.

Many things are to be studied in order to provide for the various notions of enjoyment entertained by the people interested. Some are of an athletic disposition, delighting in an ardent participation in all the manly sports of the day. This taste may be catered to by setting apart a corner of the park for a ball ground, cricket ground, &c. Others again delight in that quiet, secluded spot where nature enchants the creature man; a place where they may enjoy in quiet contemplation the perfect forms of the trees and shrubs, the brilliant colours of the foliage, and the various characteristics and fragrance of the choicest flowers. It should be a feature of the arrangement to separate these two as widely as it is possible to do so in order that the noise and naturally wild enthusiasm excited by an interesting competition of rival athletes should not interfere with the quietude of the student for knowledge or the calm relaxation from business toils and cares sought for by those residing amidst the noisome, exciting whirl of daily city life. This leads to a consideration of the arrangements which may be made with a view to effectually separating the two. One very important thing that presents itself in connection with this consideration, and stands second only in its importance to good roads, is cool shade. Avenues of trees interspersed with irregular groups should run along the sides of all the drives and paths, shielding visitors from the burning rays of the summer sun. Great care needs to be exercised in the planting of trees, whether singly or in groups, so as to arrange them for picturesque effect. Besides the shade the object and use of planting is of a twofold character in its improvement and ornamentation of grounds. There is its use in concealing boundaries; in this respect, by a judicious system of arrangement, groups may be planted so as to present a pleasant interruption to the view and, without seeming to terminate abruptly, convey the impression to the mind of vastness of extent. The various points made by the curves in the roads or walks will present advantages for this purpose. Of course much depends on the character and elevation of the grounds surrounding these respective points. Various angles may be struck where groups may be advantageously placed in order to preserve a fine piece of scenery from view until the visitor turning a corner, the whole beauty of the scenery opens up to view, creating a novel and pleasing impression. Then there is its use in hiding from sight disagreeable views; the blocking out of range of vision outhouses, hideous fences, or any undesirable surroundings that may be found in the way and which it is impossible to remove.

The grounds set apart for the various athletic games and children's playground should be effectually hidden from the principal points of view away from the main entrances and drives and away from the choicest pieces of scenery that the park may contain. Groves of trees might be planted that would satisfactorily accomplish this, affording at the same time shade, and would in no way detract from from the general appearance. The old adage of putting all the best Oranges on the top of the box appears to me especially applicable to the park.

Contending as I do that the first impression created on the mind of the general public is generally a lasting one, therefore I recommend a little extra care used in beautifying the entrance. Anything of an unattractive character should be removed, as far as consistent with the general surroundings. On each side of the drive, greeting the visitor on entering, should be arranged a shrubbery border tastefully planted with choice evergreens and intermixed with flowering shrubs, with here and there in the background a specimen deciduous or evergreen rearing its symmetrical and shapely head. A few herbaceous plants might be distributed through with striking and pleasing effect, and if care and judgment were used in the selection of the various kinds in their order of flowering a continual succession of flowers throughout the whole of the spring and summer months might be insured. A well-kept turf edging, say from four to five feet wide, would give a nice finish to the whole. Following on beyond these borders might be located at irregular intervals a few choice specimen evergreens, conifers, or deciduous trees, these ultimately merging into the general natural character of the park. A nice stretch of ground should be selected, having pleasant surroundings and tastefully intersected by walks, to display individual specimens and where effective groups might be displayed, containing the choicest of evergreens and flowering shrubs. These should be so grouped as to show each individual plant or kind. Here could be located borders for herbaceous plants, and no park worthy of the name should be without a complete collection of the most useful kinds of this estimable and beautiful class of plants.

In regard to the planting of trees for effect judgment must be used in order to produce harmony and contrast. In many instances a more pleasing feature is procured by forming groups entirely composed of plants of the same species; the harmonizing of colour and the similarity of form in habit and growth oft give more pleasure and appear more natural than when mixed with other kinds. However, in everything that is done in the way of planting or the formation of ground, nature should be reproduced as much as possible. Every shrub and plant should be correctly named with its botanical as well as common name, so that visitors may be doubly interested in admiring their beauty and being able to learn what they are. Where it is the good fortune to have a stretch of water in the park an additional enchantment is imparted to the scene, for there is nothing that contributes more to the beauty of the landscape than a good body of water, and in its tranquil depths may be grown the various forms of aquatic life so interesting not only to the experienced professional but to the casual visitor. The beautiful Lotus, the fragrant Nymphæa, the graceful Papyrus, the curious floating Eichornias, with their Hyacinth-like flowers of delicate hues—these with a host of others equally pretty and curious impart to the whole an appearance of tropical grandeur.

Another valuable contribution towards the embellishment of a park is the construction of a piece of natural rockwork where it is possible to do so. The banks of the lake oft present a suitable position to locate this, the calm water and the rugged sides of rockery when planted with suitable plants such as Kalmias, Rhododendrons, or the like producing a harmonious and pleasing contrast.

In conclusion I would say that I know of no place that offers more facility for the education of the masses in the knowledge of horticulture, more calculated to elevate the moral element in mankind, or is more likely to inspire the people with a desire to study the beauties of nature when combined with art, and to reproduce around their homes what they have seen there. No city park is replete without a complete collection of all the choicest and useful trees, shrubs and plants that are hardy or that may be preserved with a little protection during winter. The question of cost is of no importance as compared with the pleasure and instruction they impart, and it is moreover a credit to the city and its residents, and will be handed down to generation after generation as a monument of their ancestors' forethought and wisdom.

COMMERCIAL FLORICULTURE.

Every intelligent grower or dealer can trace a remarkable growth in floriculture, even within the last decade. Looking backward, it seems but yesterday when all the roses were "Boston buds;" when the funeral designs all looked as if they were made by a mason, in good serviceable mortar; and when a hand bouquet, wooden stemmed and tightly bound, looked for all the world as if modelled after a Devonshire birch besom. The Camellia—familiarly called a Japonica—was then the queen of flowers. Had anyone then predicted the present fancy for Orchids or Chrysanthemums he would have been regarded as but two removes from active lunacy. Looking at the remarkable development in horticulture within a few years it may be especially noted that it is all in the direction of better taste—no doubt the result of popular education in the art idea. Men who depend on their work for a livelihood cannot afford to be in advance of popular demand; they must simply keep up with it. As one clever designer recently remarked to the writer, men who strike out on an entirely new idea rarely realise as much from it as those who take it up afterward.

A remarkable change in commercial horticulture is the increase in the use of plants for decorative purposes. The extent of the palm trade alone is now really enormous, and the increase in the use of Ferns is almost as large. Many trade growers who formerly devoted themselves entirely to cut flowers, such as Roses and Carnations, now find the sale of such palms as Arecas, Kentias, Seaforthias and Latanias to be the most profitable part of their business. This is not because the flower trade has decreased of late, but because of the great and recent increase in the plant trade.

Again, Ferns were formerly regarded as among the least profitable things, commercially speaking; the use of fronds was comparatively limited, and few of the plants were called for in trade. Now we find Adiantum and Pteris perpetually in demand; in fact, last winter, though the supply was large, the demand was still larger, and at one time there was a positive famine in small pot Ferns. We find these pot Ferns continually used in conjunction with cut flowers for decorative purposes, having advantages both in appearance and economy.

Naturally these changes in the trade have produced changes in the growers, and we find this essentially an age of specialities. Among wholesale growers we often find a man devoting himself entirely to one flower, sometimes only to one variety. The American Beauty Rose is essentially a specialist's flower. Again, we find another grower giving his undivided attention to Easter plants, content to reap his harvest at that one season.

A notable change made in recent years was the rise of the Chrysanthemum. This flower was comparatively unknown in America ten years ago, outside of the trade. The general public knew little of the flower, excepting as the old-fashioned Artemisa, until the large exhibitions in New York, Boston, and Philadelphia laid the foundation of the Chrysanthemum craze. Since then the number of Chrysanthemum shows has increased annually, many being held in the smaller towns, where one would hardly look for the luxury of flower shows. The Chrysanthemum is now the most popular of all autumn flowers, and though for a time it seemed as if the efforts of growers were directed rather towards eccentricity than beauty, they have now returned to a better standard of excellence.

Speaking of Chrysanthemum shows, one is reminded how much we owe to the amateur growers. Although purely trade organisations are an absolute necessity, both for protection and comparison, any horticultural society bent on securing fine shows will find the co-operation of the amateur an imperative necessity. Not only do they give aid, both financially and in plants, but the shows thus appeal more heartily to the general public. When a show is managed entirely by men in the trade, people often look on it much in the light of an advertisement, whereas the assistance of outsiders prominent in the social or business world removes that suspicion. The most successful shows given in this country have owed much to the generous aid of the amateurs. The taste for horticulture is growing too, although wealthy Americans rarely take so warm an interest in gardening generally as the representatives of a similar class abroad. Still, there are plenty of flower lovers, especially among people of moderate means, and they form a class we should endeavour to interest in horticultural societies. When every town has a horticultural society that gives an annual show of some sort, we shall feel that the florists' millennium is not very far off.

Another requirement, which we still hope to see filled, is the establishment of proper flower markets. New York is woefully deficient in this requirement. It is true there is the open-air market in Union Square, where plants are sold, but wholesalers and retailers alike want a real market for the cut-flower trade. They want to do away with the middleman for one thing; and they want to arrange sales on a business basis, in the hope of avoiding some of the extraordinary fluctuations now equally disastrous to buyer and seller. There is no reason why flowers should not be sold under the same rules as any other perishable commodity, but at present the lack of a central market, which would regulate prices by giving a just idea of supply and demand, frequently causes heavy loss to the grower, and annoyance to the retailer. Many and varied are the complaints against the commission man and his exactions, though it is not likely his lot is altogether a happy one.

A question often debated in the trade is the need of the apprentice system. A very large proportion of the leading men in the trade, especially the elder ones, learned their business abroad, either in Great Britain or on the continent. With few exceptions, they began to learn the business when mere boys; they were expected to study all branches of the trade, instead of confining themselves merely to Roses, or Carnations, or some other speciality. Consequently they are what may be called "all round plantsmen," especially when their education has been finished in some place famous for shows. It is really difficult to get the same class of help here. Growers often complain that it really does not pay to teach a boy, because you cannot bind him for any length of time, and as soon as he knows enough to pay for the instruction given him he is sure to leave. There is a prejudice against employing boys in greenhouses, too; it is all very well to have one, but where several are employed there is usually so much "larking" that the amount of work done is reduced to a minimum. Some of the most prominent men in the trade, however, are disposed to make good openings for intelligent boys possessing at least a good common school education, thinking rightly that such material will continue to raise the standard of the trade. At present the number of foreigners holding good positions in the trade is rather discouraging to anyone who believes essentially in America for Americans.

There is no doubt that great benefit has accrued from the founding of the Society of American Florists. It has brought the trade together in a variety of ways, producing an *esprit du corps* before lacking, and the conventions give an opportunity for the interchange of ideas which would be impossible in any other way. The other protective societies which are connected with it are not only beneficial, but give the trade a commercial footing similar to that of other large industries.

The trade will have an opportunity to distinguish itself greatly at the approaching Columbian Exposition, and it is to be hoped that the chance will be taken. The centennial did a great deal in that way, moving us out of the old ruts, and this later affair should show plenty of improvement. There will be a fine opportunity for out-door effects, of which Mr. Thorpe will doubtless avail himself to the utmost, but he would be greatly hampered without the free co-operation of the trade. It is to be earnestly hoped that this will be made an epoch in the gardening world.—*Emily Louise Taplin, in American Gardening.*

GARDENING MISCELLANY.

MELON KNOWSLEY FAVOURITE.

A FINE fruit of a reasonable size, of the above Melon, reached us the other day from Mr. F. Harrison, Knowsley Gardens, Prescot. Judging from its size we should say it weighed about four pounds, and was roundly oval, yellowish green, and heavily netted with grey ridges or lines. It is a cross between Knowsley Green Flesh and William Tillery, and is of course a green-fleshed variety. The rind is of moderate thickness, and the dark green flesh about 1½ in. in depth and eatable almost to the rind. It is rich and sugary in flavour, very juicy and melting. The plant, says our correspondent, is of robust constitution and sets its fruit freely. Given good cultural treatment we should describe the variety as a richly flavoured and highly desirable one.

PRIMULA IMPERIALIS.

SEEING that this is so closely allied to P. japonica it seems possible for hybridists to obtain a useful race of garden plants by hybridising the two. If it could be effected and the progeny not too weak, the golden yellow flowers of the plant under notice ought to give some interesting variations of colour with the rose, purple, white and crimson varieties of P. japonica. Where the soil is moderately rich and fairly moist, the flower stems of P. japonica, bearing tier above tier of bloom, are highly ornamental during the spring and early summer months, whether in the garden of the cottager or peer, so that if by crossing the two above-named, a varied race of garden plants could be obtained, they would meet with a hearty reception from the flower-loving public.

TRACHELOSPERMUM JASMINOIDES ANGUSTIFOLIUM.

THE typical form of this species is best known as a greenhouse plant under the name of Rhynchospermum jasminoides. The variety under notice is smaller in all its parts, and hardier. In fact it will live against a wall outside in the south of England at least, as may be seen at Kew, where it has been flowering for some time past on a west aspect wall. The leaves are lanceolate, leathery and remain green all the winter, and probably for more than a year. The flowers are creamy white with a yellow eye, but would probably be whiter under glass. The plant in question is about 3 ft. or 4 ft. high.

SILENE COLORATA.

VERY seldom do any of the annual species of Silene find their way into private gardens, with exception of the universally grown S. pendula. There are others, however, which seem almost equally deserving of attention and improvement at the hand of the amateur. The upright, branching stems grow about a foot high, and bear a profusion of flowers that are smaller than those of S. pendula, but of a darker and brighter rose colour. The lamina of the petals is so deeply bifid, that there seems to be ten instead of five, and although the flowers look less solid, they are certainly very graceful and pretty, while they are sufficiently large and numerous to be quite conspicuous even from a distance.

EUCHARIS SANDERIANA.

THE almost complete absence of a cup or corona to the flowers of this species, is one of its most noticeable features. This structure is reduced to a mere rim, with some green lines extending down from it. The flowers themselves are smaller than those of E. grandiflora, with more ascending segments, giving the flower an appearance which reminds one of some species of Crinum. The leaves are strong and vigorous, and present a somewhat ribbed character, a feature differing from the other species in cultivation. It flowers very freely, but will probably never become so popular as E. grandiflora; the relatively small size of the flowers is against it; but great size is too much dwelt upon. A large plant in a pot at Falkland Park, South Norwood Hill, is flowering very freely.

WAHLENBERGIA GRACILIS.

THE specific name here refers no doubt to the slender character of the flower stems, which are slender, 6 in. to 8 in. high, and covered with lanceolate, oblong, or linear leaves. Each shoot or stem ends in a solitary, terminal, shortly bell-shaped flower of a pale blue colour. The species of Wahlenbergia are usually either very dwarf, or are procumbent upon the ground; in this case the stems are erect, and about twice the height of those of W. saxicola or more. A small plant may be seen on the rockery at Kew.

CALOCHORTUS KENNEDYI.

THERE is a considerable amount of diversity in colour amongst the species of Calochortus generally known as Mariposa Lilies from California, but that above noted is strikingly distinct in several ways, but particularly in the matter of colour. The outer three segments are small, ovate, and green as usual, but the inner three are broadly obovate, bright orange-scarlet, slightly concave at the base and hairy there. The stamens are short with violet anthers. The stem grows 12 in. to 15 in. high, bearing three to four flowers in an umbel upon long stalks. The leaves are small, linear, and channelled. Hitherto no species has appeared in this country with orange-scarlet flowers, and it is to be hoped it will prove more easy of cultivation than the bulk of the others. It has been flowering for some time past at Kew.

ACANTHOLIMON GLUMACEUM.

THE species of Acantholimon are distinguished from the Statices and Armerias to which they are closely allied by their narrow, densely arranged, and spiny pointed leaves. The flowers of A. glumaceum are of a bright rose colour, and arranged in short unilateral spikes. The leaves form small and dense rosettes that in plants of some size are aggregated so as to form a cushion or carpet resembling turf, save for the sharp spiny character of their tips. There is no difficulty in getting up a stock of plants from cuttings of the short shoots inserted in pots of sandy soil and placed in a cold frame about the end of this month, and left there till the following spring. Old plants may also be divided in spring if lifted, and pieces bearing a few roots pulled away from the mother plant. A fine patch of it may be seen flowering freely on the rockery at Chiswick, in the gardens of the Royal Horticultural Society.

ANEMONE RIVULARIS.

THE usual time for this Anemone to bloom is April, but a large bed of plants in full flower may be seen in the gardens of the Royal Horticultural Society at Chiswick. They had been raised from seeds and the seedlings were too small to flower at the proper period, but they have amply made up for it since then. The leaves are tripartate, lobed, and hairy. The stems vary from 12 in. to 18 in. in height, and are often much branched above the involucral leaves so that they bear a large number of flowers. The latter consist of five sepals which are white, more or less of a deep purple on the outer face. The anthers are also purple and serve to increase the beauty and interest of the flowers. The soil in which they are grown is by no means very moist, otherwise they would be even more robust than they are. In its native habitat it grows on river banks, and in this country it might be cultivated on the banks of ponds or streams to great advantage. Where this cannot conveniently be done and the soil of the garden is naturally dry, some of the soil might be taken out and a goodly proportion of peat mixed with the remainder so as to form a specially prepared bed. In this the North Indian Anemone of the river banks will find a congenial home.

THE ADDER'S TONGUE FERN.

I ENCLOSE a forked fertile frond of the Adder's Tongue Fern (Ophioglossum vulgatum) found in one of the fields here. This is the first variation in this species that I have come across. Here it grows plentifully, and is to be found more frequently throughout the country than many people suppose. It is generally found growing on rather heavy soil, and growing amongst grass and other plants is difficult to detect. I have lifted this forked variety and planted it in the fernery, and it will be curious to watch if it is constant.—*Simplex.*

SOCIETIES.

Royal Horticultural, *July 12th.*—Roses, hardy herbaceous flowers, Ferns, Crotons, and other decorative stove subjects were the chief features of the meeting on Tuesday last. Orchids were also fairly represented both by plants in flower and cut bloom. A Silver Banksian Medal was awarded to Messrs. F. Sander & Co., for a group of Orchids, including Cattleya gigas with six flowers on a spike, and some very fine varieties of Miltonia vexillaria, one with white flowers and a yellow blotch on the lip, and another with a most conspicuous, triangular, crimson blotch. A collection of cut flowers of Cattleya gigas was exhibited by J. W. Temple, Esq. (gardener, Mr. E. Bristow), Leyswood, Groombridge, Tunbridge Wells. The flowers were of large size, the lip richly coloured and generally three or four on a spike. A hybrid Cypripedium named C. Macfarlaneanum was shown by Messrs. W. S. Lewis & Co., Southgate. A small group of Orchids was shown by Messrs. Hugh Low & Co, Clapton, amongst which was Cattleya Gaskelliana alba, Pescatorea cerina, and several Cypripediums. Major-General E. E. Berkeley exhibited Dendrobium crystallinum General Berkeley's var., having dark tips to the sepals and petals, and a suffusion of pale purple over the surface.

A Silver Banksian Medal was awarded to Messrs, Charlesworth, Shuttleworth & Co., Heaton, Bradford, and Park Road, Clapham, for a fine group of Oncidium macranthum as well as O. curtum, O. Gardnerianum, and O. lameligerum, all in fine condition, and well flowered. A hybrid Phalænopsis named Artemis was shown by Messrs. J. Veitch & Sons, Chelsea, and was certificated. Cattleya gigas and C. Eldorado alba were shown by Welbore S. Ellis, Esq. (gardener, Mr. Masterton), Hazelbourne, Dorking. Cut flowers of Cattleya gigas were also shown by Mrs. Crawford, Gattern Reigate. Cypripedium philippinense, Lycaste tetragona, and Cattleya Dr. Buyssoniana were exhibited by J. W. Temple, Esq., Tunbridge Wells. A plant of Cypripedium Stonei candidum was exhibited by Messrs. Pitcher & Manda, Hextable, Swanley, Kent. A Cultural Commendation was awarded to W. Vanner, Esq. (gardener, Mr. W. H. Robins), Camden Wood. Chislehurst, for a fine piece of Cœlogyne Sanderiana in a basket and bearing four spikes. Epidendrum tampense on a block of wood was staged by C. J. Lucas, Esq. (gardener, Mr. G. Duncan), Warnham Court, Horsham.

A Silver Gilt Flora Medal was awarded to Mr. H. B. May, Dyson's Lane Nursery, Upper Edmonton, for a large group of Ferns, Crotons, Caladiums, Palms, Selaginellas, and other fine foliaged subjects, all well grown and coloured. There were some graceful pieces of Carex japonica variegata and C. tristachys variegata. A Silver Banksian Medal was awarded to Mr. T. S. Ware, Hale Farm Nursery, Tottenham, for a fine group of Lilies and other herbaceous plants. Amongst the Liliums were L. maritimum, L. Browni, L. philadelphicum, and other showy or interesting species. Some double flowered varieties of Delphinium were shown by M. Lemoine, of Nancy, France. Some H. P. and Tea Roses were shown by Messrs. Wm. Paul & Son, Waltham Cross. A Silver Gilt Flora Medal was awarded to Messrs. Kelway & Son, Langport, Somerset, for a large collection of Gaillardias, double and semi-double Delphiniums, and a collection of herbaceous plants generally, most of them being in fine condition and very attractive. A fine group of Gladiolus colvillei albus was set up in ornamental glasses by Mr. C. W. Cousins, F.R H.S., High Street, Wood Green, N.

A Silver Banksian Medal was awarded to Messrs. J. Veitch & Sons, Chelsea, for some baskets of hardy flowering shrubs in the cut state, including Stuartia Pseudo-Camellia, Ligustrum sinense floribundum, Andromeda speciosa cassinefolia, Nothospartium Carmichæliæ, and other fine subjects. A Bronze Banksian Medal was awarded to Messrs. H. Cannell & Sons, Swanley, Kent, for a collection of Verbena flowers set up in bunches with very attractive colours. Messrs. J. Veitch had also some flowers of hybrid greenhouse Rhododendrons and some Gloxinias. A large collection of Roses, both garden varieties and also species, was sent up from the Royal Gardens, Kew. Amongst the species we noted were R. rugosa, R. canina, R. tomentosa, R. centifolia, R. Brunonii, and other interesting old-fashioned things. Some Sweet Peas, including one named Princess May, were shown by Mr. Thos. Laxton, Bedford.

Some prizes were offered for herbaceous plants by amateurs, and Mr. G. Sage, gardener to the Earl of Dysart, Ham House, Richmond, took the first prize for eighteen bunches, which included Phloxes, Delphiniums, Campanulas, Eryngiums, &c. The first prize for twelve bunches was taken by H. Berkeley James Esq. (gardener, Mr. J. Gibson), Carshalton, Surrey. The second prize for twelve went to W. Marshall, Esq., Auchinraith, Bexley, who had smaller bunches. A first prize for eight bunches was awarded to R. Debenham, Esq., St. Peters, St. Albans. The Roses sent up in competition for the Mantell Challenge Cup were very fine, being large in size, rich in colour, and fresh. The first prize was taken by Mr. B. R. Cant, Colchester, who had splendid blooms of Her Majesty, Ernest Metz, Madame Cusin, and others. Mr. F. Cant, Braiswick, Colchester, was second. A flowering stem of Lilium giganteum was shown by Mr. Chas. Noble, Bagshot.

At a meeting of the Fruit Committee a Silver Banksian Medal was awarded to Mr. Owen Thomas, The Royal Gardens, Windsor, for a collection of Cherries and six large Pineapples, all of the very best quality. Melons were exhibited by Mr. Gilman, gardener to the Earl of Shrewsbury, Ingestre Hall, Strafford; by Mr. W. Allan, Gunton Park, Norwich; by Mr. G. Wythes, Syon House, who had twenty-four fruits in several different varieties; also by Mr. C. J. Terry, The Gardens, Tatton Park. A Silver Banksian Medal was awarded to Mr. J. Fitt, the Gardens, Panshanger, Hereford, for an exhibit of twelve good Queen Pines, and a large bunch of a Banana named Lady's Finger. Carrots, Beetroot, and other vegetables were shown by Mr. W. C. Leach, Albury Park Gardens, Guildford. A new Cauliflower, named Acquisition, and very distinct, was shown by Mr. T. Bones, Chiswick. A collection of Vegetable Marrows were brought up from the gardens of the Royal Horticultural Society, at Chiswick, and also some Apples to show the intensity of colour they have already acquired. Some Peas and Broad Beans, including a variety of the latter named Multum in parvo, were shown by Messrs. J. Veitch & Sons, Chelsea. Three Cultural Commendations were awarded to Mr. W. Allan for some boxes of Strawberries, as well as some fruiting plants in baskets. Peaches were shown by Mr. T. H. Crasp, Canford Manor, Wimborne.

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.

Top Dressing Orchids.—This is not a practice to be commended unless the moss through being perhaps not of the best when the plants were potted has refused to grow; then it is a good plan to replace it with living sphagnum, as although the moss may be dead the peat should be still in good condition. In no other case, however, would I recommend it being done, as I am convinced that the system is a bad one.

Vandas are now growing and rooting freely, and should have every attention paid them as regards shade and moisture so as to prevent their losing any leaves and to insure a good growth. Ours are grown in the Cattleya house, and not caring to shade too heavily on their account, sheets of newspaper will be placed over the heads of the Vandas during the hottest part of the day should we get any very bright weather. We syringe ours freely twice daily, allowing it to play well up the stems, but do not care to let much get into the heart of the growths.

Cattleya Gaskelliana, which is just coming into flower, is a grand introduction, coming in as it does when there is not too much Orchid bloom about. It is of easy culture and seems to delight in a rather shady position, which is a decided advantage when so many others require all the light possible to do them well. There are some lovely forms amongst them from the rich dark ones to pure white. Many white ones have flowered in collections since its first introduction, but I think we can safely claim to have flowered the first one which was certified by the R.H.S.

Epidendrum Prismatocarpum now in flower is a splendid Orchid, and when well grown makes an excellent exhibition plant. Grown in well drained pots in the same compost that suits Cattleyas it soon makes a fine specimen. Like most Orchids too, it enjoys a season of rest which should be afforded from the time the growths are matured until the spike begins to make its appearance.

Cœlogyne Cristata.—Our plants, I notice, are just rooting freely from the young growths and will be watered twice weekly with guano water until the growths are made up. They should receive frequent syringing over head with soft water, as they are very moisture-loving subjects.

Dendrobiums are growing fast, and should be encouraged by frequent applications of liquid manure. They are not very particular as to what kind is used, we give ours diluted drainings from the dunghill and guano alternately at intervals of a week. Keep the syringe going freely amongst them, and as the growths attain maturity remove the plants to cooler and drier quarters or they will commence to make a second growth, but this change of quarters must be done gradually, just as in the case of hardening off bedding plants prior to planting them out, until finally they can stand full exposure to the sun in a cool greenhouse. Should any plant commence to make a second growth it should be given every chance to make it up by placing it in the warmest house.

The temperatures given in the last calendar should still be maintained.—*C.*

Epidendrum vitellinum majus.

This lovely Epidendrum deserves to be much more extensively grown than it is at present. It is a most valuable subject for decorative purposes of all kinds; indeed, there are few flowers which last such a long time in perfection, either when cut or upon the plant. A fine specimen was in bloom recently in Mr. Pritt's collection at Rampsheck, Penrith (gardener, Mr. Robinson); in a 10-in. pan, carrying twenty spikes with on an average twenty flowers on a spike.—*J. McNab.*

Anguloa uniflora.

Although by no means the largest flowered species this is one of the prettiest. The flower is of the usual shape and pure white externally as a rule, and showing a yellow tongue internally, while lower down and hidden from the eye are numerous small pink spots. We noted it flowering recently in one of the Orchid houses at Falkland Park, South Norwood Hill. It is a native of Columbia, from whence it was introduced in 1844, but although fairly widely distributed it cannot be said to be very common in gardens compared with such things as the larger-flowered Cattleyas, Lælias, Cypripediums, and Odontoglossums.

Thunia Bensonæ.

The Thunias are now generally included under Phaius, from which, however, they differ considerably in habit and general appearance. No pseudobulbs are produced, but the stem elongates, growing to a height of 1 ft. to 2 ft. The sepals and petals are of a rosy or soft but rich purple; the lip is similar in colour or rather darker, and furnished in the tube with numerous deep yellow fringes in lines. The flowers are produced in a sort of drooping or nodding raceme at the apex of the young stems, so that they are developed as the stems attain their full size, after which the latter die back to the old tubers or may be cut away when they get ripened off. It is flowering at Falkland Park, South Norwood Hill.

Oncidium pulvinatum majus.

Yellow Oncidiums are very numerous, and many of them not held in great regard, but that under notice is gradually gaining in popularity. The large variety is notable not so much on account of its larger blooms as for the larger size of the plant generally, the greater length of the branching panicle and the greater number of flowers. If suspended from the roof of a house in a basket, and the flower scape allowed to hang down naturally, it is very effective; but even when tied up it is a striking subject. The sepals and petals are yellow and brown, and some darker yellow or orange colouring may be noticed about the disc of the lip. The crest is well marked in this species, forming an elevated process like a pincushion, hence the specific name. The large variety has been flowering for some time past at Falkland Park, South Norwood Hill.

WHAT TO DO IN THE GARDEN.

Tree Ferns.—There is a great diversity of opinion as to whether the stems of tree ferns should be watered or not. There are some species which naturally produce a mass of roots all over the stems, and others which do not. Now it would be useless to water those having naked stems, while those which are covered may be watered or not at the cultivator's option; but if he once commences it and gets a fine head of fronds dependent to a large extent for their supply of moisture from the covering of young roots, it would be a great mistake to leave off watering, for it would result in the loss of the bulk of the fronds for the season.

Palms.—These ought never to be allowed to get dry at any time of the year, but in summer it is more especially necessary to give an abundant supply, more particularly if the plant is rather large for the pot, and the latter is well filled with roots.

Achimenes.—At this period of the year and for some time to come an abundant supply of water must be given to Achimenes whether in pots, pans, or baskets. The latter being hung up, and the soil on all sides exposed to the drying influence of the atmosphere, careful attention must be given to watering. In windy and drying weather, the plants should be protected from draughts as much as possible. Weak liquid manure at every second watering would be beneficial.

Allamandas and Ixoras.—Where these are grown for the sake of cut flowers, the temperature must be kept tolerably high, and if sun heat is economised so much the better. Frequent doses of weak liquid manure would also assist them greatly by promoting the vigour of the flower shoots.

Chrysanthemums.—Useful, dwarf plants for the front benches of the conservatory may be obtained by putting in the tops that are removed from the large plants when regulating the proper number to be retained.

Pelargoniums for Winter Flowering.—It will be well to look over the stock of Pelargoniums intended for winter flowering. Get all the young plants together that are intended for this purpose, and pot them on if necessary. Pinch back the shoots to keep them shapely and bushy, and remove the flower trusses, giving attention solely to the laying of the foundation of good stocky plants.

Vineries.—Artificial heat should no longer be required in the earliest house, as the wood ought to be pretty hard by this time. Lateral extension may be allowed to proceed freely so long as the foliage does not get crowded to the exclusion of light. Give plenty of ventilation back and front, night and day; do not allow the borders to get dry, but give a soaking occasionally with clean, cold water. Syringing may be given only if red spider or other vermin makes its appearance. Late Grapes yet swelling should be kept in a night temperature of 70° with a rise to 80° by day, or more at closing time with sun heat.

The Orchard House.—Now that the fruit has passed the stoning period, it may be urged on rapidly by regulating the ventilators so as to keep the house at a pretty high temperature. The trees must at the same time be well damped overhead, and the roots get a plentiful supply of moisture, more especially in the case of trees grown in pots. The house may be closed at 4 p.m. or soon after, and this practice continued until the fruits approach maturity, when a reduction of the temperature may be allowed to advantage.

Pinks.—The stock of pipings or cuttings of florist and border Pinks should be put in to root without further delay, otherwise the young plants cannot be expected to come up to the standard for next year's work. If a frame is at command, fill the bottom of this with fermenting manure and cover with about 4 in. of compost consisting of finely chopped mellow loam, leaf-soil, and sand in about equal proportion. The manure will furnish the small amount of bottom heat necessary to encourage the formation of roots.

Auriculas.—The seed now ripening may be collected and sown at once so that the plants may attain some size before winter. Those raised from seeds sown at this time last year should be repotted now if they have not been already done. The poor varieties that are not worth pot room may be planted in some border or well drained soil and watered to settle the latter about the roots. The older ones may be done at the same time, if the operation has not been accomplished. See that they are not infested with green-fly.

Dahlias and Hollyhocks.—Growth is now making rapid headway, and the rough, blustering winds that have been of frequent prevalence lately, are liable at any time to break down the sappy, young stems. The whole of them should therefore be systematically gone over and staked, or fresh ties given where required. A whole season is lost if the stems are allowed to get broken down now.

CEREUS NYCTICALUS AT SWANLEY.

On Saturday night last Mr. Cannell gave his employees a midnight surprise of an interesting character. It appears that when a plant of the night-flowering Cereus nycticalus bloomed on a former occasion, much disappointment was expressed that it was only seen in a drooping and fast fading condition in the morning. The Cacti grower, after watching the plant for about two hours, observed it beginning to open out its petals, and at once rang the time bell vigorously, which unusual proceeding quickly brought a crowd of the workmen together, most of them hastening up under the impression that some part of the nursery must be on fire, and the more alarmed in that the nursery was flooded only a week or two ago. However, it was to see the remarkable night-blooming Cactus that they had been called together in the middle of the night, and all expressed their pleasure at the sight of the beautiful curiosity.

Obituary.

We regret to record the death, on the 7th inst., of Mr. William Toogood, of Above Bar, Southampton, after an illness of short duration, in his 65th year. Though for some time past his health had not been so good as it was a few years ago, yet he was frequently to be seen out of doors, and displayed his usual activity. Mr. Toogood was a man of indomitable energy and perseverance, and by these means he at length became one of the largest and most enterprising seedsmen in the south of England. He was originally in the employ of the late Mr. Bridgewater Page, and by dint of thorough business habits, combined with thrift, he at length became a partner, the firm thereafter for some time being known as that of Page & Toogood. Upon Mr. Page retiring, Mr. Toogood became the sole proprietor. Mr. Toogood leaves a widow, five sons, and three daughters, two of his sons, who are partners in the firm, having for some time past taken an active part in the business. Much sympathy is expressed with the widow and family in their bereavement.

We have also heard with much regret of the death lately, at Weston-super-Mare, of Mr. John Matthews, formerly of the Royal Potteries in that town, aged 67 years. Mr. Matthews, who was a native of Whitehaven, succeeded Mr. Phillips as proprietor of the Royal Potteries, some 25 or 30 years ago, and in the course of a few years made a reputation as a manufacturer of all kinds of garden potteryware which was second to none in the kingdom. He exhibited largely at all the provincial shows of the Royal Horticultural Society, and for some years at the annual exhibitions of the Royal Agricultural and Bath and West of England Societies, and it is well known that wherever Mr. Matthews pitched his tent there the gardening community were sure to foregather, for he was a genial, kindly-natured man, making his tent his home for the time being and giving his friends a most hospitable reception. He took an active interest in local municipal affairs, and for some years held the rank of Major in the Volunteers. He retired from business some five or six years ago, and since that time has lived quietly in retirement.

QUESTIONS AND ANSWERS.

**** Correspondents are requested, in order to avoid delay, to address all communications to "The Editor" or "The Publisher," and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa, London."*

Black Hamburgh Grapes.—*G. A.*: The berries are scalded, and very badly. The injury is caused by the action of the sun upon the berries while covered with condensed moisture. The presence of a mixed collection of plants in the house accounts for the presence of the moisture to a great extent, but the remedy is a simple one. Give air earlier in the morning to dry up the condensed moisture before the sun gains sufficient power to do harm.

Names of Plants.—*W. G.*: Acer monspessulanum.—*E. B.*: Fair average varieties of Odontoglossum crispum.—*J. Y.*: 1, Bog Asphodel (Narthecium ossifragum); 2, Common Butterwort (Pinguicula vulgaris).

Grapes in Ninety days.—*Cumbrian*: We saw the statement that a Sunderland gardener had grown a ripe bunch of Black Hamburgh Grapes in ninety days, but in the absence of essential particulars attached no importance to it. With pot vines about 120 days would be a good average, and to do that would depend upon the time they were started.

Scientific Sentences.—*Erratum*: At p. 695, second column, thirty-fourth line from the top, for "aperient" read "Pierian." The quotation which is from Pope's Essay on Criticism should read "Drink deep, or taste not the Pierian spring." We regret that such a stupid error should have inadvertently crept into our columns.

TRADE CATALOGUES RECEIVED

Herb & Wulle, Naples, Italy.—Price List of Bulbs, Roots, and Terrestrial Orchids.

Communications Received.—W. M.—J. O'B.—H. C.—W. D.—C. H. P.—G. E. G.—A. T.—A. W.—W. C.—G. W.—Ash.

LONDON SEED TRADE.

July 11th, 1892.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report but little business doing in agricultural seeds at prices current last week. Samples of new English Trifolium incarnatum show fine quality, values not yet established. Rape steady. Mustard dearer.

COVENT GARDEN MARKET.

July 13th.

Fruit.—Average Wholesale Prices

	s. d	s. d.		s. d.	s. d
Grapes..... per lb.	1 0	3 0	Melons.....each	1 6	2 9
Peaches... per dozen	4 0	12 0	Strawberries per lb.	0 3	0 9
Pine apples. —St. Michael's, each	2 6	6 0	Tasmanian Apples per case...	2 6	5 0

Vegetables.—Average Retail Prices.

	s. d.	s. d.		s. d.	s. d
ArtichokesGlobe doz.	3 0	6 0	Horse Radisb, bundle	2 0	4 0
Beans, French, perlb.	1 6	2 0	Lettuces ...per dozen	1 6	2 0
Beet..... per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages ... per doz.	1 6	2 6	Onions.....per bunch	0 4	0 6
Carrots ... per bunch	0 6		Parsley ... per buncb	0 6	
Cauliflowers, Eng.dz.	3 0	6 0	Radisbes... per dozen	1 6	
Celery.....per bundle	2 6		Smallsalading,punnet	0 4	
Cucumbers .....each	0 6	1 0	Spinach, per strike ...	1 6	
Endive. French, doz.	2 6	3 0	Tomatos..... per lb.	0 9	1 3
Herbs .....per bunch	0 2	0 6	Turnips ..... per bun.	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Cbampions, 70s. per ton.

Plants in Pots.—Average Wholesalb Prices.

	s. d.	s. d.		s. d.	s. d
Arum Lilies, per doz.	6 0	9 0	Heliotrope, per doz.	4 0	6 0
Begonias ...per doz.	6 0	12 0	Ivy Pelargoniums, per doz. pots	4 0	6 0
Crassula ...per doz.	12 0	24 0	Lilium Harrisii, doz.	12 0	24 0
Cyperus .....per doz.	4 0	12 0	Lobelia, ...per doz.	4 0	6 0
Dracæua term., doz.	24 0	36 0	Marguerites, perdoz.	6 0	12 0
Dracæna viridis, doz.	9 0	18 0	Mignonette, per doz.	4 0	8 0
Echeveria Pyramidalis.....	9 0	18 0	Musk, ...per doz.	2 0	4 0
Evergreens, invar. doz	6 0	24 0	Palms in variety, eacb	2 6	10 0
Ferns, invar., per doz.	4 0	18 0	Palms, Specimen ...	15 0	63 0
Ferns, small, per 100	8 0	12 0	Pelargoniums, perdoz.	6 0	12 0
Foliage Plants, doz.	12 0	60 0	—scarlet .....per doz.	3 0	6 0
Fuchsia, ...per doz	4 0	9 0	Spiræas.....per doz.	8 0	12 0

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d
Arum Lilies, 12 blms.	2 0	4 0	Moss Roses, dz bchs	6 0	12 0
Bouvardias, per bun.	0 6	1 0	Pelargoniums, 12 sps.	0 6	0 0
Carnations, 12 blooms	1 0	3 0	— scarlet.....12 bcbs.	3 0	4 6
Carnations, doz. bun.	4 0	6 0	Primula, double, bun.	0 6	0 6
Cornflower doz bnchs	2 0	3 0	Pinks .....doz. buns.	2 0	4 0
Eucharis ...per doz.	2 0	4 0	Pansies, doz. bchs ...	1 0	2 0
Gardenias 12 blooms	1 6	4 0	Pyrethrum doz bncbs	2 0	4 0
Gladioli...doz. buns.	6 0	12 0	Orchid Bloom in var. per bloom, from	0 2	0 0
Heliotropes, 2 sprays	0 3	0 6	Roses, doz bunches	2 0	6 8
Iris (various), dz. bn.	6 0	9 0	Roses, yellow, dozen	2 0	6 0
Lilium Cand.dum, doz. bun.	12 0	24 0	— Red..... doz. blms.	1 0	2 0
Lilium Harrisii, doz. blooms	2 0	4 0	— Saffrano...per doz.	1 0	1 0
Liliums var., dz.blms.	0 6	1 6	— Tea ..... per dozen	0 6	2 0
Maidenhair Fern, 12bs.	4 0	6 0	Spiræas...doz. bnchs	4 0	6 6
Marguerites, 12 bun.	2 0	4 c	Stepbanotis, dz. sps.	1 0	2 0
Myosotis or Forget-me-not, doz. bnchs.	2 0	4 0	Stocks .....doz. bun.	3 0	6 0
Mignonette... 12 bun.	1 6	4 c	Sweet Peas, dz. bns.	2 0	4 0
			Sweet Sultan, dz. bn.	2 0	4 0
			Tuberoses, per doz	0 4	0 6

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FLOWER SHOWS, &c., 1892.

[The Editor will be greatly obliged if Secretaries of societies will communicate to him the dates of their exhibitions as soon as fixed.]

JULY.

18.—Nuneaton Flower Show.
19.—Birmingham Rose Show (2 days).
19.—Eye (Suffolk) Flower Show.
20.—Liverpool Horticultural Association's Show (2 days).
21.—Trentham Flower Show.
21.—Barnet Flower Show at Monken Hadley.
21.—Worksop Flower Show.
21.—Highgate Flower Show.
21.—Aylesbury Flower Show.
22.—Manchester Rose and Pink Show.
22.—National Chrysanthemum Society's Annual Picnic.
22.—Ulverstone Rose and Pansy Show.
23.—Bedale Rose Show.
23.—New Brighton Rose Show.
23.—Midlothian Rose and Pansy Show, Penicuick.
26.—Royal Horticultural Society: Committee Meetings at Drill Hall, National Carnation and Picotee Show.
26.—Beckenham Flower Show.
27.—Hessle Flower Show (2 days).
27.—Bishops Waltham Flower Show.
28.—Southwell Rose Show
28.—Halifax Rose Show.
28.—St. Ives Flower Show.
30.—Brighton "New" Horticultural Society (2 days).
30.—Ripley Rose Show.
30.—Southampton Flower Show (2 days).

AUGUST.

1.—Cottagers' Show at Earl's Court.
1.—Beddington and Carshalton Flower Show.
1.—Mansfield Flower Show.
1.—Northampton Flower Show (2 days).
2.—Oxford Union Carnation Show.
2.—Abbey Park, Leicester, Show and Gala.
9.—Royal Horticultural Society: Committee Meetings at Drill Hall.
10.—Sevenoaks Flower Show.
10.—Queen's Park, Longton, Flower Show.
11.—Taunton Deane Flower Show.
17.—Shrewsbury Flower Show (2 days).
17.—Cardiff Flower Show (2 days).
18.—Aberdeen Flower Show (3 days).
20.—National Co-operative Flower Show.
23.—Royal Horticultural Society: Begonia Conference, etc., at Chiswick (2 days).
24.—Kingswood, Gloucester, Flower Show.
25.—Droitwich Flower Show.
25.—Kenilworth Flower Show.
29.—Cresswell Flower Show.
30.—Brighton and Sussex "New" Horticultural Society's Show (2 days).
31.—Bath Floral Fête (2 days).
31.—Bishop Stortford Flower Show.

SEPTEMBER.

1.—Oxford Flower Show.
2.—National Dahlia Show at the Crystal Palace (2 days).
6.—Royal Horticultural Society: Committee Meetings at Drill Hall.
7.—National Chrysanthemum Society's Show at Royal Aquarium (2 days).
7.—Royal Caledonian Horticultural Society (2 days)
9.—Autumn Flower Show at Earl's Court (2 days).
20.—Royal Horticultural Society: Committee Meetings at Drill Hall.
28.—National Chrysanthemum Society: Meeting of Floral Committee.

OCTOBER.

4.—Royal Horticultural Society: Committee Meetings at Drill Hall.
5.—Fruit Show at Earl's Court (3 days).
12.—National Chrysanthemum Society's Show at the Royal Aquarium (3 days).
18.—Royal Horticultural Society: Committee Meetings at Drill Hall.
25.—Fruit Show at Earl's Court (3 days).
26.—National Chrysanthemum Society: Meeting of Floral Committee.
27.—Alverstoke and Gosport Chrysanthemum Show (2 days).

NOVEMBER.

1.—Royal Horticultural Society: Committee Meetings at Drill Hall.
1.—Kent County Chrysanthemum Show (2 days).
1.—Brixton Chrysanthemum Show (2 days).
1.—Barnstaple Chrysanthemum Show (2 days).
1.—Brighton and Hove Chrysanthemum Show (2 days).
2.—Ascot Chrysanthemum Show (2 days).
2.—Ealing Chrysanthemum Show (2 days).
2.—Portsmouth Chrysanthemum Show (3 days).
2.—Croydon Chrysanthemum Show (2 days).
3.—Steyning Chrysanthemum Show.
4.—Bolton Chrysanthemum Show (2 days).
8.—National Chrysanthemum Society at Royal Aquarium (3 days).
8.—Kingston and Surbiton Chrysanthemum Show (2 days).
8.—Enfield Chrysanthemum Show (2 days).
8.—Sevenoaks and West Kent Chrysanthemum Show (2 days).
8.—Batley Chrysanthemum Show (2 days).
9.—Bath Chrysanthemum Show (2 days).
9.—Birmingham Chrysanthemum Show (2 days).
9.—South Shields Chrysanthemum Show (2 days).
9.—Cardiff Chrysanthemum Show (2 days).
9.—Bournemouth Chrysanthemum Show (2 days).
10.—Chelmsford Chrysanthemum Show.
11.—Leicester Chrysanthemum Show (2 days).
11.—Eccles and Patricroft Chrysanthemum Show (2 days).
11.—Wellingborough Chrysanthemum Show (2 days).
11.—Dundee Chrysanthemum Show.
15.—Royal Horticultural Society: Committee Meetings at Drill Hall.
15.—Liverpool Chrysanthemum Show (2 days).
15.—Plymouth Chrysanthemum Show (2 days).
16.—Hull Chrysanthemum Show (2 days).
16.—Rugby Chrysanthemum Show (2 days).
17.—Edinburgh Chrysanthemum Show (3 days).
18.—Chorley Chrysanthemum Society (2 days).
18.—Stockport Chrysanthemum Show (2 days).
22.—Dalkey Chrysanthemum Show.
24.—National Chrysanthemum Society: Meeting of Floral Committee.

DECEMBER.

7.—National Chrysanthemum Society: Meeting of Floral Committee.
13.—Royal Horticultural Society: Committee Meetings at Drill Hall.

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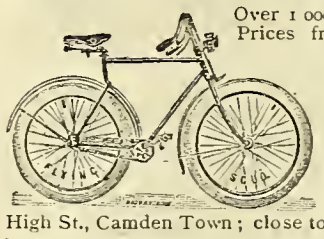

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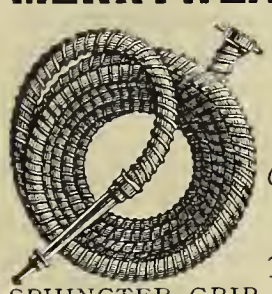
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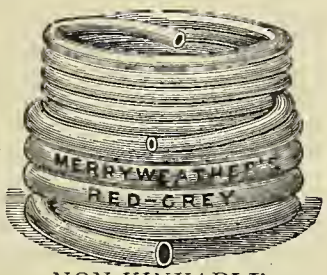

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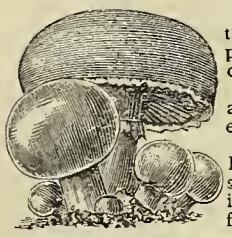

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For Index to Contents see page 745.

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NEXT WEEK'S ENGAGEMENTS.

TUESDAY, July 26.—Royal Horticultural Society: Committee Meetings at Drill Hall, National Carnation and Picotee Show.
Beckenham Flower Show.
WEDNESDAY, July 27.—Hessle Flower Show (2 days).
Bishop's Waltham Flower Show.
THURSDAY, July 28.—Southwell Rose Show.
Halifax Rose Show.
St. Ives Flower Show.
FRIDAY, July 29.—Sale of Orchids at Protheroe and Morris' Rooms.
SATURDAY, July 30.—Brighton "New" Horticultural Society (2 days).
Ripley Rose Show.
Southampton Flower Show (2 days).

The Gardening World.
Edited by BRIAN WYNNE, F.R.H.S.
SATURDAY, JULY 23rd, 1892.

ELECTION FLOWERS.—If ever it should happen that in this country general elections should fall always at one particular season of the year, it might then be possible for florists to specially cater for the fancies of the various political parties in the matter of colours. As it is these great functions fall at all sorts of times and seasons, sometimes indeed when flowers are very difficult to obtain; but the recent one certainly did come at a great flower time, and the fancies of the various parties for flower colours were easily satisfied. And yet it would seem that no special effort was made to furnish flowers of good quality except to those politicians who having red as their party hue were enabled to wear Roses, Carnations, Pelargoniums, or other very good high coloured flowers.

Those whose tastes were of the orange order had little better than common pot Marigolds or Thunbergian Lilies, and the most liberal caterer of such flowers could hardly expect to realise a fortune through the sale of such indifferent material. Then the blue politicians chiefly flavoured the blue Corn Bottle, than which few flowers are hardier or more easily produced, and have not in them the making of wealth. Red, orange, and blue seem to be the chief party colours, varying so much in some places that what is one party colour in one county is that of the other side elsewhere.

Blue and white in conjunction was sometimes found in blue Cornflowers and white Pinks, and orange and purple in conjunction was also seen in pot Marigolds and purple Sweet Peas. When flowers are not obtainable ribbons are usually employed, but in the summer flowers are cheaper and most favoured. Happily, although flowers thus represent political factions, they do not of necessity represent party strife of a personal kind, hence there is no harm in employing them for political devices.

COOL ORCHIDS FOR AMATEURS.—It seems very difficult indeed to impress upon the minds of many persons that there are Orchids which, coming generally from elevated districts in presumably tropical countries, thrive not only well, but rather best in a comparatively low temperature. It has been so much the rule to associate with Orchid culture both great cost and great heat that the growing of collections, even small ones, has been regarded as quite outside the capacities of a poor amateur. We are indebted to the Rev. E. Handley, of Bath, for letting in a considerable amount of light upon this interesting subject in a capital paper, bright and practical, which he read before the fellows of the Royal Horticultural Society at the last meeting.

First, the reader impressed upon his audience the fact that whilst the costly Orchids when sold were the only ones heard of in the press, thousands of really beautiful sorts could often be picked up at the cost of a few shillings each, and these were well worthy of the attention of the amateur. He preferred a lean-to house, floor of ashes, aspect north-west, ventilation in front by means of shutters near the ground and close to the pipes, and shutters in the roof at the back; also plenty of heating power, as a good gentle warmth was better than forced heat from a few pipes. Of species and varieties that did well in a cool house were specially mentioned Odontoglossums, Oncidiums, Masdevallias, Cypripediums, Sophronitis, Cattleyas, Lælias, etc.

Orchids seemed to have their fancies and would sometimes do badly in one part of a house and well in another. Like all other vegetation they were subject to insect pests, but the battle with depredators gave zest to life and cultivation. When this paper is published in the Society's journal, as of course it will be, we trust it will be widely read, because it should help to give a material fillip to cool Orchid culture among many whose fear of cost and trouble now prevent from becoming orchidists.

BOUILLIE BORDELAISE.—We refer to this now somewhat famous mixture because the time for its application is at hand. It is obvious that ere the black spot of the fungus, Phytopthora infestans, makes its fell appearance on the leaves of the Potato plants, the Bordeaux mixture, if it is to be regarded as a preventative, must be applied. We unfortunately at present know comparatively little as to its powers, whether they be preventative or remedial, but Mr. Henri Vilmorin the other day told us of its original discovery, and that leads to the impression that it does prevent disease attacks.

It appears that in one of the French departments some stakes used to support vines had been either dressed with or dipped in a solution of sulphate of copper, and it was found that the vines sustained by those stakes were not affected with the prevalent vine mould or fungus. Further inquiry led to experiment, and hence it was found that the sulphate of copper mixed with lime was a powerful check or antidote to fungoid moulds on plants. Tried upon Potato breadths it proved to be successful, and being a Bordeaux mixture it obtained its now well-known appellation. The proportions have been set forth as properly equal; as for instance 2 lbs. of sulphate of copper well mixed with water in one tub, and 2 lbs. of fresh slacked lime mixed with enough of water to liquefy it in another, then finally added in one vessel to 20 gallons of water.

This mixture should be sprayed lightly and in a vapourous form on to the Potato breadths now and again a fortnight later, and if disease abounds yet once again. Such dressings should save the breadths from harm. In any case we urge readers to try the solution at once, especially upon varieties that are the most subject to disease, as disease-resisting varieties do not suffer from the fungus appreciably.

WEATHER PROSPECTS.—We are getting rapidly to the end of July, and have no cause for congratulation so far that the month has been particularly generous of heat or sunshine. Really there is much of fear and trembling as to whether, after all, we may not later have to record another comparatively cold, wet summer, because conditions point to that exceeding misfortune. Those of our garden readers who are not farmers in ever so small a way have not upon their minds at least any concern as to how their late hay crops are to be harvested. On the other hand those whose concern is with flower shows have infinite worry and weariness, because of all social functions the flower show perhaps suffers most in wet weather.

Much as we may be gratified to have a comparatively dry winter, it seems to be almost certain that we shall have to pay the penalty for that favour by enduring in a season of far greater importance very much of discomfort and of loss because of heavy rains. It does happen that in this country at least the most fertile years are those which include warm, dry summers. The present is the third summer that has been somewhat cold and wet, and although it is too much to say that appreciable harm has been done yet, it is certain that sunshine, which is after all the chief factor in the production of good crops, has been lacking and cannot be replaced.

But cold, wet weather brings loss in many ways to us all, apart from injurious effects upon gardening and produce. We find trade always to be far more active in fine weather than it is when the season is cold and ungenerous, and every day which is wet serves to check expenditure and to narrow trade in myriads of directions. That there is a tendency at present on the part of trade to narrow apart from weather influences, there has for several months been ample evidence, and it seems to be but too certain that bad weather will only help to make that trade restriction all the more apparent.

Mr. J. R. Wilson, late foreman at Leckmellin Gardens, Ross-shire, has been engaged as gardener to Mrs. Middleton, Haselbeach Hall, Northampton.

Royal Horticultural Society.—The next meeting of the above society will be held in the Drill Hall, James Street, Victoria Street, S.W., on Tuesday, July 26th. In addition to the ordinary exhibits the National Carnation and Picotee Society will hold its annual show, and the special prizes offered by Mr. Martin Smith will be competed for. At 3 p m., Mr. A. J. Manda, of the United States Nurseries, Hextable, Swanley, will give a lecture on "Insect-eating Plants" in connection with which a number of exhibits are expected.

Flower Show Fixtures.—The following fixtures have been recently announced:— Cheadle Flower Show, August 12th and 13th; Leicester Early Chrysanthemum and Dahlia Show, September 10th; Portmadoc Flower Show, August 5th; Sheffield Flower Show, August 29th and 30th; Sheffield Chrysanthemum Show, November 11th and 12th; Hornsey Chrysanthemum Show, November 9th and 10th.

Plants Certificated from 1859 to 1892.—The council of the Royal Horticultural Society have decided to issue a carefully compiled list of all awards made since the year 1859, arranged as follows for the sake of convenience, viz.:—Part 1. All Flowering Plants, Shrubs, &c. (Orchids excepted) Part 2. Ferns and other Cryptogams. Part 3. Orchids. Part 4. Fruits and Vegetables.

Hybridising Roses.—Mr. Dawson, curator of the Arnold Arboretum, has done a great deal in this line and achieved some remarkable results. He has enlarged the blooms of Rugosa and deepened its colour, doubled and increased in size of blooms of multiflora, and so on. But he tells me he can only hybridise these Roses satisfactorily indoors; outside plants no matter how carefully pollenated are very shy at crossing.—*Wm. Falconer, in American Florist.*

A Wonderful Calla.—A Mr. Searles, of Windsor in the Connecticut Valley, is the owner of a very strange Calla which has been in his garden for many years, and this is what it has done according to his own showing in the *New York Times*:—"The day that my first wife died there was a handsome blossom on the Lily. That was over twenty years ago, and on the day she was buried the blossom suddenly withered and died. In all the twenty years since there has been no blossoms on the plant, but on the day my second wife (a sister to the first) died a rich fine bud appeared on the Calla, and on the day of her burial it bloomed out beautifully." Wonderful is it not, even for America?

Heavy Rainfall.—The rainfall over the south of England on the afternoon of Tuesday last was exceptionally heavy. At the camp at Bisley, where the shooting for the Queen's Prize was being actually carried out, a meteorological expert had some calculations made out for him by a scientific engineer, who assured him that about 2,000 tons of water fell on the 800 acres of Bisley Common. The rain was accompanied by a blustering and driving wind from the west. Early on Wednesday morning the storm was renewed with even greater force, and must have done considerable damage in gardens, especially to tender improperly secured plants, and in the fields to the standing crops of Corn, which is still very green even in the south.

Hardiness of Disporium Leschenaultianum.—Several species of this Liliaceous genus are natives of North America and hardy in this country. D. Leschenaultianum is a native of the mountains of Ceylon and Southern India, and having been recently introduced to this country was grown for some years as a greenhouse plant. Latterly it was transferred to the open ground in the rockery at Kew, where without any other than the natural protection afforded it by the shelter of its surroundings, it withstood the inclemency of last winter and has been flowering for the past month or more. The stems are about a foot in height, with ovate, ribbed, and deep green leaves, and drooping, bell-shaped white flowers, generally produced in pairs.

A biennial Eryngium.—The cultivated species of Eryngium are mostly perennial, but E. giganteum proves to be only of biennial duration. At all events the plant dies after having flowered and perfected seeds. This it does freely, and the seeds germinate readily whether they are gathered and sown under cover or allowed to fall of their own accord, and come up where they may. In the latter case the seedlings have only to be lifted and transferred to their permanent positions, where they may be encouraged to make a vigorous growth.

The Beddington and Carshalton Horticultural Society will hold its annual show and fête on Monday, August 1st. One of the special features will be a flower stall, conducted in aid of the Gardeners' Orphan Fund.

Gardeners' Orphan Fund.—At the recent Croydon Rose Show, the sum of £8 6s. was realised by the sale of flowers in aid of this fund.

The Spikenard of the Ancients.—The roots and lower portion of the stems of the species of Nardostachys are powerfully fragrant and those of N. Jatamansi are believed by Dr. Royle to have furnished the Spikenard of the ancients. If it is that of ancient Palestine it must, like the spices we read of, have been carried overland by the caravans or mounted and itinerant merchantmen of those days. A flowering specimen of this plant may be seen on the rockery at Kew. It is about 6 in. to 10 in. high with spathulate and lanceolate, distantly serrate leaves and small pale pink flowers in dense cymose heads.

In a Spring Meadow.—Butter Cup—Well, I never! That man with spectacles called me a Ranunculus bulbosus. Such an insult! how dare he?

Dandelion—Insult, indeed! what would you think if he'd said you were a Taraxacum Densleonis?

Butter Cup—Did he say that of you?

Dandelion—Yes, he did; just this minute!

Butter Cup—Let's sue him for defamation of character.

Dandelion—Let's!—*Puck.*

NEW & RARE PLANTS.

THE plants and flowers described below were exhibited at the meeting of the Royal Horticultural Society on the 12th inst., and received awards according to merit.

LINARIA VULGARIS PELORIA.—The flowers of this very singular variety are pale yellow with an orange throat, and in this they do not differ much from the type. The formation of the corolla is, however, very extraordinary, for instead of being irregular with one spur and two lips, it is regular with five equal sized reflexed lobes, and five equally well-formed spurs at the base. One or two peculiar appendages may also frequently be observed at the base of the corolla, close by the origin of the spurs, but their morphological homology is not very apparent. Cut flowers were shown by Wm. Marshall, Esq., Auchinraith, Bexley, and received a First-class Certificate.

GAILLARDIA AURORA.—The ray florets of this variety are tubular and bright yellow, with reddish or orange buff tubes, and the variety is therefore very distinct from the ordinary flat-rayed form. The disc is large and crimson-brown. An Award of Merit was accorded it when shown by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham.

LILIUM BLOOMERIANUM MAGNIFICUM.—The leaves of this Lily are lanceolate, whorled, and of a deep shining green. The large and bold flowers are pendent and revolute, orange coloured at the base, and spotted with crimson, while the whole upper portion is orange crimson, somewhat after the style of L. pardalinum. Altogether the flowers are darker than those of the type which botanically is more correctly known as L. Humboldti. An Award of Merit was accorded it when shown by Mr. Ware.

LILIUM MARITIMUM.—The leaves of this little known variety are lanceolate, scattered, and of a deep green. The drooping flowers are bell-shaped, sometimes arranged in a curiously triangular form, orange-scarlet and heavily blotched with crimson from the middle downward, and revolute at the tips. On the whole, it is an interesting and pretty Lily, although the medium-sized flowers cannot compete with such handsome subjects as L. Humboldti and L. tigrinum. A Botanical Certificate was awarded it when shown by Mr. Ware.

CAMPANULA PERSICIFOLIA SEMIPLENA. — The varieties of the Peach-leaved Bellflower are now fairly numerous, and some are very showy. That under notice has large, deep blue, semi-double flowers, consisting of two or three corollas inserted, one within the other, the outermost being the largest. The stems acquire considerable vigour when the plant is well grown. An Award of Merit was accorded the variety when shown by Wm. Marshall, Esq.

PETUNIA SCHWESTER BONIFATIA.—This has large, fully double flowers of a rose colour with pink edges. It differs from other double varieties in the excessive amount of curling or crisping of the corolla with its supernumerary segments. It is evidently of German origin judging from the name, which might be rendered into Sister Bonifatia. It was exhibited by Messrs. H. Cannell & Sons, Swanley, and received an Award of Merit.

DELPHINIUM PRINCESS MAY.—The principal spike of this variety attains a length of 18 in., and has semi-double flowers of large size and of a soft mauve with bright sky-blue margins.

DELPHINIUM SAILOR PRINCE.—The flowers of this fine variety are single, of great size and intense purple, more or less shaded with indigo blue. The petals are small, black, covered with yellow hairs and fill up the centre of the flower. Blue is the predominating colour in old flowers. The terminal spike varies from 12 in. to 18 in. in length.

DELPHINIUM HENRY.—The flowers in this case are also large, semi-double and bright blue. The inner petals are smaller and purple with a few white ones in the centre. The main spike is about 12 in. in length, but numerous smaller branches are given off from below.

GAILLARDIA MR. PITCHER.—The flower heads of this composite attain a diameter of 3½ in. The flat 2 to 3-lobed rays are blood red with yellow tips, and have a fine appearance around the crimson-brown, moderate sized disc. All the three Delphiniums and the Gaillardia were shown by Messrs. Kelway & Son, Langport, Somerset, and received Awards of Merit.

ROSE CLIO.—This hybrid perpetual is somewhat of the same style as La France. The outer petals are revolute and white; the inner ones on the contrary are erect and flesh-coloured or almost pink. The bloom appears best when about half expanded. An Award of Merit was given it when shown by Messrs. Wm. Paul & Son.

THE CHRYSANTHEMUM
IN NEW SOUTH WALES.

OUR Chrysanthemum season has come and gone, and in many instances stock has been taken and placed in the nursery bed, so that everything may be in readiness for the battle of the future. Fortunately there is no necessity here for the "pot coddling" process so essentially necessary during the long dreary stretch from October to May, as at home. All that is required here is to take two or three rootlets from each stool when in flower, dibble them out a foot or so apart, and wait for a further supply, the commencement to grow in real earnest taking place about the middle of November next. It would surprise an English grower, accustomed only to the method—the necessarily lengthy method—of culture pursued in the old country, to see what fine blooms are produced in this fast climate, under a culture of some five months only. This year the battle was not a very spirited one, though many handsome flowers were staged. Notwithstanding, and as showing the growing interest taken in this fine, autumn-flowering plant, some two thousand individual blooms were on view at the exhibition held in the Centennial Hall, on April 20th and 21st last.

The fact that many admirers of the "Mum" were but poorly represented—some not at all—was owing to the rather questionable proceedings in connection with the 1891 meeting of the Horticultural Society of N.S.W., many bona-fide horticulturists viewing the same with extreme disgust. True, time works wonders in all affairs of this sort; all the same the sore is there still, hence the apathy shown in regard to the competition at what would otherwise have been a grand exhibition of the "Mum" in this part of the globe. Last year strenuous endeavours were made, and successfully made, to keep out the professional element, and who can blame the latter if they did look somewhat askance on such proceedings, and did but little to make the exhibition what it might have been had any inducement been held out for them to put their shoulders to the wheel in real earnest. That happy time has yet to come, and signs are not wanting that it will not be in the distant future, for nothing brings people to their senses more quickly than the fact of the balance being on the wrong side the ledger, and likely to stick there and increase unless very drastic changes are brought about.

All the principal prizes were taken by amateurs, and these too in many instances with remarkably fine blooms, a credit to the grower and also to the climate which produced them. This applies more especially to the Japanese section, many noble examples of the same being on view. I think I told you in my notes of last season that very many of our best examples were scarcely ever found, or perhaps it would be more correct to say not frequently found, in the best collections at home. Excellent as Mr. Molyneux's advice is to growers of the "Mum" in the old country, and no one admits this with more pleasure or gratitude than I, still I think he has something to answer for in respect to new varieties, in recommending the rather extensive application of well-known, tried, and reliable sorts. Has not this a tendency to make your competitions somewhat monotonous? Is not one 48 or 24 so much like another that in running round the tables the sameness or similarity of the various trays has a depressing effect on the visitor? I think so.

Here every variety with a name has a fair and reasonable trial, with the result that new and old are pitted against each other, and the best in form and colour (other things being equal) should win. I say should win advisedly, for we are badly off in the matter of judges as yet, and few employed in that capacity rigidly examine the exhibits ere making their award, which under the circumstances is as likely to be incorrect as not. Exhibitors as a rule are apt to value their own flowers too highly I know when placed in competition with others. When exhibitors feel compelled to express an opinion that the judges have placed them too high up, something is radically wrong with the decisions given, and this was the case in more than one instance at our recent show. It will right itself in time, no doubt, for we are as yet only in our infancy with this fine flower, and good judges are not born.

Some of the finest flowers exhibited were Lady T. Lawrence, as last year the best incurved Jap in the show; Syringa, always a remarkably good flower here, and very reliable. (Has this latter variety—it is not new—had a fair trial in the old country?) Viviand Morel, Condor, Stanstead White, Mrs. Anthony Waterer, Violet Rose, Beauty of Castlewood, Sunset, M. A. E. Carriere, M. Leo Delibes, and other well-known standard varieties. Mrs. Alpheus Hardy is another failure here, and although Louis Bœhmer was shown in decent form, I am not particularly struck with its colour, if it has a colour, which I much doubt. Its constitution is good however, and that is more than can be written of Mrs. Alpheus Hardy, which is wretched in the extreme. I must not forget to mention Puritan, another grand sort; whether for exhibition, cut bloom, or specimen plant it would be hard to beat. At the Melbourne Exhibition I am told the best specimen Jap—a good plant—was Lady T. Lawrence.

I had a run out a few days ago to visit another correspondent of yours, "G. H. K." I found everything as I expected in Mr. Von der Heyde's garden at Strathfield under his charge in first-rate order, though he don't seem quite reconciled to the Buffalo sward in front of his employer's residence—Hobson's choice in this climate—however, even that is as fit as hands can make it. Of course while in the neighbourhood of Strathfield I had to pay a visit to your old friend, "C. B.," and I found him lost to sight in the midst of about 30,000 of his favourites, the "ever-bloomers," for which Homebush is getting celebrated. It is well that the Roses retain their beautiful and delicate tints in this far-off land, for it is more than can be said of an Englishman's skin when exposed to the rays of an Australian sun for a few summers. Could you, Mr. Editor, have but looked in upon us for a few moments as we stood amongst the lovely bloom displayed in such profusion on my friend's plants, your admiration for the queen of flowers would have been intensified; but had you turned your gaze upon us, well, to say the least, the contrast would have "hit you hard." Friend C. B. has recently opened out in the Strand here, where, if ready courtesy and strict attention to business does meet with its reward, he will meet with it no doubt Of a certainty no one here can place such wares in the window in the shape of Roses as he, so his chances should be second to none.

We are having lovely weather here now. French Beans are still being picked in quantity, and the last of the Pines (Smooth Cayenne) and Bananas (Musa Cavendishii) are being cut. Violets are plentiful, and Narcissi are just holding up their heads in the beds and borders, though winter work is in full swing.—*J. H. H., Cranbrook, N.S.W., May 31st, 1892.*

BEGONIAS IN AMERICA.

A FRIEND who is visiting the United States, writing from New York on the 6th inst., says:—"I have been out to see Mr. Griffin among other Englishmen who have settled down in the States, and was fairly 'knocked' with what I saw in the Begonia way, and especially with a strain of sweet-scented varieties. Mr. Griffin is located at the Oasis Nursery, Long Island, and besides a grand lot of plants under glass, he has over two acres planted out with Begonias in the burning sun—and old Sol does shine here. Needless to say they are doing splendidly, and will soon be a sea of bloom. Two large houses are for the moment the centre of attraction to visitors, and the flowers, both singles and doubles, are remarkably good in habit and in the form and colour of the flowers. The cultivation surprised me not a little also, for I saw some doubles with some fifty and more stems, making specimens 4 ft. through, but I will write you more about these anon.

"Of sweet-scented varieties I saw several thousand plants in flower. They are unmistakably and deliciously scented, and what this race will do towards still further popularising these glorious flowers it is quite beyond my power to estimate. They have been obtained by crossing B. Bowmanni and a garden hybrid named Fulgens, with ordinary varieties of stronger habit and possessing larger flowers, and the result is a success on which Mr. Griffin may be heartily congratulated."

A GARDENERS' HOLIDAY IN DEVONSHIRE.

On Wednesday of last week the members of the Exeter Gardeners' Association, which now ranks as the second best of its kind in the country though only established some twelve months ago, held their first summer meeting, which took the form of a pleasant outing, the places visited being Winslade, the seat of the Rev. A. W. Hamilton Gell; Bystock, the seat of J. P. Bryce, Esq.; and Bicton, the seat of the Hon. Mark Rolle. The party, which numbered about seventy, proceeding by way of Heavitree, first visited Winslade, where they were shown over the conservatories and pleasure-grounds by Mr. Barnes, the gardener. The members greatly admired the fine specimen plants to be seen in the conservatory, amongst them being half-a-dozen noble maidenhair Ferns suspended from the roof of the large conservatory, a fine specimen of the bird's nest Fern, some magnificent Palms, and a very brightly-coloured floriferous Bougainvillea, which covered the roof of the alcove of the conservatory, and gave a rich setting to the Dracænas and Palms. In the grounds, among other notable specimens of conifers, was a magnificent example of the Hemlock Spruce, a tree 22 feet high, and another of the maidenhair tree, Salisburia adiantifolia; some very beautiful specimens of the Thuja aurea dotted upon the lawn, Pinus insignis, Abies Douglasi, and other specimens of this class of tree being also much admired.

From Winslade the party proceeded across Woodbury Common to Bystock, where they were met by the gardener, Mr. Gurney. Here there was also much to see. In front of the house some very beautiful flower beds caught the eye, amongst them a particularly pretty circle of Pelargoniums, including a beautiful variety with yellow foliage and pink flowers, named Verona. Across from the lawn was the ornamental water, where lovely examples of artificial rockwork had been raised. Abutting upon the pond was a very curiously designed grotto representing in the most natural manner stalactites and stalagmites, reminding the visitors forcibly of the celebrated caves of Cheddar. The views from this part of the grounds are remarkably fine. Fringing the pond were double Deutzias, free growing Fuchsias in flower, the Acacia dealbata, generally considered too tender for outdoors, but here flourishing in the open without protection; Andromedas, Japanese Maples, Funkias, and other plants used in subtropical gardening were here in profusion. Altogether the gardeners were loud in praise of the excellent way in which the gardens are kept. The conservatories and greenhouses were also very interesting; several Bananas in full fruit attracting attention; the Grenadilla bearing an egg-shaped fruit, and other tropical plants. At the front door of the mansion stood a very handsome Alamanda in flower, thus evidencing the mildness of the climate in this neighbourhood.

Leaving Bystock, the party proceeded across another part of the common to Bicton, driving round to the main entrance to the park, so that they might walk up through the grand Araucaria Avenue, which is without doubt the most famous in England. It is 500 yards in length, and contains twenty-five trees on each side planted as pairs opposite each other. This famous avenue was planted in 1843-44 under the direction of the late Mr. James Veitch, of Exeter, and is conceded to be the finest in the world. The party was met by Mr. Maine, the gardener, and Mr. Muirhead, the superintendent of the parks and woods, both of whom escorted the members over the more interesting portions of the estate. On reaching the arboretum universal admiration was expressed at the magnificent specimens of Conifers, many of which were perfectly unique, and as a collection unsurpassed in the country.

Amongst a few of the handsome trees were the Liriodendron tulipifera in flower, the Fagus Cunninghami, the evergreen Beech with pretty little serrated leaves like the Escalonia. Another fine specimen of the Abies Smithiana, sixty feet high, Abies brachyphilla, a Pinus Russelliania, allowed by authorities to be the finest tree in all England; while the Abies Menziesi and Abies Douglasi were there at their best.

The arboretum and pinetum and the timber generally were a perfect feast to those who had never been to Bicton before. As is well known, the place is unrivalled for its magnificent timber. The curiosities included a grand specimen of the nettle tree, Celtus cordata, and also a good example of the Tree of Heaven, Ailanthus glandulosus, and the variegated Oak. Nearing the gardens the party came upon the fine stretch of ornamental water, adorned with black swans, which glided gracefully upon the unruffled surface. Further on were the larger conservatories, at the door of one of which was a tree of Magnolia fuscata in flower, the blooms bearing exactly the same perfume as the Pine-apple. Against the under wall of the conservatory were some beautiful Hibiscus. The Oranges and other plants were in keeping with the rest, and produced the most complete harmony. The whole place has a particularly well-kept air, and bespoke the fact that it is owned by a gentleman who is proud of his estate, which, as is unfortunately often the case elsewhere, is not allowed to get into a state of dilapidation or neglect.

From Bicton the party drove to Budleigh Salterton, where they dined at the Rolle Arms, the chair being taken by Mr. Andrew Hope, who discharged the duties of the position with his customary efficiency and geniality. At the conclusion of the repast a number of toasts were given, and the party returned to Exeter soon after 9 o'clock.

BEDDING VIOLAS AT CHISWICK.

The dry weather during the months of May and June militated strongly against the welfare of bedding Violas as well as Pansies. Cool and moist weather enables them to make the most rapid and substantial growth, as well as to produce the largest flowers in the greatest number. The recent rains, however, have been much to their liking, and rapid progress has been made during the past three weeks or so. The collections in the gardens of the Royal Horticultural Society at Chiswick are now pretty extensive, and furnish a good opportunity for making a selection for any given purpose. The primary object of these Violas is for spring and summer bedding; and for this purpose it is necessary that the flowers be of good average size and freely produced, so as to give some decided effect according to colour. The habit and average height of the plants must also be taken into consideration, especially if two or more kinds are to be panted in a bed or in a panelled or ribbon border. As to the colours which are to be considered best in each class, much will depend upon the taste or likings of the cultivator; but habit and floriferousness can hardly be ignored where effect is desired. Most of the varieties now on trial have been sent by Messrs. Dobbie & Co., of Rothesay, N.B., and Dr. Stuart, of Chirnside.

White Varieties.

The finest of all the white varieties is Countess of Hopetoun, of dwarf, erect habit, and large white flowers with a golden-yellow eye, and entirely without rays. Sylvia has large flowers of the palest sulphur fading to white, with an orange eye; it is of dense, sub-erect habit, and floriferous. More decided is Sylvia White, having the faintest tint of sulphur on the lip, and that only in the young state. The habit is procumbent like that of Ardwell Gem, and the leaves are narrow. It appears identical with another named King of the Whites. Another procumbent and free-flowering white kind is Springville, with moderate sized white flowers, having a faint blue edge to the upper petals and a yellow blotch on the base of the lip. Somewhat similar is Marginata, of dense, sub-erect habit, floriferous, and white with a slender lilac margin to all the petals, but sometimes wanting. The flowers of Picotee are small, and abundantly produced on dense-growing, erect stems; they have sometimes a faint blue margin, but are netted with blue veins externally, which shine through and give the flowers the colour of milk that has been diluted with water. Of another type is Crofthouse, with large white flowers and violet rays on the three lower petals. It is a vigorous grower and profuse bloomer, but the texture of the petals is thin. For general purposes Blue Cloud cannot be overlooked, because it has the dwarf, dense, erect habit of Countess of Hopetoun, and blooms as freely. The petals when in character have a broad ultramarine blue margin, especially the upper ones; but the effect from a distance is that of a white variety. The same may be said of Lillias, which has orbicular flowers charmingly netted with lavender on the margin of the two upper petals, and less distinctly so on the others. It will be seen from the above that Countess of Hopetoun stands alone as nearest an ideal white, while Sylvia White, Blue Cloud, and Lillias are all very choice.

Yellow Varieties.

Opinion is divided as to the best yellow for bedding purposes, but the dwarf, procumbent habit and free-flowering nature of Ardwell Gem will always recommend it to not a few. The large oblong flowers are sulphur-yellow deepening considerably from the upper petals to the lip. Somewhat allied to the above is Wonder, but the flowers are a shade or two darker, and the habit erect and dwarf. Duchess of Fife and Goldfinch have the procumbent habit of Ardwell Gem, but the former is pale, almost white, on the upper petals, and margined with pale blue; while the latter is darker, margined with pale purple, often of a slaty hue. They are both very charming and choice in their way. Bullion is reckoned by some as the best yellow, as it has golden-yellow flowers with black rays on the three lower petals, and a profuse bloomer. Something in the way of Old Gold, but having much larger flowers is highly desirable; the edges of the clear yellow petals are almost white, but rays are entirely absent. Sovereign is similar to Bullion, but the flowers are much smaller, and the black rays very prominent. Royalty is somewhat similar to the last, but paler in hue, and the habit is dwarf and erect. Golden Gage is comparable to Old Gold, but has paler flowers, and the dull green leaves are incurved at the edges, thus spoiling it to some extent. A bold yellow is Lord Elcho with large golden-yellow flowers, but the black rays are too prominent. The habit is dwarf and partly procumbent, but the leaves are of great size, and flowers produced only in moderate quantity. The flowers of Rothes are of medium size, and clear yellow on the upper petals deepening to gold on the lip, and being without rays is a step in the right direction; but as there is only one small plant of it at Chiswick, its value as a bedding plant cannot yet be determined. Of dwarf, dense, erect habit is Bridesmaid, but the large flowers are pale sulphur-yellow fading almost to creamy white, the lip retaining its colour longest. In the front rank for bedding purposes we would place Ardwell Gem, Wonder, Bullion, Goldfinch, Duchess of Fife, and Old Gold. The latter is a gem but rather small, except for the front line of a bed.

Coloured Selfs.

As amongst the yellows, so amongst the blue varieties, there is some controversy as to which is the best blue. The question remains whether any one sort can be best where there are so many excellent yet distinct types. For general purposes there are few to beat Hollyrood as far as the collection at Chiswick is concerned. The flowers are large, intense blue, shaded with purple, with darker blotches at the base of the three lower petals, that on the lip being maroon edged with a bronzy lustre. Archibald Grant has much larger intense violet-purple flowers, but it is much less floriferous than Hollyrood. Crimson King so called, is no doubt the best of its kind, but the flowers are of a rich dark purple, not crimson. The flowers of Wm. Neil open of a nearly uniform purple, and soon fade to a clear rose. The variety is certainly the best in this class. Acme is in the way of Crimson King, but has larger deep purple flowers shaded with bronze on the base of the lip, and is scarcely so floriferous. There is only one little piece of Topsy which is dwarf, erect, and floriferous, but if its constitution is good it will be a highly desirable sort in the way of Acme and Crimson King, but the flowers are darker or more intensely purple, and the lip is almost black when it first expands. Amongst the lighter coloured blues, that named Sweet Lavender is of great promise, being very dwarf and procumbent, with large, soft blue flowers, and a creamy blotch on the lip. One or two small plants are not quite sufficient to determine the true value of the variety for bedding purposes. The Duchess of Sutherland is of rather straggling habit, but very floriferous, with large, soft, lavender-coloured flowers, slightly tinted with purple on the upper petals. For mixing with Pelargoniums and other subjects of that nature it is certainly an acquisition. For bedding purposes then, the well-tried and meritorious kinds are Hollyrood, blue; Crimson King, purple; William Neil, rose; and Duchess of Sutherland, lavender.

Parti-coloured Varieties.

Foremost amongst this class we should place Queen of Scots, on account of the bold character of its flowers, which are larger than those of Countess of

Kintore, with a broader white margin and a smaller more decidedly blue area in the centre. It is sub-erect, very vigorous, and floriferous. The smaller flowers of the last named are bluish-purple in the centre, and very freely produced. Nor must we forget that this variety holds its own pretty well, even in dry seasons in the south, when many others degenerate and produce only few or small flowers. The Mearns is an erect, free-flowering kind, with plum-purple flowers and white upper petals, or the tips of all may be white. A most curious arrangement of colours may be seen in Moonlight. The upper petals are white with a pale purple margin; the two lateral are white, but yellow towards the base, and the lip is yellow with a purple blotch at the tip. It is a great novelty, but does not appear to be of strong constitution. Dawn of Day has large flowers, more or less closely netted all over with soft lavender coloured veins on a white ground. It varies greatly in the amount of colouring at different times of the year, and apparently according to the state of the weather, as to drought or moisture. A charming little flower is that of Ariel; the upper petals are generally of a bright sky-blue, and the others white, often splashed and striped with the same colour as that of the upper petals, and the latter sometimes behave in the same way. York and Lancaster may be described as a bizarre, for the petals are striped or flaked with rose and purple on a white ground. It is very floriferous, but rather a tall grower, as is Lucy Ashton, which has a white centre heavily rayed, and a broad, deep purple margin. Closely allied to the latter is Columbine, the broad margin of which is rosy-purple. The latter often produces flowers striped with deeper purple as if tending towards York and Lancaster. The leading and most useful types in this group are Queen of Scots, Dawn of Day, York and Lancaster, Ariel and Lucy Ashton; but tastes might differ in the value to be attached to different varieties of a group or type.

Besides the above there are many more at Chiswick, and some of the newer and less tried kinds may in the course of a year or two prove to be even better in certain respects than those which at present most claim our attention. There is character and refinement about many of these bedding Violas which cannot be found amongst fancy or show Pansies, while their hardiness and free-flowering character renders them available for garden decoration in the south, where Pansies of the show or fancy class often fail to give satisfaction.—*F.*

GARDENERS' GRIEVANCES AND THEIR REDRESS.

It will be generally conceded that grievances exist, and exist probably in more marked variety among gardeners than in any other trade or profession, while the means of redress is more correspondingly vague and apparently unreliable than in any other field of labour. Prominently stands out the abnormal condition so often insisted upon of "no incumbrances." This has been dealt with so thoroughly of late in your columns that a passing allusion to it will suffice. I believe the root of this stipulation lies in the fact of the gardener's residence on the estate, and the question arises, is it absolutely essential that he should do so, and is it beyond the power of his employer in many cases to make other arrangements for him? The system of "living on the place" savours too much of the feudal period for the nineteenth century, and is frequently a very unfair equivalent for the coin of the realm it is supposed to represent.

How many can recall miserable hovels, breeding places for rheumatism and malarial diseases, erected in some out-of-the-way corner, or hedged in by tall trees to hide it from the refined eye; frequently too covered with greenery to look "picturesque" where visible to the proprietor, regardless of the damp thus engendered in the walls! I can remember many such places built on fine estates by "progressive" gentlemen or hereditary legislators, where often a neighbouring town or village afforded facilities for the gardener, with as many "encumbrances" as he pleased, renting a house, and attending to his duties quite as well. Of course, this is often impracticable, but in such cases, some sanitary inspection of such a dwelling should be compulsory.

By the way, why should a gardener be supposed to be always "on the spot," and to have no regular hours of labour beyond which his time should be as absolutely his own as that of any mechanic? He is liable to be called on at any hour of the evening for sundry services which infringe upon needed time for rest and recreation. He is generally vastly better educated and informed than the average working man, yet what facilities are afforded to him for self-improvement? He is usually at a distance from any centre to which he can resort for free classes or free libraries, and as for paid tuition, his for the most part woefully scanty salary will hardly admit of that.

I knew one unfortunate who had £45 a year, and a "house and cow." Having lost his wife, he had to keep a housekeeper, to support his infirm mother, and to pay for the board and education of his eldest boy some distance away. How much remained for food and clothing for himself and the other two children, let alone anything else?

Then again, such a thing as a monthly engagement should be ruled out. That is a grave injustice to the gardener who is a consenting party to it, although unwillingly. What is a "month's notice" to him "between terms," when all situations are filled, and no refuge is open to him but the "nursery" with the accompanying necessity of renting a house for six months, if a situation is not directly forthcoming at the term? There should be a strict adherence to the old style of six-monthly and yearly engagements, and no gardener should accept a shorter term of service.

Another decided grievance is the vague value attached to a gardener's services by different would-be employers, and the arbitrary way in which they determine what salary they will pay their man. This fluctuates according to the employer's idea, and not according to the worth of the gardener. There should at all events be a fixed minimum wage, as much to protect the man against underbidding on his own part as from the other side. In no trade is this such an evil as it is in the gardening profession. An employer can economize at will by the noble expedient of cutting down his garden expenditure for wages, among other petty retrenchments, which can only serve as a drop in the bucket compared to the vast sea of useless and vicious extravagances.

In one instance, a nobleman, fashioned after the above pattern, gave notice to leave to his head gardener, who had been many years in his service, on the ground that he wanted a cheaper man. During all those years, the gardener's principal accumulations had been an unblemished character and a family. The former is rarely a marketable article, when handicapped by advancing years especially, and the latter never, and consequently he agreed to stay at the reduced salary, and was graciously permitted to do so.

Such a transaction should be an impossibility. With the higher scale of wages demanded, and, perforce, granted, that anomaly, the "coachman-gardener," and his kinsman, the "labourer with a knowledge of gardening," would cease to jostle the practical gardeners out of their situations. As the editor truly observed in a late issue, many situations offered now-a-days to competent gardeners are direct insults. They are framed on the lines of the advertisement asking for a "young man, to fear the Lord, and carry six hundred-weight," or that other which insisted on the gardener having a tenor voice, and singing in the choir.

In brief then, could not some association be formed among gardeners, to combat such ills as irregular hours, irregular rates of compensation, arbitrary substitution of any sort of a dwelling in lieu of wages, and regardless of comfort.—*C. Macquarie, Chicago, July 1st.*

FLOWER SHOW AT WALTHAM CROSS.

The exhibitors at the annual exhibition of the Waltham Abbey and District Horticultural Society may be congratulated upon the excellent display they made on Saturday last; and while the average was good throughout, a few features were particularly good. The show took place in a field near to Waltham Cross Station. The weather was fine though dull, and we hope a good gate rewarded the labours of the hard working secretary, Mr. John Eve, and the active members of the committee, who took their share of the burden of the day.

The prime features of the show were in the classes open to all comers, and in the contributions open to all comers. Some groups, charmingly arranged, were at the sides of the principal tent. One class was for a group of 50 ft., and here Mr. Ayling gardener to A. J. Hollington, Esq., Enfield, was placed first with an arrangement in which Cattleyas and other Orchids played an important part; it was highly effective and much admired. Mr. J. Nicholson, gardener to J. W. Milles, Esq., Sewardstone, was a good second. The latter came in first with a very pleasing group, composed largely of bright-coloured Crotons, Caladiums, &c., intermingled with Ferns and small Palms. Mr. W. Clark, gardener to Sir T. F. Buxton, Bt., Warlies, was second. The best six miscellaneous plants—all good examples of culture—came from Mr. A. West, gardener to A. H. Lancaster, Esq., Waltham Abbey. Mr. E. Ayling was second. The latter was first with 6 stove and greenhouse plants; staging a fine example of Lantana Iris of great size, beautifully flowered, and very bright in colour; this group also contained a very fine Clerodendron Balfourianum. Ferns were finely shown by Messrs. Ayling and Clark, and they were an excellent feature. Caladiums were very fine indeed from Mr. Nicholson, the leaves large and handsomely marked. Tuberous-rooted Begonias from Messrs. Ayling and West were highly creditable, and a half-dozen plants of Achimenes from Mr. Ayling, some of the best we have seen for a long time.

In the open and amateurs classes, cut flowers were very good, hardy subjects especially, and Mr. S. Fear, who seems to have caught something of the florists' enthusiasm, had pretty Carnations and very good Pinks. A seedling Carnation, raised by Mr. Fear, white with longitudinal stripes of pale pinkish-rose, appears likely to prove very useful for cutting and exhibition purposes. Roses were very well shown, though some of the blooms showed the effects of the recent rains.

Fruit was somewhat sparingly shown. Vegetables were good generally, and table decorations very attractive.

A fine collection of Roses was shown by Mr. W. Rumsey, Joyning's Nursery, Waltham Cross, some of the red and crimson varieties being particularly bright in colour, Victor Hugo pre-eminently so. Messrs. Paul & Son, Old Nurseries, Cheshunt, had a fine lot of cut Roses also, and attractive bunches of hardy cut flowers; Mr. J. Riding, gardener to A. J. Edwards, Esq., a fine group of plants; Mr. J. B. Riding a very pretty collection of cut blooms of Violas, and Mr. Hamilton, market grower, Waltham Cross, a fine lot of Maidenhair Ferns, also Tomatos and Cucumbers.

THE FRUIT CROPS.

We have the worst Apple crop here and in neighbouring gardens that has been known for many years. Pears are better, but the forwardest buds of both no doubt suffered from frosts on the 14th and 15th of April, the trees being moist from snow and sleet on the latter date. We had the same number of degrees of frost on the 13th, but only a few expanded and partially expanded Plum and Cherry flowers suffered. We had 12° on the 18th and 19th, and 7° on the 30th. After all it was the caterpillar that destroyed the Apple crop, leaves and flowers being devoured in a few days, so that trees that have not been known to fail for twenty years are practically fruitless. The Pears were not so badly attacked by insect pests.

Of Plums and Cherries there is a fair crop. Gooseberries were all but totally destroyed in many gardens by the frost of the 14th and 15th. Currants, including black, are a good crop, and the Raspberries are promising. Strawberries are as good as need be, but the wet destroyed many ripe and unripe fruits at the commencement of the season. Noble was the earliest, closely followed by Keen's Seedling and La Grosse Sucrée. Black Prince, which was the earliest indoors, was in a less sunny position, consequently could not be compared. Noble is a heavy cropper as an early one, but the fruit is rather soft and would not suit those who have to pack them to send on long journeys. A friend kindly sent me a dozen plants of Latest of All, and we picked the first dish to-day, July 16th, and the flavour was as good as any I have tasted this season; and I should say, judging from size of the fruit and the quantity, that it will prove a good thing and replace Loxford Hall Seedling in many gardens, this being rather tender and not a good doer in many places. We had sunny forcing weather here on the 8th and 9th of June; sultry, but dull on the 10th, with rain at night and about every other day up to the 11th of this month. It has since been fine but dull, and to-day cold and showery. On the whole, however, garden crops are doing better than they have done during the past two seasons.—*W. P. Roberts, The Gardens, Cuerden Hall, Preston.*

FLORICULTURE.

Pinks at Wolverhampton.

The Pink growers in the Midlands are in earnest, and they mean a revival of interest in the Pink, whatever others may do or refrain from doing. The Midland section of the National Pink Society held its annual exhibition in connection with the Wolverhampton Floral Fête, on July 12th, and made a display which did credit all round, and especially to its secretary, Mr. Cbas. T. Thurstan, a promising and energetic chip from a good old Dianthus block. Happy is it for floriculture that some youngsters take on the floral fever, and never lose it again, and it is by no means desirable they should do so.

The Pinks were staged in one of the cut flower tents, in a good light; and they were judged by John Ball, of Slough, and Joseph Lakin, of Cowley—*Arcades Ambo*, worthy justices botb, "full of wise saws and modern instances." The hero of the day was Mr. A. R. Brown, Handsworth. Birmingham. He piled up honours, one after the other, till they formed a column as high as himself, and, let it be said. they were in every case richly deserved. He also is a chip of a worthy old block.

In the class for twelve laced Pinks, distinct, Mr. A. R. Brown was 1st with Jeannette, Minerva, Boiard, Ethel, Modesty, Ernest, Empress of India, Bertha, Harry Hooper, R. L. Hector, Godfrey, and Amy—the last, a very fine purple laced; all the blooms were finely laced, large, and full. 2nd, Mr. C. F. Thurstan, with Duke of York, a seedling of 1891, red laced, pure white, fine shell petal, handsomely laced, and higbly promising; Duchess of Fife, pale laced, in the way of modesty, but lighter in the lacing; Boiard, Modesty, Empress of India, John Dorrington, Lady Louisa, James Thurstan and seedlings. The class for twelve blooms of Pinks in not less than six varieties brought three stands, and Mr. Brown was again 1st, having Boiard, Amy, Ethel, Ernest Bertram, Minerva, Godfrey, and Empress of India, two or three being in duplicate. 2nd, Mr. R. Sydenham, Tenby Street, Birmingham, with Boiard, Ne plus ultra, Eurydice, Modesty, Minerva, and Harry Hooper. 3rd, Mr. C. F. Thurstan. Out of six competitors, Mr A. R. Brown also had the best six blooms, distinct, staging Amy, Lady Louisa, Minerva, Ophelia, Bertha, and Empress of India. 2nd, Mr C. F. Thurstan, witb Duke of York, Modesty, Duchess of Fife, Lady Louisa, Boiard, and a seedling. 3rd, Mr. R. Sydenham. 4th, Messrs. Thompson & Son, Sparkhill, Birmingham. 5th, Mr. James Thurstan, Cardiff. With six Pinks, not less than three varieties, Mr. Brown again took the 1st prize. Mr. C. F. Thurstan was 2nd. Mr. Samuel Barlow, Stake Hill, Manchester, 3rd. 4th, Mr. J. Juster, West Bromwich. 5th, Mr. R. Sydenham. A similar class followed for those who had never won a prize for Pinks, and Mr. J. Juster was the only exhibitor, and was awarded the 1st prize. The best three blooms of laced Pinks in three varieties came from Mr. C. F. Thurstan, who had seedlings. Mr. A. R. Brown came 2nd, with Amy, Godfrey, and Bertram. Mr. W. D. Bason, Wolverhampton, was 3rd, with Galopin, Emily, and Godfrey.

The best purple laced pink was Amy from Mr. A. R. Brown; and he was 2nd with George White; Mr. Sydenbam was 3rd with Rector; and Mr. C. F. Thurstan 4th and 5th with Mrs. Thurstan. The best red laced pink was Empress of India, the 2nd best Bertram, both from Mr. A. R. Brown; Mr. C. F. Thurstan was 3rd with Eurydice, and 4th with Boiard; Mr. Tbomas Walkden, Sale, 5th with a seedling.

The premier purple laced pink was Amy, shown by Mr. A. R. Brown in his stand of twelve blooms in Class I. The premier red laced was Duke of York, shown by Mr. C. F. Thurstan in tbe 2nd prize stand in Class I.

The best six bunches of miscellaneous Pinks came from Mr. Thomas Walkden, Sale, who had Souvenir de Sale, Progress, Picotee Pink, white, charmingly laced with pink, W. Brownhill, white self; Emily, laced, and a seedling. Messrs. Thomson & Son were 2nd with Ascot, Lord Lyon, Derby Day, Pelican White, Her Majesty, and Daniel O'Rourke, laced varieties; 3rd, Mr. W. D. Bason, unnamed. Messrs. Thomson & Son had tbe best bouquet of Pinks; Mr. W. Brownhill, of Sale, was 2nd.

HALSTEAD PLACE, SEVENOAKS.

A walk of about a mile from Sevenoaks, through meadows and fruit grounds, brings us to the charming residence of T. F. Burnaby-Atkins, Esq., a place renowned for Roses, and specimen stove and greenhouse flowering plants, especially Dipladenias. On enquiry at the lodge we found it would be convenient for myself and friend to look round, and so we at once set out to find Mr. A. Gibson, the gardener, who when found accorded us a hearty welcome. We first had a look through the Roses, and truly they were a grand sight, the dwarfs, in our opinion, being much the best. Of hybrid perpetuals all the best varieties are grown, and a large quantity of Teas. The latter Mr. Gibson has to protect as much as possible during winter, the smallest being wintered in a cold frame; most of these are grown on their own roots.

Close by the Roses we noticed a splendid bed of Onions, a rare sight in this district this season. Seeing that some were much in advance of the bulk we inquired the cause, and learnt from Mr. Gibson that these early ones had been raised in pots and pricked out—an excellent plan when growing for exhibition. Peas were in fine condition, a seedling resembling Veitch's Perfection being specially noticeable on account of the size of the pods and its prolific nature. Passing on to the fruit houses we found Peaches and Nectarines an excellent crop; the Vines too were in excellent condition and carrying good average sized bunches.

The stove No. 1 contained a very fine batch of Gloxinias, an excellent strain of mostly erect flowering kinds. A batch of Calanthes was doing well on a shelf, and underneath we noticed a nice plant of Lælia purpurata, said to be a fine variety. Dendrobiums of the Nobile section were also doing well. Eucharis are in grand health, with large leaves of a deep green colour indicative of good culture. The spikes of bloom to be had from such plants must be very numerous.

Stove No. 2 is devoted to the Dipladenias which are trained over the spacious roof; Brearleyana and Amabilis are the sorts grown for exhibition, although the smaller-flowered Boliviensis finds a place. They are looking in grand order, and will, we hope, be seen at the Sevenoaks Show, when we shall have an opportunity of referring to tbem again. Stephanotis, Allamandas, Clerodendrons, Bougainvillias, and Anthuriums are also all done well.

Melons are a heavy crop, and the forward ones are ready to cut. In the fruit garden close by, Strawberries are an excellent crop of very fine fruit. From the front of the mansion you get a splendid view northwards between trees of grand dimensions, and mucb more could be said of this pretty place, but our time was limited on this occasion. We bope, however, at no distant date, to pay Mr. Gibson another visit, meanwhile we have vivid recollections of having seen at Halstead Place, gardening in its best style, and plants that reflect great credit on owner and grower.—*S. C.*

THE CHICAGO EXHIBITION.

Horticultural Department.

California will occupy the south interior court of the Horticultural Building, and about an acre on the midway plaisance for an exhibition of its semi-tropical trees. It expects, as holding the place of the principal vine-producing state of the Union, to exhibit largely in the department of viticulture. Specimens of its three principal trees, the Sequoia, the White Pine and the Redwood, will constitute part of the colonnade of tbe forestry building.

People are divided in opinion as to the advisability of one exbibit from the State—that of one of its few remaining and jealously preserved giant Sequoias. This specimen, 300 ft. high, and 30 ft. in girth some distance from the ground, is private property, and its owner has been induced to sell it on patriotic grounds as an advertisement for his State. A barge will convey it, at a cost of 3,000 dollars, to San Francisco, thence, at a largely increased expense, by specially constructed train. It will be bored so as to admit of visitors passing through the array of booths lining its sides for the sale of native products and curios. It will be set up on a leased strip of ground directly opposite the main entrance.

One of the Australian Colonies purposes exhibiting 190 specimens of a dozen species of Ferns, also large Lilies, Grass Trees, and many novel indigenous plants. The commissioner to Costa Rica is busily engaged in collecting and receiving ornamental plants, with which he intends to surround their pavilion. He has also formed a collection of over 3,000 beautiful birds, which will be placed in the galleries adjoining the gardens.

A preliminary address has been issued by the cbairman of the Auxiliary Committee on a Congress of Botanists, inviting savants of all countries to participate in the proposed congress and discussion. Great results are confidently expected. A man in Missouri proposes to send a curious Peach tree, 3 years old, 1½ in. in diameter, and 37 ft. high, without a limb or branch. All hands are hard at work in the Landscape Department. in order to get the dredging and gardening completed. Large gangs are working sixteen hours a day.

Tbe Illinois State Board of Agriculture intend offering 6,500 dollars in prizes for farm, garden and orchard products. At the State Fair to be held at Peoria in September, desirable specimens will be selected to make up the best possible exhibits for the State in the National Building, and also in the State Building at the World's Columbian Exposition.

It is gratifying to note that the rumours of organized opposition to exhibits by German seed growers on the part of the American trade is utterly unfounded, and that, on the contrary, such exhibits will be welcomed and appreciated. Despite a misleading circular, exhibitors will be allowed to append prices, with and without tariff added, in order that purchasers from free-trade countries may not be debarred by seemingly high prices. The circular stated that only prices showing cost in full, including tariff, could be attached.—*C. Macquarie, Chicago.*

BEXLEY FLOWER SHOW.

The annual flower show at the pleasant Kentish village of Bexley was held on Wednesday of last week, in the grounds of Oakwood, Crayford, the residence of S. White, Esq , one of the best gardening establishments in the district, and a capital little show it was, though not so much patronised by visitors as it deserved to be, owing to the day being wet and gloomy. Perhaps the groups and table decorations were the best features, but in other competitions there were also good tbings to be seen. The largest and finest group was arranged by Mr. Tomalin, gardener to S. White, Esq., a lovely arrangement of Orchids, Gloxinias, Streptocarpus, and Cocos Weddeliana, etc. In a smaller class, Mr. G. Leggett, gardener to Mr. T. O. Carter, Esq., was first with a nice light group. Two lots of six Caladiums were remarkably good, and both exhibitors, Mr. Tomalin and Mr. Wakeham, gardener to Mrs. Bean, who took the prizes in the order named, deserve high praise for the beautiful style in which the plants were turned out. Exotic and hardy ferns, though only few in numbers, were exceedingly good, and with the latter, W. Marshall, Esq ,again secured the premier award with beautifully-grown specimens of Scolopendrium vulgare crispum, Polysticbum angulare plumosum, Polypodium alpestre flexile, and Cystopteris regia Mr. G. Leggett had tbe best four exotic ferns, Mr. Marshall being second, and showing one of the best specimens of Adiantum Le Grande that we have ever seen, the plant being quite 2 ft. over, and the fronds perfect. Mr. Marshall also had the best four Lycopodiums, beautifully done, three table plants, group of six foliage plants, twelve hardy herbaceous plants, etc. Mr. Wakeham had the best table plants amongst gardeners. The cottagers' classes were all well contested, and among the window plants shown by Mr. William May we noted a charming specimen of Origanum Tournefortii trained to an upright wire trellis, and with the flowers all facing one way—one of the most interesting subjects in the exhibition. The fruits and vegetables were very good all round, and in the gardeners' classes, Mr. Tomalin was specially successful.

The table decorations had a tent to themselves, and would have done honour to any show, for there was not a poor one among them. In the competition for a table decorated with any flowers or foliage, Mrs. Barrett won the first prize, with a lovely arrangement of coloured foliage of trees and shrubs, hardy border flowers, grasses, and Adiantum

gracillinum fronds. Miss Marshall came in second, with a very light and elegant arrangement, with Chard's wire stands as the central objects; and Miss Steel was third. With a similar sized table decorated with British wild flowers only, Miss Steele was first with a singularly pleasing arrangement; and Miss Marshall was again a good second. Mr. W. G. Bailey, a local florist, was very highly commended for a capital group of plants, bouquets, and other floral adornments.

TREES AND SHRUBS FOR THE SEASIDE.

For some days past I have been noting down a list of such trees and shrubs as I have found best suited for withstanding the peculiarities of temperature and atmosphere with which they have to contend when planted by the seaside. The notes are taken all along the coast from Dover to Ramsgate, but particularly at that favoured and botanically interesting spot, St. Margaret's Bay.

Probably the Elder does better than any other tree, next to it coming the Sycamore, Black Poplar, White and Cane Willows, Evergreen Oak, Laburnum, Scotch and Austrian Pines. Amongst shrubs the much-praised Tamarisk, Sea Buckthorn, St. John's wort, Fuchsia globosa, the Snowberry, Flowering Currant, Mahonia aquifolia, Holly, Mexican Orange flower (Choisya ternata), Lilacs, and the Tea Tree (Lycium Europæum).

Of climbers Ampelopsis Veitchii, the common Ivy, Clematis montana and C. vitalba, and nearly all the forms of Honeysuckle. These have succeeded well out of a very long list of kinds that have been tried. Junipers do well naturally on the chalk cliffs, and a little way inland the Wayfaring tree (Viburnum lantana) takes up most of the hedges and does remarkably well. Of course it should be remembered in connection with the above list that the formation here is entirely chalk, with in most places hardly a foot of soil atop.—*A. D. Webster, F.R.S.E.*

ON PACKING FRUIT.

What a sad sight it is to see, as we have too often done lately, finely grown Grapes hanging in fruiterers' windows, reduced very much in value through bad and slovenly packing, and Peaches bruised and disfigured from the same failing. Two causes may be assigned for this, viz., loose packing and wrong material. Soft moss is often recommended, but at the best this is not particularly clean, or soft and pliable in texture, and in many places even in the country is very difficult to procure.

The finely-cut wood-wool lately introduced is not perfect, indeed most unsuitable for Grape packing, except to fill up a box for the bunches to rest upon with a sheet of paper between. For Peach packing I have never discarded cotton wadding, thin strips of which are wrapped round each fruit after they have been partly encased in tissue paper. We leave a third of the fruit, the top part, exposed, and when placed in the boxes they look as if closely fixed in little nests. Over all we put a sheet of soft paper, and then fill up with wadding, gently pressing it down so as to prevent any movement of the fruits.

My object at present in referring to a matter often discussed by gardeners is to call attention to a material I have in stock now, and with which I am much pleased. I think it is the same as is often used in the packing of brittle confectionery; in any case it consists of the fine silky shavings of some sort of tissue paper. It is as soft as wadding, and is certainly the most satisfactory material I have ever handled for fruit packing, being clean, elastic, exceedingly cheap and as light as down. The old kind of soft paper shavings so much used in the packing of fruit for market is better than many substances in use, but what I now refer to is vastly superior. I got my supply from Mr. David Thomson, Nurseryman, Edinburgh.—*Stirling.*

CORNUS KOUSA.

We are now in a position to give an illustration, from a clever sketch by Mr. J. W. Page, of this highly ornamental shrub, which was exhibited at the Drill Hall last month by Messrs. J. Veitch & Sons, Chelsea, and which was honoured by a First-class Certificate. The plant was originally introduced from Japan in 1847, under the name of Benthamia japonica, and although less well known than B. fragifera, it is probably the hardier of the two. It was figured and described in Siebold's *Flora Japonica* I., p. 38, t. 16, published in 1835, as Benthamia japonica, but that genus has long since been merged in Cornus. The specific name Kousa is doubtless of Japanese origin, and was given by a European botanist, Bürger, long resident in Japan. In its native habitats, the mountains of Kiusin and Nippon, it is found at elevations between 2,000 ft and 4,000 ft.

Cornus Kousa.

Messrs. Veitch's plants were obtained through Mr. Maries about twelve or fourteen years ago. In England it flowers in June. The shoots terminate in a capitate inflorescence surrounded by four large, ovate, white bracts, the whole of which to the uneducated eye appears like a single flower. The little roundish pieces in the centre are all separate flowers, which are followed by fruits that grow together in a mass which resembles or may be compared to a Strawberry, as in Benthamia fragifera. The fruits of Cornus Kousa are yellowish-red. The leaves are ovate, and drawn out to a long, slender point. Their arrangement is somewhat peculiar. The stem ends in a single inflorescence, on each side of which is a leaf. A short shoot arises from the axil of each of the latter and bears a single pair of leaves, so that six of the latter are arranged round each inflorescence.

THE HERBACEOUS BORDER.

Choice Plants in Flower.

ERYNGIUM ALPINUM.—It is to be regretted that one of the finest of the Eryngiums is so seldom seen in cultivation now. There should, apparently, be no more difficulty in growing this species than the similarly strong growing E. Olivierianum and E. amethystinum; but it is probably more of an alpine, and delights in a cooler, moister atmosphere. At all events it succeeds well in the far north under those conditions. The lower leaves are heart-shaped, large, and bold in appearance, and the upper ones are somewhat divided. The bracts surrounding the head as well as the upper portion of the flower stalks are of a bright steel blue, and the bracts, numbering from ten to twenty, make the species a very effective and handsome border plant.

LYCHNIS CHALCEDONICA.—The scarlet forms of this plant, both single and double, are undoubtedly much more desirable than the pink or white ones, although the latter might prove useful by way of contrast in a collection. The beauty of the plant is best seen when the clumps are allowed to attain some size. Propagation is easily effected by division, just as growth is commencing in spring, or by cuttings of the flower stems which develop buds or short shoots alternately on different sides of the stems.

ERIGERON GLAUCUS.—The stems and leaves of this species do not die down in winter like those of most others in cultivation. The plant flowers freely when about a foot high, and together with the flower stalks about 6 in. higher. The leaves are very broad at the upper end, tapering to the base, where they join the stems. The flowers are about as large as those of E. speciosus and of the same colour, but the plant is altogether neater in habit. It is a native of Western North America, and perfectly hardy in this country.

MONARDA DIDYMA.—The Oswego Tea, as it is called, is the finest of this class of plants, and should certainly be included in a collection of herbaceous subjects. The flowers are bright scarlet, and supported by bracts that are more or less of a bright red, and taken altogether are very conspicuous and ornamental amongst other border subjects.

CAMPANULA PERSICIFOLIA CALYCANTHEMA.—There are few collections that do not possess some or other of the Bellflowers, many of which are almost indispensable for border decoration, as well as for cut flowers or for exhibition. The principal feature of the variety under notice is that the calyx is enlarged and coloured blue like the corolla. A sub-variety has a white calyx of this character. These forms, like the Canterbury Bells, with a coloured calyx might well be spoken of under the name of cups and saucers.

LILIUM HANSONI.—The soft reddish-orange flowers of this Lily are very effective, and when eight or ten of them are produced in a short pyramid, the beholder cannot be otherwise than taken with it. The stems attain a height of 3 ft. or 4 ft , making the species a useful subject for planting amongst Rhododendrons. Being a native of Japan it proves hardy here, and ought to enjoy more extensive cultivation. The anceolate leaves are produced in whorls, tier above tier.

ORIGANUM TOURNEFORTII.—More than a hundred years ago this ornamental species of Marjoram was introduced to this country from Armorgos; but in spite of its beauty has not made much headway in British gardens, a fact which is all the more to be wondered at considering its hardiness. It is of slow growth, and therefore highly useful for pot work. Propagation can be effected by division if carefully done, but a quicker increase may be accomplished with cuttings of the half-ripened wood inserted in pots of sandy soil and kept under a hand-glass or in a frame kept close. The rosy-pink flowers and bracts are very pretty. The plant usually grows about a foot in height, and does best in well-drained soil or upon rockwork.

DELPHINIUM FORMOSUM.—The species would not now be much appreciated where a collection of the newer and highly improved kinds exist. It is, moreover, one of the parents of the garden forms and was very much appreciated in its day. The finely cut foliage and bright blue flowers with small black petals in the centre are features, however, which still recommend the plant for border decoration. It should have the advantage of well-tilled soil to which manure is given at least occasionally.

PAPAVER NUDICAULE.—Where this is grown at all it is usually grown in quantity in beds, but that is no reason for omitting it from the herbaceous border proper. The plant as a rule is not long lived, but as it seeds freely there should be no difficulty in making a sowing of it in the herbaceous border every year. This may also be done in the reserve garden, and the plants transferred, so as to form clumps of some size at intervals in the front line.

POTENTILLA NEPALENSIS.—Amongst the unimproved Potentillas suitable for the herbaceous border, this is certainly one of the best, growing about 18 in. high and producing a profusion of rosy-purple flowers. The leaves are divided into five leaflets, and are such as to add to the general appearance of the plant. Although a native of the Himalayas, it is perfectly hardy in this country.

ON STRAWBERRIES.

WHERE there are Strawberry plantations to be formed for supplying fruit next season no time should be lost in getting the ground manured and deeply dug, if not already done, and the plants put in, because the sooner they are established the better will the crop be. Many growers consider August the best month to plant in, but I should prefer June, especially in northern parts, as then the plants have time to make a good growth and to rest before the cold damp days of winter set in.

Much harm has been done to Strawberry beds this season, but where we planted out good breadths last year of plants that had been forced, they are as nearly perfection as we could desire. The best cropper I have seen is President, and I might add that it is the hardiest variety I have seen in the north. It is somewhat difficult getting a supply of young plants for next year's fruiting in pots, but those who have a supply of plants which were pricked in during last autumn may not experience much difficulty; I, however, have never been very successful with such stock.

In the northern counties Strawberries are unusually late, and in some parts the plants have been entirely destroyed. Judging from the meagre exhibits at the Royal Caledonian Horticultural Society's Show the crops must be late and of poor quality.—*Stirling.*

A BORDER OF ANNUALS.

BY a little arrangement and scheming a border may be made to look gay from an early period of the year onwards at comparatively little trouble and expense. On an east aspect border by the herbaceous ground at Kew, a feature is made of Daffodils, which are planted somewhat widely apart with a few Violas, Liliums, and other subjects at intervals. The wall itself behind is covered with a great variety of climbing and other subjects, some of which are only half hardy, and have been flowering at intervals from the early spring onwards according to the kind.

Long before the leaves of the Daffodils had died away so that the bulbs might be lifted, annuals were sown in broad or narrow patches between them according to the space at command. After the Daffodils were lifted, the annuals grew and were allowed to spread naturally, until at present they occupy the border as if it had been entirely meant for them from the beginning. The old fashioned practice of sowing annuals in lines is objectionable on account of formality. By the free and easy method here practised all formality is avoided, as well as any trimming of the plants to keep them in their allotted positions, as well as staking.

The number of different kinds used is considerable, so that there is no necessity of repeating them except at considerable intervals along the long border. Among the earliest to become conspicuous were Phacelia campanularia, Eutoca viscida, Eschscholtzia crocea aurantiaca, Iberis umbellata and its varieties, as well as I. amara, which made broad patches of blue, orange, pink, and white respectively. On a fine day the blue, purple, white and striped varieties of Convolvulus tricolor in mixture make a fine display with their particoloured flowers. Similarly the broad patches of the procumbent composite, Venidium fugax, with orange flower heads and a brown centre, court the sun with a profusion of flowers that becomes dazzling to look upon. The Cornflower in mixture may recommend itself on account of its variety, but none of the colours excel in beauty the rich blue of the wilding. Laya elegans, with procumbent stems and yellow rays tipped with white, is quite charming. The dark foliage and crimson flowers of the Tom Thumb Nasturtium Empress of India are also very distinct in their way.

Many of the more popular kinds of Poppies have been utilised, including The Bride (a white variety of Papaver somniferum), Danebrog or Danish Flag, The Mikado, double fringed, rose and white, and Flag of Truce, double white, all varieties of the same species. P. glaucum, a new species with scarlet flowers, is also noticeable. Several varieties of Chrysanthemum carinatum are also grown, including that known as Tricolor Bnrridgeanum. The Corn Marigold (Chrysanthemum segetum) with its golden yellow flowers also deservedly finds a place. Calendula officinalis Orange King, an orange variety of the common Marigold, is also very conspicuous. The colours of the subjects already mentioned are very varied, more especially when sown in mixture, and the habit of the plants themselves further add to the diversity. The upright habited Larkspurs have double and semi-double, rose, pink, sky blue, purple, nnd violet-purple flowers. Those of Linum grandiflorum coccineum, Viscaria cardinalis, are intense red, Bartsia aurea, Golden and Yellow Sultan clear yellow. The latter is very valuable for cut flowers especially in mixture with other kinds. The profusion of orange and purple flowers of Linaria reticulata aurea-purpurea makes it a conspicuous plant during a great part of the summer. The large and deep mauve purple flowers of Malope trifida grandiflora are familiar objects in many gardens. Leptosiphon rosea covers the ground as with a carpet, bearing a profusion of flowers of the colour indicated by the name; and the procumbent Nemophila insignis is equally dwarf, but has bright sky blue flowers. There is variety enough in the ordinary formed flowers of Phlox Drummondi, but there is also a race with deeply cut and starry looking flowers of various colours.

If it had been attempted to fill this border by planting out annuals or other subjects raised in pots or boxes and grown on in frames, the labour would have been considerable. The expense would have been increased tenfold if it had been filled with Pelargoniums, Calceolarias, Fuchsias, Lobelias, or other summer bedding subjects. But all this has been simplified by sowing the annuals directly into spaces between the clumps of Daffodils, and now there is a profusion of flowers either for cutting, for ordinary decoration, or any other purpose to which annuals can be put. The Lilies have also been flowering for some time past.

BEGONIAS IN THE OPEN.

FINE effects are often obtained in the open garden that would never be dreamt of in the case of the same subjects indifferently grown in pots under glass. This behoves raisers of new Begonias and other subjects to make fair trials of them in the open ground. It occasionally happens that new plants find their way out of the country, and being subjected to experiments of this kind come back with great eclat as bedding plants, a distinction they might well have earned at home. The climate of France, moreover, is warmer than ours, and Begonias frequently do better there, not because there is less rain, but because the warmth is greater. Begonias will grow and flower freely whether the summer is wet or dry provided there is plenty of heat; cold weather simply retards their growth.

We recently noted a bed of Begonias on trial as bedding plants at Chiswick, in the gardens of the Royal Horticultural Society, having been sent there by Messrs. Sutton & Sons, of Reading. Several different kinds are on trial, including the dwarf woolly-leaved and scarlet-flowered B. Frœbelli, usually considered a winter-flowering species; some flowers were, however, open about a fortnight ago. Another named B. Meteor appeared to be a variety of the tuberous B. Pearcei, but was not in bloom. The obliquely cordate and lobed leaves were olive-green above with paler nerves, and were lying close to the ground. A taller sort named Afterglow is of the same habit as Knowsleyana, with glowing red stems, petioles, and sepals while in bud. The leaves are also tinted red, and the stems at present 3 in. to 6 in. high. As the flowers expand, they become paler and are blush or almost white internally. A similar dwarf sort is Princess Beatrice, with small,

smooth leaves, and much branched red stems. The flowers are pink in bud, and white or pale pink when expanded, and produced in great profusion. That named Fairy Queen, with small, bronzy, and hairy leaves, is evidently a variety of B. Schmidti, and apparently closely allied if not identical with a Continental sort named B. Carrieri. It is very dwarf, at present only about 3 in. or 4 in., freely branched, and bearing a profusion of small flowers that are pink in bud and almost white when expanded.

The attention of the beholder is soon centred on three varieties of B. semperflorens planted in the middle of the bed. B. s. Duchess of Edinburgh has large, light, shining green nearly stalkless leaves; and the ovaries and sepals while still in bud are of a bright carmine-red, paler internally, or rose and white. Alongside of it is the most striking plant in the bed, namely B. s. Crimson Gem, notable for the bronzy metallic lustre of its leaves, which are somewhat smaller than those of Duchess of Edinburgh, and often curled inwards at the base. The flowers are of a brilliant carmine-crimson in bud, but more of a crimson-red when expanded. The rich colours both of the flowers and leaves, but especially of the latter, have been brought about by exposure to the weather in the open ground, and may be expected to become paler later on even if the foliage does not become green altogether. None of the other varieties, however, have been effected in the same way, so there can be no doubt that some distinction in the leaves of this variety exists which is not present in the other varieties of B. semperflorens, which have retained their ordinary light shining green hue under the same conditions of exposure. A line of smaller plants surrounding a bed in another part of the garden close by seems identical with Crimson Gem, although under the name of B. s. rubra Vernon's var, from Messrs. Vilmorin, Andrieu & Co., of Paris. Altogether lighter in hue is Reading Snowflake, in fact it is paler in hue than Duchess of Edinburgh. The flowers are white in bud, but nearly white when expanded, and no doubt would be pure white under glass. Exposure to the weather and all its concomitant circumstances has always the effect of deepening the colours of the flowers of Begonias as well as the foliage to some extent. The foliage of Crimson Gem is none the less handsome even if it is not permanent.

GARDENING MISCELLANY.

NEMESIA VERSICOLOR.

Some of the prettiest of annuals have not yet come to be recognized by the general public, and N. versicolor is amongst them. It is a South African annual, and does best perhaps when raised in pots in a cold frame and afterwards planted in the open ground to flower in July. If sown in the open ground in May it would of course flower much later, but would nevertheless be very beautiful and much appreciated even then. The flowers are produced in shortened terminal racemes, almost resembling a corymb in the early stages. They are two lipped and owe their beauty to the variable colours of the two lips of the corolla. The upper lip is deeply four lobed, reminding us of what occurs in Schizanthus, bright blue on the inner face and purple externally; the lower lip is bifid and white with four yellow ridges forming a palate closing the throat of the flower, or the two lateral ridges may be blue. Thus then we have blue, red, white, and yellow colours in the flowers, and all may be seen at one view intermingling with one another, when the beholder is looking at a clump of plants. It grows about 6 in. to 12 in. high, and flowers all the summer after coming into bloom. The lower leaves are very few, ovate, and stalked, but the stem leaves are numerous, lanceolate or linear, and stalkless. Altogether it is a neat and pretty plant.

STATICES AND DIPLADENIAS.

These are remarkably well grown among many other things in the garden at Caundon Court, Coventry, the residence of George Singer, Esq. The former are represented by magnificent specimens of S. Butcheri and S. profusa, the former measuring 7 ft. over the head of bloom, and the latter 4 ft. The Dipladenias include specimens of amabilis, ornata, Elliottiana, and Boliviensis, and the three first named carried over fifty expanded blooms each, besides buds, while D. Boliviensis carried a perfect mass of its pure white flowers and was very attractive. One seldom sees these plants so well done, and Mr. Whatton, the gardener, certainly deserves high praise for their skilful management.—*Rusticus.*

DIANTHUS ATKINSONI.

To all appearance this is closely allied to another hybrid Pink named Napoleon III., and which in some parts of the country appears of delicate constitution, while elsewhere it grows and flowers like a weed. The variety under notice has relatively large flowers produced in cymose panicles, on stems about a foot high. Like all the other hybrid Pinks of this class the leaves are of a uniform deep green and therefore entirely different from the glaucous hue of the ordinary garden Pink. There are three distinct colours in each flower and all are very rich; the outer zone is carmine-red followed by a scarlet or crimson zone, while the basal portion of each petal is rosy purple. The wedge-shaped petals are slightly toothed along the outer edges. Each stem bears twelve to eighteen flowers, which in the mass are very conspicuous and telling. It may be seen on the rockery at Kew.

BROWN'S ROSE.

The Himalayan form of the Musk Rose (Rosa moschata) was at one time considered a distinct species; then it was believed to be synonymous with R. moschata, but now Rose growers and authorities make Brown's Rose a variety under the name of R. moschata Brownii. The typical Musk Rose is a native of South Europe. Brown's Rose, although single flowered, is very showy on account of the profuseness with which it flowers during June and July. The flowers are white, with a mass of orange yellow anthers in the centre and are highly fragrant. The leaves are of large size as the plant itself, so that something must be given it to ramble over and support its long and vigorous stems.

CUT FLOWER WORK.

I could not help thinking the other day when in the shop of Messrs. Perkins & Sons, at Coventry, how many valuable lessons in the art of making up flowers they have given in all parts of the country, by exhibiting their choice productions at flower shows alone. A great number of young ladies are employed in the business, and nimble as they are in putting flowers together, their energies are severely taxed at times to get off the orders which come in from all parts.—*Rusticus.*

SALVIA PRATENSIS BAUMGARTENII.

The typical form of this is a British wilding and has large bright blue flowers, while that under notice has very slightly smaller flowers, produced in much greater abundance. The lower lip is deep blue and the upper one bluish purple. The plant grows about 3 ft. high, and the flowering stems are produced in such abundance that they form a mass which is very conspicuous even at some distance off. It is therefore highly suitable for border decoration, and would be no less useful in the wild garden if it is as hardy as the typical S. pratensis, and which it has every appearance of being. A large and very floriferous plant may be seen in the herbaceous ground in the Royal Gardens at Kew.

THE VEGETABLE GARDEN.

French Beans.

In few districts north of the midland counties of England can a dish of French Beans be gathered in the open at present, and they are not likely to be a success at all in the north this year. From plants protected under handlights and in pits we can get supplies; but in the open air, even on a south border, the plants look starved and stunted. While listening to the complaints of friends, I could not help thinking that they have not all done their best to raise this vegetable, which is so much valued on every well-appointed dinner table. When bedding plants, forced Potatos, and other things are removed from frames and other shelter-giving structures, French Beans can be planted, either plants raised in small pots or the seed sown, and be materially helped forward by closing up early, and covering with mats at night. At the present time, or at all events before the month is out, any such structures may be turned to account for providing late supplies. During the autumn French Beans are much valued when Peas become scarce. There are some experienced cultivators in the north who do not depend on French Beans from the open ground at all.—*Stirling.*

Broad Bean Multum in Parvo.

Broad beans are not guilty of growing to a great height under favourable conditions even, but the variety shown at the Drill Hall on the 12th inst., by Messrs. J. Veitch & Sons, was remarkably small in various respects. The stems varied from 12 in. to 18 in. high and were branched at the base, thus sending up several shoots nearly as vigorous as the primary axis. The pods were perfectly cylindrical, but only 1½ in. to 2 in. long, and closely filled and packed with oblong, light green seeds, exactly filling the pod internally. It is evidently very prolific judging from its branching character, and there is a great economy of material in all parts of the plant and its fruit. The pods of Broad and also Long Pod Beans usually contain relatively few large seeds, while great part of the interior of the pod is wasted. This is not the case with Multum in parvo; the seeds are about the size of those of Kidney Beans, but they were too far advanced and too near maturity when exhibited for us to ascertain their quality for culinary purposes. The variety may evidently be reckoned upon for hardiness and earliness, and is certainly very distinct.

SCOTTISH NOTES.

The Rose Bloom.—It is certain that Roses are at least a fortnight later than usual in flowering, and some of the great growers who often exhibit such fine selections at our flower shows complain of want of colour in most of the blooms. The weather having for weeks past been cloudy, damp, and cold may account for the lack of brilliancy, but we have no control over such things. There is a practice, however, current among Rose growers which they have complete control over, and which should be put down. I refer to the practice of folding back the outer petals of the flowers they stage, which gives them an unnatural appearance and robs them of much of their beauty. This sort of "dressing" may help to secure prizes from some judges, but those who know their business will be more likely to pass them over for what they are—malformed flowers. We recently heard two leading Rose growers from the south commenting upon this system of turning down the petals, and their opinions were decidedly the reverse of favourable. There is no objection to the cutting of flowers half developed, and before they are left in the stand to blow them out to their natural size. I have a number of such blooms near at hand as I write, cut and placed in water ready for packing on the morrow, when they will be blown out, as I find such blooms travel much better than those allowed to fully develop themselves on the plants. Some of your readers may find this a useful hint.—*Stirling.*

Royal Horticultural Society of Aberdeen.—The acting directors of this society held a meeting on the 16th inst. In the absence of Colonel Crombie through indisposition, Mr. Alexander Robson, of Messrs. W. Smith & Son, seedsmen, was called to the chair. It was announced that special prizes had been received from Her Majesty the Queen, the Duke of Fife, and H.R.H. the Duchess; Messrs. Doulton & Co., Lambeth, etc. After careful consideration, it was agreed to give the Queen's prize—a handsome solid silver salad bowl—for the best collection of plants in pots. The Fife prize was awarded for a bouquet of wild flowers, open to boys and girls under 16 years of age, and for which no entry fee will be charged. Messrs. Doulton's valuable prize will be given for a collection of cut flowers arranged for effect.

Should the floral gala and military tournament result in a financial success, it is proposed to increase the prize money offered in the schedule *pro rata* to the extent of 50 per cent. The gala takes place at Central Park, Kittybrewster, Aberdeen, on 18th, 19th, and 20th August. On Saturday, 20th August, special trains, by which return tickets at cheap fares will be issued, are to be run by the Great North of Scotland Railway Company from Ballater, Alford, Peterhead, Fraserburgh, Macduff, Keith, Banff, Elgin, and intermediate stations. The directors are sparing no pains to make the exhibition a useful and interesting one, and as the season is rather a late one it is expected that the exhibits will be in capital condition at the date of the show.

SPRAYING BY HORSE POWER.

A PUBLIC trial of a new machine for spraying Potatos with the Bordeaux mixture took place recently on the farm of Mr. Thomas Scott, at Ditton Court, Aylesford. The machine is brought out by Strawson's, Limited, and Mr. G. F. Strawson was present to explain the principles of its construction, etc., on behalf of the company.

The object of the experiments was to demonstrate the capability of the machine for dressing with the Bordeaux mixture the under surface of the Potato leaves effectively and at the same time rapidly, and all expectations with regard to the machine were certainly amply fulfilled. The machine itself is of an entirely new kind in this country. It is of light appearance and travels upon high wheels to carry it over the Potato tops, the parts most conspicuous being the tank for liquid, the pump, the arrangement of tubes on a horizontal support, and the nozzles, which hang down from the horizontal bar to the ground. The machine is provided with starting and stopping gear, an automatic agitator, and arrangements by which the nozzles may be adjusted both to the width of the Potato rows, and the proper height from the ground. The nozzles, which are worked from close to the ground, can also be turned in any direction and so fixed. One extremely useful qualification which is not apparent at first sight is found in the way in which the force of the liquid is regulated and the manner in which the pump can be instantly disconnected and changed into a hand force-pump. This serves two very useful purposes. One is that by reversing the feed and delivery pipes and screwing a gauze nozzle on the former, the tank can be refilled by the hand-pump, direct from the tub or other vessel containing the Bordeaux mixture, which enters the tank perfectly strained. This is a most convenient and valuable device as every particle in a badly strained mixture is apt to block the orifice of the nozzles and cause delay.

The machine works very lightly and the horizontal tubes spread out over 17½ ft. of Potatos, thus dressing, as fast as a horse can walk, seven rows of Potatos, each 2½ ft. apart. Between each row a pair of nozzles hang down, nearly touching the ground, and send up a fine spray beneath the leaves of the Potatos.

On commencing operations, the long horizontal pipes (which are capable of being shut up) were extended to the full width and the tank was pumped full of the copper mixture. The feed was turned on, and the horse started at a quick walk down the field, and it was speedily demonstrated that the machine was a success, and could rapidly and perfectly do its work, inasmuch as whilst the horse was travelling with the machine over six acres per hour were being covered. It was remarked that whilst this wheeled machine could be used, it could do the spraying more evenly as well as more rapidly than is possible by hand. The only question that arose was as to the quantity of mixture put on. This is in itself an open question, and one which experience alone can determine, but it is very satisfactory to know that whatever quantity is wished for the same machine can put it on without the cost being added to.

On the whole the experiments were quite a success, and large Potato growers have now at their command for the first time a machine that can, on a rapid scale, spray the Bordeaux mixture on to their crops to check the fearful ravages of the disease.

THE APIARY.

BEES FOR PLEASURE AND PROFIT.—Under this title we have received from Messrs. Crosby Lockwood & Son, a cheap work on "Bees, and their Management," by Mr. G. Gordon Samson. It is intended to meet the requirements of beginners in Bee culture; but a careful perusal has not convinced us that it will do so—on the contrary, on a good many points what the author has to say is rather calculated to lead the tyro astray. He states that he has been careful to compare the highest authorities, and to obtain the information on which he bases his conclusions from the best sources, etc. Unfortunately in so doing the author, or compiler perhaps we should say, has not been able to discriminate between that which is reliable and that which is error. For instance we read: "The drones are produced at swarming time, their sole use being to mate with the young queens, as they do no work at all." Any one acquainted with the ways of bees must see that such a statement is entirely wrong. The fact is that the drones being what may be termed "stay at homes," and larger than the working bees, occupy more space and help to keep up the necessary temperature of the hive, thus enabling the workers to go out foraging.

Again the author states that "a bee never gathers pollen from more than one kind of flower in a single journey, and it is owing to this wonderful provision of nature that we do not have different species of flowers crossed with one another." We have seen bees deviating from this rule very considerably, and hybridisers do not want to be told that there is something beyond the visits of bees to different species of flowers to account for their not being universally successful as cross-fertilisers. The author also appears to be confident in putting forward the theory that anyone will in time become sting proof. After twenty years' experience in bee management we do not share that confidence, at all events we are still waiting for the period of immunity to come. We have had as many as forty stings at one time, and had our hands so much swollen that we could not close them. When stung now the swelling is as bad as ever, and we should be glad to know how much longer it will continue.

There are of course a good many useful hints to be found in Mr. Gordon Samson's pages, but there is much also that a beginner should attach no importance to. We specially deprecate the overmuch handling of the bees as recommended. Bees if they are to gather honey must be left alone, and the less they are interfered with the better they like it.

ORCHID NOTES AND GLEANINGS.

Calopogon pulchellus.

THE original introduction of this was made in 1791, and one cannot help feeling surprised that it should be so little known or seldom seen. It is a native of North America, is terrestrial, and should be almost if not quite hardy. There is only one leaf to a stem and one of the latter from a tuber; the leaf is lanceolate and reminds one of that of a small Gladiolus or an Ixia rather than an Orchid. The stems grow 12 in. to 14 in. high bearing a raceme of rose-coloured flowers. The upper sepal is lanceolate, the lateral ones broader, and the petals similar. The lip is three-lobed, with three deep purple ridges on the claw of the middle lobe, ending in projecting plates in front of which is a beard of pale or deep yellow hairs; the lateral lobes are small and tooth-like. It is said to be suitable for a shady position at the foot of rockwork. A pan of it was shown by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, at the Drill Hall, on the 12th inst., when a First-class Certificate was awarded.

Epidendrum tampense.

A LARGE number of the Epidendrums have ovoid pseudo-bulbs, and long, leafless flower stems; that under notice comes in this group. The scape varies from 18 in to 24 in. in length, and is more or less panicled. The sepals are lanceolate, the petals slightly more spathulate, and pale brown with a yellow edge. The lip on the contrary is more conspicuous and pretty, with a white terminal lobe having a large, clear purple blotch in the centre; the lateral lobe are white, and more or less tinted with yellow. Although not strikingly pretty it is certainly showy. A Botanical Certificate was awarded it when shown by C. J. Lucas, Esq. (gardener Mr. G. Duncan), Warnham Court, Horsham, at the Drill Hall, on the 12th inst.

Phalænopsis Artemis.

IN this we have a hybrid between P. rosea as the seed parent, and P. amabilis usually known in gardens as P. grandiflora as the seed parent. The leaves are oblong-elliptic and of a light green. The sepals are oblong-lanceolate, and white with a pale purple midrib externally. The petals are rhomboid and white, with a pale purple midrib on both surfaces, but only at the base of the inner face. The terminal lobe of the lip is purple, with orange-buff angles at the base; and the latter hue extends on to the edges of the lateral lobes, which are also shaded with purple and spotted with crimson at the base; the tendrils are very short and slender. An Award of Merit was accorded it when shown at the meeting of the Royal Horticultural Society, on the 12th inst., by Messrs. J. Veitch & Sons, Chelsea.

Cypripedium Stonei candidum.

THE leaves of this variety are of the usual, ligulate type, stiff and leathery. The upper sepal is roundish and white on the inner face, but heavily suffused with brown externally; the lower sepal is large and nearly as pale. The absence of colour on the inner face is the characteristic feature of this variety. The petals are linear, pale yellow, spotted with brown along the centre, twisted and brown on the apical half. The lip is netted and suffused with pale brown on a pale yellow ground. The staminode is a striking feature in this species on account of its size, and is margined with yellow hairs. A plant of it was exhibited at the Drill Hall on the 12th inst., by Messrs. Pitcher and Manda, Hextable, Swanley, when an Award of Merit was accorded it.

Dendrobium crystallinum General Berkeley's Var.

A PLANT of this variety, shown at the Drill Hall, on the 12th inst., by Major-general E. S. Berkeley, Spetchley House, Bitterne, Southampton, had stems about 12 in. to 15 in. high. The sepals were white, thinly speckled with purple on both surfaces and darker at the tips. The petals were elliptic and deep, rich purple at the tips, otherwise similar to the sepals. The lip was cucullate, golden yellow at the base surrounded by a white zone and deep purple at the tip. The extra amount of colour is the characteristic of the variety. An Award of Merit was accorded it.

Miltonia Vexillaria.

THERE is a lovely display now to be seen of this fine New Grenadan Orchid in the collection of that enthusiastic orchidist, George Hardy, Esq., at Pickering Lodge, Timperley. There are upwards of 500 spikes beautifully arranged in one of the houses, and needless to say the plants are in grand health and wonderfully flowered. They also include every shade of colour to be found in this variable species. Mr. Holmes, the grower, is much to be congratulated on his success with this as with most other Orchids, for every department shows evidence of his great care and skill.—*Rusticus.*

WHAT TO DO IN THE GARDEN.

Poinsettias.—Pot off the earlier struck batches when well rooted, and if they can be transferred to a heated frame, where they can have the advantage of artificial heat in dull or cold and wet weather, they will proceed apace. By being near the glass the stems will be kept sturdy and short jointed. Cuttings may be put in now, for the latest batch to be flowered in 48-size pots. The cuttings should be inserted singly in thumb pots, to avoid check when put into their flowering pots later on.

Winter Flowering Begonias.—The stock of this class of plants should be put in their flowering pots without further delay. Keep them rather close for a time until established in the fresh soil, when they may be freely ventilated or put in a house where they can have plenty of air and light.

Euphorbia fulgens (jacquiniæflora).—The batch of this Euphorbia intended for winter flowering should be kept in a rather high temperature and well exposed to light. A pit, Pine stove or vinery at work may be used for this purpose, always remembering that the plants must be kept near the glass to obtain the best results. A shelf near the glass would answer the purpose admirably if other suitable accommodation cannot be had.

Intermediate Stocks.—Late sown plants, or those that were pricked out in the open after the others were put in the beds, would come in useful for pot work now that the rains have enabled them to make free growth. The lifting will act as a check and prevent them from growing too luxuriantly, while the start they have made would have required much attention to get if they had been potted off from the seedling boxes.

Peaches.—If the lights of the earliest houses are moveable they may be taken completely off by the end of this month so as to give the wood a better chance to ripen. The absence of sunshine last autumn had a very bad effect upon trees grown under glass, for those in the open air ripened their wood and set blossom buds much better, and the fine show of buds in spring and the crop of fruit they are now bearing testifies to this fact.

Cucumber Houses.—The present is a good time for getting the house in good order for the cultivation of Cucumbers in winter. This can the more readily be done at present, when a plentiful supply can be obtained from cold frames heated in the early part of the year by fermenting manure. Thoroughly clean out the house or houses, removing plants and soil alike. Then wash down the woodwork and glass, whitewash the brickwork with hot lime, and paint all the woodwork, keeping the ventilators open so as to sweeten the interior. They may remain empty for some weeks or be filled with zonal Pelargoniums or such things as will not be likely to import insects that would be prejudicial to the Cucumbers, till the time arrives for making up the beds.

Melons.—A late batch may now be planted to come into use in autumn. The plants intended for this purpose should be strong and ready to plant out of pots at once. Where a succession is desired the plants should of course be of different ages and planted at intervals accordingly along the two sides of a span-roofed house which gives the best results during the waning light of autumn. Lean-to houses are of course serviceable for very late as well as very early crops, because the heat can more easily be conserved when so protected by a brick wall affording shelter from the north.

Open-air Ferneries.—The access of heavy rains has proved very beneficial in the south, and if anything like general will have done much to repair the effects of drought during the month of June. Watering in such cases will therefore be unnecessary, and the Ferns should soon be at their best. It will be advantageous to go over the whole to pull out the weeds, also the common Bracken where it is coming up to the injury of other kinds. See also that the smaller ones are not being injuriously overhung by the larger kinds, otherwise they will give a poor account of themselves next year if they appear at all.

Winter Onions.—The ground for this useful crop must be prepared at once by deep trenching and heavy manuring with good well-fermented cow manure where it can be obtained. A piece of ground should be selected that has grown an entirely different kind of crop, such as Cabbages, Peas, or Potatos. Furthermore, it should be in a well-exposed position, uninfluenced by overhanging trees or other objects that would shade the ground prejudicially and affect the vigour of the Onions. After trenching the ground should be well trodden, dusted with soot, then raked level and the lines drawn out for sowing the seeds about the beginning of the fourth week of this month.

Vegetable Seeds.—Seeds of the most useful kinds of Cabbage for early spring use may be sown about the end of this month. Ellam's Early and Earliest of All are amongst the best for the first supply in spring. Early York, the dwarf variety, Early Etampes, St. John's Day, and Enfield Market are good useful kinds, and preference should be given to them for winter work Lettuce of various kinds, as well as Endive, may be sown for autumn and early winter use. A sowing of French Beans may be made on the chance of having a sufficiently mild autumn to bring them to a size fit for use.

QUESTIONS AND ANSWERS.

**** Correspondents are requested, in order to avoid delay, to address all communications to "The Editor" or "The Publisher," and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa, London."*

Strawberries not flowering.—*G. E. G.*: If you make a plantation of runners lifted from the open ground, we should advise you to do it about the end of this month, or failing that, do it as early in August as possible, so that the plants may have time to form and ripen their crowns before winter. If the runners are layered in pots, next month will be early enough to plant them. When selecting runners for a plantation, be sure you take them from plants that have flowered and fruited, because it seems that certain individuals are inclined to be barren, and if a large number of runners is taken from the latter, the chances are that your young plantation will be comparatively fruitless. Plants that are not hampered by the production and ripening of fruit generally produce a great number of good runners.

Red Briony.—*M.*: The flowers you sent us were all off the male plant, consequently you cannot expect it to produce berries. We are not aware that any nurseryman grows the plant for sale; it is generally too easily obtained from the hedgerows in districts where it grows, and we would advise you to get it from the same place. Examine the hedgerows a little later on when the plants are in fruit, and trace the stems until you come to a tuber of a berry bearing plant, then mark this tuber and dig it up in autumn or spring, transferring it to the garden.

Winter Lettuce.—*Omega*: We understand that what you want is Lettuce to be fit for use late in autumn and early in winter. If so you may sow at once some of the hardier sorts of Cos Lettuce, such a Brown Cos or Green Paris Cos. Or on the o her hand Hammersmith Hardy Green Cabbage Lettuce. If your intention is to keep the plants through the winter for early spring use, then make a sowing about the middle of August, and again about a month later. When the seedlings attain sufficient size, plant them out in some sheltered position, such as the foot of a south or west aspect wall. Snowball Turnip is almost universally grown about London for kitchen use, and is the only Turnip grown for market by the market growers. It is pretty well known amongst private gardeners, however, that the Golden Ball Turnip is of better quality than the white kinds and is even more hardy. Chirk Castle Black Stone is a very hardy kind, but you might not like it so well as the above. Sow at once; about the middle of July is the best time in the south, and for the north the beginning of July is best.

Names of Plants.—*Ellergreen*: 1, Begonia weltoniensis; 2, Nephrolepis exaltata; 3, Cystopteris fragilis; 4, Santolina Chamæcyparissus incana; 5, Sidalcea malvæflora; 6, Doronicum Pardalianches; 7, Lamium maculatum.—*Omega*: 1. Field Restharrow (Ononis arvensis); 2, Yellow Bedstraw (Galium verum); 3, Spanish or Sweet Chestnut (Castanea sativa).—*Levenshulme*: The climber with brown flowers was Periploca græca; the other Gilia capitata.—*H. W.*: 1, Asplenium (Athyrium) Filixfœminum; 2, Pteris tremula; 3, Scolopendrium vulgare cristatum; 4, Nephrodium molle; 5, Pteris cretica alba-lineata; 6, Adiantum hispidulum; 7, appears to be a Eupatorium, please send when in flower; 8, Diefenbachia Bausei to all appearance.

Begonias.—*W. H. G.*: Don't pick any more flowers off, but let all come away that will, and then remove the oldest flowers about a fortnight before the show. There is not much gained by continually picking off the buds, because the stems will continue to produce flowers as long as they keep growing. For a September show we should start the tubers as late as possible, and keep the plants as cool as possible and near to the glass. Don't forget that the Begonia loves liquid manure in moderation.

Caper Spurge.—*A. H.*: The specimens sent were those of Euphorbia Lathyris, the fruits of which are used for pickling to make Caper sauce. The bulk of the fruits on the specimens sent were too far advanced for the purpose. In fact, many of them were approaching a state of maturity, and in that condition would be of little use, because the interior portion of the seed vessel gets woody and could not be eaten. Generally speaking, we should say that the fruits should be gathered when half grown and still quite soft. The gathering must therefore be effected at different times as the fruits attain the proper size. Of their present commercial value we cannot say much, but as the plants fruit more freely than the real Caper plant in Europe we fancy they would frequently be used for the purpose of adulteration even if not sold by themselves. We have no evidence that the plant is put to any other purpose than those above mentioned, but we have little doubt that the fruits are poisonous to a certain extent, as are all those of the other Euphorbias, and if eaten in any quantity cannot be otherwise than deleterious and injurious to health.

Everlasting Pea.—*H. Gibb*: Being a perennial and moreover of slow growth, you cannot expect your seedlings to flower the first year, nor very much the second year unless you have sown them in fairly good soil so that they may get thoroughly established by the end of the season, and have made good crowns. In each succeeding year, however, the amount of growth they will make and the quantity of flowers they will produce will astonish you. You have done right in sowing the seeds in the place where you wish the plants to remain, as they thereby get the sooner established. They could not be expected to give great satisfaction till they have got thoroughly established, that is, deeply rooted in the soil.

Strawberry Runners.—*G. Eason*: Generally speaking the first runner developed by a plant is the strongest and therefore the best either for making a new plantation or for fruiting in pots. There are some varieties of Strawberries which seem to devote their whole energies, or mostly so, to the production of runners, and instead of producing a strong young plant at the first joint, they develop a weakly one or none at all, and sending out several branches from the primary one develop young plants at their tips. The first good plantlet that makes its appearance should be selected, cutting away all runners that are produced beyond it. This may further be encouraged by putting the roots in a small pot sunk in the ground and filled with a rich compost. No check will be given the plants in repotting or transferring them to another piece of ground to make a fresh plantation.

Young Cauliflower Gnawed.—*Puzzl d One*: The case you state often results from the work of fleshy-looking or stout-bodied brown caterpillars or grubs that rest by day just under the surface of the soil and close to their food plants. They are the larvæ of some or other of the species of Heart and Dart Moths (Agriotis), which often infest gardens as well as fields and cut through the roots or the stems of plants just under or upon the surface of the soil. By a little patient searching of the soil just round the necks of the plants, you may generally detect the depredators, and the remedy is then in your hands.

Communications Received.—W. K.—H. T.—J. G.—G. W.—J. D.—S. C.—A. H. (your communication is not authenticated with your name and address, and cannot therefore be published.)—G. B.—H. J. V. H.—M. T.—G. W. C.

TRADE CATALOGUES RECEIVED.

Thomas Methven & Sons, 15, Princes Street, Edinburgh.—Dutch and other Spring-flowering Bulbs and Roots.

E. H. Krelage & Son, Haarlem, Holland.—List of Darwin Tulips.

LONDON SEED TRADE.

July 19th, 1892.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report larger supplies of new English Trifolium incarnatum. Owing to high prices dealers decline to operate. New German White Clover is being offered; samples are bright in colour, but weedy. Mustard and Rape steady.

COVENT GARDEN MARKET.

July 20th.

Fruit.—Average Wholesale Prices

	s. d	s. d.		s. d.	s d
Black Currants ½ sve	5 0	5 3	Pine apples.		
Red Currants ..½ sve.	3 0	4 0	—St. Michael's, each	2 6	6 0
Cherries .....½ sve.	3 0	4 6	Strawberries per lb.	0 3	0 9
Grapes..... per lb.	1 0		Tasmanian Apples		
Peaches... per dozen	2 0	10 0	per case...	2 6	5 0
Mel ns.....each	1 6	2 9			

Vegetables.—Average Retail Prices.

	s. d.	s. d.		s. d.	s. d
ArtichokesGlobe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Beans, French, perlb.	1 6	2 0	Lettuces ...per dozen	1 6	2 0
Beet..... per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages ... per doz.	1 6	2 6	Onions.....per bunch	0 4	0 6
Carrots ... per bunch	0 6		Parsley ... per bunch	0 6	
Cauliflowers, Eng.dz.	3 0	6 0	Radishes... per dozen	1 6	
Celery.....per bundle	2 6		Smallsalading,punnet	0 4	
Cucumbers .....each	0 6	1 0	Spinach, per strike ...	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 9	1 3
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys 80s. to 100s. per ton; Champions, 70s. per ton.

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d
Arum Lilies, per doz.	6 0	9 0	Ivy Pelargoniums, per		
Begonias ...per doz.	6 0	12 0	doz. pots	4 0	6 0
Crassula ...per doz.	12 0	24 0	Lilium Harrisii, doz.	12 0	24 0
Cyperus .....per doz.	4 0	12 0	Lobelia, ...per doz.	2 6	4 0
Dracæna term., doz.	24 0	36 0	Marguerites, perdoz.	6 0	12 0
Dracæna viridis,doz.	9 0	18 0	Mignonette, per doz.	4 0	6 0
Evergreens,invar.doz	6 0	24 0	Musk, ...per doz.	2 0	4 0
Ferns, invar.,per doz.	4 0	18 0	Palms in variety,each	2 6	10 0
Ferns, small, per 100	8 0	12 0	Palms, Specimen ...	15 0	63 0
Foliage Plants, doz.	12 0	60 0	Pelargoniums,perdoz.	6 0	12 0
Fuchsia, ...per doz	3 0	8 0	—scarlet .....per doz.	3 0	6 0
Heliotrope, per doz.	4 0	6 0			

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d
Arum Lilies, 12 blms.	2 0	4 0	Moss Roses, dz bchs	6 0	12 0
Bouvardias, per bun.	0 6	1 0	Pelargoniums, 12 sps.	0 6	0 9
Carnations, 12 blooms	1 0	3 0	— scarlet.....12 bchs.	3 0	4 0
Carnations, doz. bun.	4 0	6 0	Primula, double, bun.	0 6	0 9
Cornflower doz bnchs	1 6	3 0	Pinks .....doz. buns.	2 0	4 0
Eucharis ...per doz.	2 0	4 0	Pansies, doz. bchs ...	1 0	2 0
Gardenias 12 blooms	1 6	4 0	Pyrethrum doz bnchs	2 0	4 0
—..... doz. spikes	1 6	3 0	Orchid Bloom in var.		
Gladioli...doz. buns.	6 0	12 0	per bloom, from	0 2	0 8
Heliotropes,2 sprays	0 3	0 6	Roses, doz bunches	2 0	6 0
Lilium Cand.dum,			Roses, yellow, dozen	2 0	4 0
doz. bun.	12 0	24 0	— Red..... doz. blms.	1 0	2 0
Lilium Harrisii,			— Saffrano...per doz.	1 0	1 0
doz. blooms	2 0	4 0	— Tea ..... per dozen	0 6	2 0
Liliums var., dz.blms.	0 6	1 6	Spiræas...doz. bnchs	4 0	6 6
MaidenhairFern,12bs.	4 0	6 0	Stephanotis, dz. sps.	1 0	2 0
Marguerites, 12 bun.	2 0	4 0	Stocks .....doz. bun.	3 0	6 0
Myosotis or Forget-			Sweet Peas, dz. bns.	2 0	4 0
me-not, doz. bnchs.	2 0	4 0	Sweet Sultan, dz. bn.	2 0	4 0
Mignonette... 12 bun.	1 6	4 0	Tuberoses, per doz	0 4	0 6

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FLOWER SHOWS, &c., 1892.

[The Editor will be greatly obliged if Secretaries of societies will communicate to him the dates of their exhibitions as soon as fixed.]

JULY.

26.—Royal Horticultural Society: Committee Meetings at Drill Hall, National Carnation and Picotee Show.
26.—Beckenham Flower Show.
27.—Hessle Flower Show (2 days).
27.—Bishops Waltham Flower Show.
28.—Southwell Rose Show
28.—Halifax Rose Show.
28.—St. Ives Flower Show.
30.—Brighton "New" Horticultural Society (2 days).
30.—Ripley Rose Show.
30.—Southampton Flower Show (2 days).

AUGUST.

1.—Cottagers' Show at Earl's Court.
1.—Beddington and Carshalton Flower Show.
1.—Mansfield Flower Show.
1.—Northampton Flower Show (2 days).
2.—Oxford Union Carnation Show.
2.—Abbey Park, Leicester, Show and Gala.
9.—Royal Horticultural Society: Committee Meetings at Drill Hall.
10.—Sevenoaks Flower Show.
10.—Queen's Park, Longton, Flower Show.
11.—Taunton Deane Flower Show.
12.—Cheadle Flower Show (2 days).
17.—Shrewsbury Flower Show (2 days).
17.—Cardiff Flower Show (2 days).
18.—Aberdeen Flower Show (3 days).
20.—National Co-operative Flower Show.
23.—Royal Horticultural Society: Begonia Conference, etc., at Chiswick (2 days).
24.—Kingswood, Gloucester, Flower Show.
25.—Droitwich Flower Show.
25.—Kenilworth Flower Show.
29.—Cresswell Flower Show.
29.—Sheffield Flower Show (2 days).
30.—Brighton and Sussex "New" Horticultural Society's Show (2 days).
31.—Bath Floral Fête (2 days).
31.—Bishop Stortford Flower Show.

SEPTEMBER.

1.—Oxford Flower Show.
2.—National Dahlia Show at the Crystal Palace (2 days).
6.—Royal Horticultural Society: Committee Meetings at Drill Hall.
7.—National Chrysanthemum Society's Show at Royal Aquarium (2 days).
7.—Royal Caledonian Horticultural Society (2 days)
9.—Autumn Flower Show at Earl's Court (2 days).
10.—Leicester Early Chrysanthemum and Dahlia Show.
20.—Royal Horticultural Society: Committee Meetings at Drill Hall.
28.—National Chrysanthemum Society: Meeting of Floral Committee.

OCTOBER.

4.—Royal Horticultural Society: Committee Meetings at Drill Hall.
5.—Fruit Show at Earl's Court (3 days).
12.—National Chrysanthemum Society's Show at the Royal Aquarium (3 days).
18.—Royal Horticultural Society: Committee Meetings at Drill Hall.
25.—Fruit Show at Earl's Court (3 days).
26.—National Chrysanthemum Society: Meeting of Floral Committee.
27.—Alverstoke and Gosport Chrysanthemum Show (2 days).

NOVEMBER.

1.—Royal Horticultural Society: Committee Meetings at Drill Hall.
1.—Kent County Chrysanthemum Show (2 days).
1.—Brixton Chrysanthemum Show (2 days).
1.—Barnstaple Chrysanthemum Show (2 days).
1.—Brighton and Hove Chrysanthemum Show (2 days).
2.—Ascot Chrysanthemum Show (2 days).
2.—Ealing Chrysanthemum Show (2 days).
2.—Portsmouth Chrysanthemum Show (3 days).
2.—Croydon Chrysanthemum Show (2 days).
3.—Steyning Chrysanthemum Show.
4.—Bolton Chrysanthemum Show (2 days).
8.—National Chrysanthemum Society at Royal Aquarium (3 days).
8.—Kingston and Surbiton Chrysanthemum Show (2 days).
8.—Enfield Chrysanthemum Show (2 days).
8.—Sevenoaks and West Kent Chrysanthemum Show (2 days).
8.—Batley Chrysanthemum Show (2 days).
9.—Bath Chrysanthemum Show (2 days).
9.—Birmingham Chrysanthemum Show (2 days).
9.—South Shields Chrysanthemum Show (2 days).
9.—Cardiff Chrysanthemum Show (2 days).
9.—Bournemouth Chrysanthemum Show (2 days).
9.—Hornsey Chrysanthemum Show (2 days).
10.—Chelmsford Chrysanthemum Show.
11.—Leicester Chrysanthemum Show (2 days).
11.—Sheffield Chrysanthemum Show (2 days).
11.—Eccles and Patricroft Chrysanthemum Show (2 days).
11.—Wellingborough Chrysanthemum Show (2 days).
11.—Dundee Chrysanthemum Show.
15.—Royal Horticultural Society: Committee Meetings at Drill Hall.
15.—Liverpool Chrysanthemum Show (2 days).
15.—Plymouth Chrysanthemum Show (2 days).
16.—Hull Chrysanthemum Show (2 days).
16.—Rugby Chrysanthemum Show (2 days).
17.—Edinburgh Chrysanthemum Show (3 days).
18.—Chorley Chrysanthemum Society (2 days).
18.—Stockport Chrysanthemum Show (2 days).
22.—Dalkey Chrysanthemum Show.
24.—National Chrysanthemum Society: Meeting of Floral Committee.

DECEMBER.

7.—National Chrysanthemum Society: Meeting of Floral Committee
13.—Royal Horticultural Society: Committee Meetings at Drill Hall.

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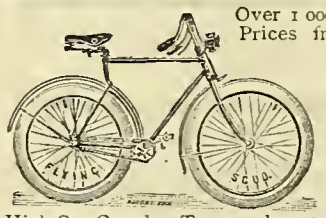

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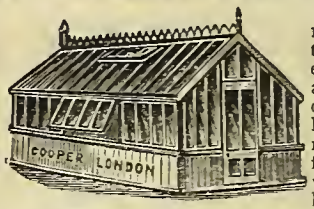

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20 ft.	10 ft.	9 ft.	5 ft. 6 to eaves	12 0 0	16 0 0
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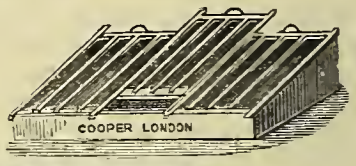

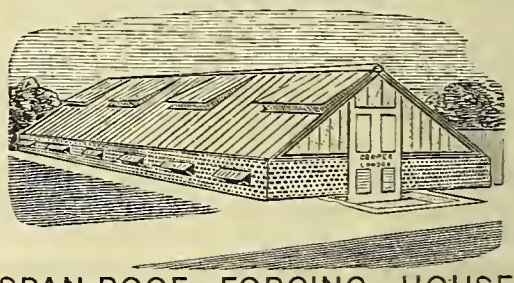

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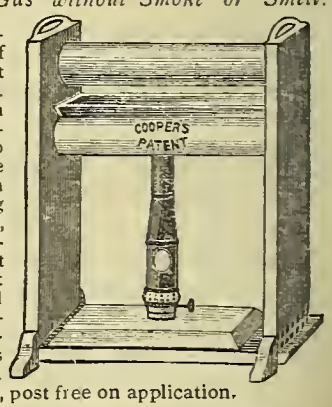

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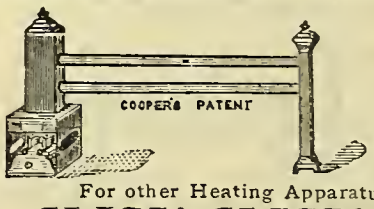

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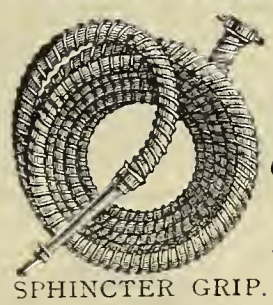

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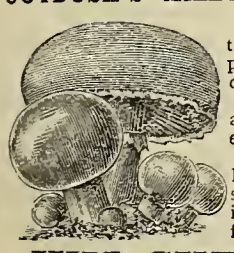

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For Index to Contents see page 761.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Aug. 1.—Cottagers' Flower Show at the International Horticultural Exhibition, Earl's Court.
Beddington and Carshalton Flower Show.
Mansfield Flower Show.
Northampton Flower Show (2 days).
TUESDAY, Aug. 2.—Oxford Union Carnation Show.
Abbey Park, Leicester, Show and Gala.
FRIDAY, Aug. 5.—Sale of Orchids at Messrs. Protheroe and Morris' Rooms.
SATURDAY, Aug. 6.—Midland Carnation and Picotee Show at Birmingham.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, JULY 30th, 1892.

COTTAGERS' GARDEN EXHIBITIONS.—Next Monday and the two following days there will be held, should competitors turn up in plenty, one of the largest *bona-fide* exhibitions of cottagers' garden produce yet seen in this country. At least it will be from no fault of the schedule and the excellence of the prizes, for there are upwards of 100 classes for Vegetables, Fruits, Plants, and Flowers, open to everybody who can claim to come under the category of Artizan or Cottager. This large show will be held at the Earl's Court Exhibition, and those cottager exhibitors from rural districts who may wish to have a profitable holiday may do a hundred times worse than bring good exhibits in garden produce to this show, and see at the same time all the sights the exhibition comprises.

We very much hope that no person actuated by a desire to secure prizes will compete who does not honourably come under the designation of cottager, as generally accepted, as that would be taking a very unfair advantage of a schedule designed for the benefit of the working classes. Those whose business it is to attend suburban flower shows can testify that it should not be difficult from a radius of 20 miles around London to obtain a very fine show of the products looked for. We saw but the other day in a Northern suburb a truly wonderful display of cottage garden produce, and there should be plenty of such all round the metropolis.

It is all the more to be desired that the exhibits at Earl's Court should be *bona-fide* of cottage garden or allotment culture, because they would in that case present a valuable object lesson indicative of the good or otherwise horticultural knowledge existent amongst the ordinary workers of the community. We shall look to this show with exceeding interest.

FLORAL TABLE DECORATIONS.—It might have once been thought that a few years' run of these dinner table decorations would have sufficed to satiate the public, and that long ere now they would have disappeared from our exhibitions. Such, however, is not the case, and those who attend Flower Shows seem to find in the florally decorated tables, vases, &c., as much to interest and please as ever, and yet we have not seen any very considerable change in the styles of decorating tables since the feature first became popular.

Generally they carry glass stands in some form or another, they still are dressed with flowers of some colour or another, and grasses and similar decorative material are largely used as in the days when Mrs. Hudson, Miss Hassard and Mr. W. Thompson first delighted the visitors to Flower Shows with their elegant displays. What change there is in arrangement is, except in one direction, not very apparent, but it does seem as if there were occasional developments of fashion in the colours of the flowers employed, as this year we see none apparently more in vogue than pink and yellow. The exceptional direction in which there is change is found in the introduction of fine wire arches of different sizes, some neat, some abnormally tall, broad and ungainly. These wire arches carry various small horn-shaped glasses, and these are dressed lightly with flowers and the usual accessories. The effect is not always good, yet sometimes pleasing, even if but that it exhibits a distinctive break away from the usual stereotyped methods of dressing dinner tables.

One thing is certain. Flowers of gaudy tints find little or no favour in the estimation of good judges, hence perhaps the popularity of pink Sweet Peas, and white and yellow Iceland Poppies. Few and well harmonized colours are best, and the lighter in reason and the more graceful the arrangement the more likely is it to secure an award. After all, floral decorations of this kind should play a very secondary part on dinner tables.

THE STATUS OF THE GARDENER.—Our Chicago correspondent of last week opens up a discussion once more upon a somewhat burning theme in relation to the status, wages, hours, etc., of the ordinary gardener. It is hardly probable that the workers in gardens can escape the "labour" contagion, and naturally desire so far as is possible to better their position both socially and pecuniarily. Well, we concede freely there is very much room for improvement in many ways, and in some directions which the gardener has in his own hands to deal with.

It is of course exasperating when greater mental, moral, and professional improvement is urged to be told that the gardening profession offers no inducements for such improvements; of that we are not at all certain. In any case the gardener who is intelligent and has striven to rise in knowledge and morals above the ordinary rank and file of the fraternity is almost certain at some time or other to reap the reward of his industry. Our young gardeners should strive to become more studious in horticulture, for it is a subject of which no man can ever know all or hardly one half of what may be known. The being who has no higher aspiration than to smoke a pipe and drink his beer is far too common a creature in the ordinary profession, and it is the abundant existence of such a class that brings down gardening as a vocation to such a very low level.

Trades-unionism has no hope or place in gardening because of its nature. Our best aspirations lie in higher intellectual attributes which shall eventually displace the ignorant and unskilled, and thus give to gardening a higher tone and status. We have yet far too much of the domestic or flunkey element in the vocation. It needs to be lifted a long way above that of the ordinary domestic worker, and in that direction chiefly must we look for such improvements as shall bring better status and wages.

TREE GROWTH.—When some fifty or one hundred years hence our successors in the world shall cut down what are now fine trees in the prime of life, they will hardly fail to note that one good growing year has left its mark in a broader ring of wood in the stem than the average year exhibits. Recent journeyings into Kent and into the Midland Counties has left a strong impression on our mind that in spite of June frosts and July storms the present season has been a capital one for trees. They are just now in grand leafage, and where the summer growth is more than usually coloured bear a very striking and beautiful aspect.

It is very doubtful whether after all we have grander objects in nature than a noble tree. We may of course find ample subjects for wonder and admiration in lofty mountains, or in broad winding rivers, but these are not the products of active life, such as vegetation presents. If then a single fine tree be a grand object, a big group is perhaps more so, but noblest of all is a hill-side covered with noble trees of various shades and outlines. Indeed no more beautiful object can come into a broad landscape than a fine wood of trees presents just now.

But our immediate interest lies in the trees at our own doors. Single or many, they all exhibit in a marked degree the effects of the recent heavy rains, for the growth is strong, indeed almost luxuriant, and the foliage large, green and glossy. It is now only needful that we should have some reasonable sunshine and warmth to perfect and mature this tree growth, and we shall reap the benefit of the good work for some two or three years. Trees are valued chiefly for the beauty they give to the landscape or to the surroundings of our dwellings. Happily we cannot carry them to market as we do Cabbages and thus make profit from them, or assuredly we should so. None the less we may well rejoice when our trees grow freely and are beautiful.

The Midland Carnation Show will take place in the Botanical Gardens, Edgbaston, Birmingham, on Saturday next, August 6.

Mr. S. Grassing is leaving Erleigh, White Knights, Reading, and we regret to hear through ill-health. His successor is engaged.

The West Malvern and Mathon Flower Show will take place on August 23.

The Harrogate Horse and Horticultural Society's show is announced to take place on Tuesday, August 20th.

The Stirling Horticultural Society's show of horticultural produce and honey will take place on September 1st and 2nd.

The Morley and District Paxton Society's seventh annual show will take place on Saturday, August 27, 1892, in the Queen's Park, Morley, Yorks.

Large Tomatos.—At the R. H. S. meeting on Tuesday, our old friend Mr. Richard Gilbert, of Burghly, distinguished himself by exhibiting six Tomato fruits which weighed in the aggregate 10½ lbs. Mr. Gilbert has done many "tall" things with the Tomato during the last twenty years, but this is the tallest of all.

Mr. Peter Blair, who since the death of Mr. Zadoc Stevens, has so ably presided over the famous gardening establishment at Trentham, will, we understand, retire from their management in March next, but as he will continue to reside in the neighbourhood, it is hoped by the committee of the Trentham Horticultural Society that they may still have the benefit of his active co-operation. It is no exaggeration to say that Mr. Blair has not only maintained the high reputation of Trentham as one of our premier private horticultural establishments, but made the Trentham Flower Show one of the best in the kingdom. His many friends, we are sure, will heartily wish him success in the new business he will so soon embark in.

Pink Rose Queen.—Now-a-days the desire is to have plants which will produce a profusion of flowers from which the grower can cut and come again. Many of the newer Pinks are floriferous enough the first year from seeds, but plants raised from cuttings are frequently sparing in this respect, while their hardiness is not altogether what could be desired. That named Rose Queen, a new sort being sent out by Messrs. Clibran & Sons, Oldfield Nurseries, Altrincham, is much in the style of the old-fashioned border Pink with which we were acquainted twenty years ago, hardy, free flowering and dwarf so that no staking is required. The flowers are of a uniform rose colour, and sweet scented; but although useful for border work, it is by no means a florist's flower as the petals are fringed.

Cæreis heterophylla.—This pretty composite is also known under the name of Kalfussia amelloides, and is sometimes popularly spoken of as a blue Marguerite. As far as size and habit are concerned it may be compared to Brachycome iberidifolia, which also has blue flower heads. Being an annual it may be sown in the open ground in April or May and simply thinned out if growing too closely and kept clear of weeds. Besides being a beautiful subject for the open border it is also suitable for pot culture on account of its dwarf and free flowering character, which commends it to the attention of those who require something of a quick and easily grown character to furnish variety in the conservatory.

A New Poppy.—Poppies are very fashionable at present, so that any species possessing anything of an ornamental character, whether it is annual or perennial, is likely to find favour. That under notice is an annual named Papaver glaucum, and in habit and general appearance looks like being intermediate between P. Rhœas, the common Corn Poppy, and the Opium Poppy (P. somniferum). The stems attain a height of 18 in. or 2 ft. and are erect, and slightly branched. The oblong leaves are more or less deeply divided and glaucous, although not decidedly so as P. somniferum. The erect habit and little branched character also recalls that species. The flowers are about the size of a small Shirley Poppy (P. Rhœas) and bright scarlet with a small black blotch, edged round the upper end with white, on the base of the inner petals only. The dense cluster of stamens in the centre are also black. Whether it will sport into numerous varieties like several other of the species in cultivation remains to be seen. A clump of it may be seen on a border in the herbaceous ground at Kew. It is very showy, and if it can be induced to vary will be an acquisition to the Poppy-loving public while the present fashion lasts.

CYPRIPEDIUM EVENOR.

THIS hybrid was first exhibited at the Drill Hall, Westminster, on the 18th of May, when it received an Award of Merit, and again at the summer show of the Royal Botanic Society on the next day by Messrs. J. Veitch & Sons, Chelsea, when a Botanical Certificate was awarded it. The seed parent was C. bellatulum crossed with C. Argus. We are now in a position to give an illustration of it, so that our readers may get a clearer idea of its general features. The shape of the flower comes nearest to that of C. bellatulum; the upper sepal is roundly ovate and pale yellow, lined and mottled all over with purple. The petals on the other hand are oblong-oval, densely spotted with crimson-purple on a paler yellow ground. The lip is similar in shape to that of C. bellatulum, finely pubescent, creamy yellow and suffused with purple around the mouth as well as on the infolded sides of the claw. The oblong leaves are beautifully tessellated with dark green on a pale grey ground. The stem of the plant exhibited bore two blooms, and altogether the variety seems to be of vigorous constitution.

NOTES FROM CHESTER.

The generally expressed opinion that this provincial gathering of the National Rose Society would be a grand and representative one was fully borne out. While there were many very grand boxes exhibited, I did not see a single bad one, with perhaps the exception of one in the class for garden Roses, where the exhibitor was evidently under the wrong impression as to the meaning attached to that term by the National Rose Society. This society class the Polyantha and other miniature Roses—with such as the Ayrshire, Banksian, etc.—as garden Roses, and do not include the most serviceable of the Teas and Hybrid Perpetuals. In this respect, the term "Garden Roses" is somewhat misleading to those who do not follow the society's schedule and catalogue closely. The exhibitor in question showed such as Auguste Mie, Baronne Prevost, La France, a few of the Bourbons, and many more of the really good and useful Roses for garden work; but they were badly set up.

The feature of the show was the grand colour and form found in the darker hybrid perpetuals, Victor Hugo, Prince Arthur, Horace Vernet, General Jacqueminot, Fisher Holmes, Grand Mogul, Sir Rowland Hill, and many more of our darkest Roses being shown in perfection. As at the Metropolitan show of this society, the medal for the best hybrid perpetual was carried off by a superb flower of Gustave Piganeau, a new Rose that I have had occasion to mention more than once in these pages.

Mrs. W. J. Grant was shown at the Crystal Palace in competition for the Gold Medal offered for new Roses; it was unsuccessful at the London show, but easily carried off that coveted honour at Chester. Since making these notes, I have seen this new Rose described as somewhat resembling Jeannie Dickson, a production of the same firm; but I fail to see the resemblance either in the blooms exhibited at the Crystal Palace or at Chester. It is evidently a most promising Rose. So, too, are the two sports from Messrs. Harkness, of Bedale, who exhibited two very distinct kinds that emanated from h p. Henrich Schultheis. One of these sports, named Merrie England, is decidedly the finest of all striped Roses, and is destined to become popular among the more unique of the garden varieties. Merrie England is striped, or rather flaked with a deep and very clear rose colour upon a pale flesh ground. The stripe or flake is particularly clear and bright, while the Rose has retained all of the sweet scent and good constitution of Henrich Schultheis. Mrs. Harkness is the name given to the other sport from this good and useful h. p. Rose. This is the most delicate and beautiful flesh-pink imaginable, and the general expression of the leading trade and amateur growers was that there was "money in it."

Mrs. Arthur Wilson, another new Rose, was also much admired. This was sent by Mr. G. Swailes, of Beverley. It is a pretty Rose, but lacking the substance so important in new Roses of the present day. I noticed that the judges had written on the name card the following few words: "We think well of it, and would like to see it again." It is another addition to our light pink Roses, and has a good shape.

Among the box of twelve new Roses shown by Messrs. A. Dickson & Son, of Newtownards, Ireland, I noticed three unnamed seedlings that are certain to be heard of again in the near future. All of them seem after the strain of Mrs. John Laing, and promise to be very useful.

Among the "medal" Roses, were two that have never before taken that high honour at any of the National Rose Society's exhibitions. I allude to the superb flower of h.p. Comte de Raimbaud in the Rev. J. Pemberton's stand; and the grand Tea, Souvenir de S. A. Prince, in that of E. Mawley, Esq. Berkhampsted. Both of these were the finest flowers of their kind I have ever seen, and were indeed worthy of so high an honour.

Colchester, Bath, and Southwell were the chief winning districts, Colchester heading the list with no less than 6 firsts, 8 seconds, and 3 thirds. The Jubilee Trophy for nurserymen also went to that town; so that both the Metropolitan Champion Trophy and also the Jubilee Trophy are in the same place, the former being held by Mr. F. Cant and the latter by Mr. B. R. Cant. These two also gained the premier prize for 72 single trusses of distinct varieties; F. Cant winning at the Crystal Palace and B. R. Cant winning at Chester. Singular to say, these two firms were first and second in almost identical classes both at the Crystal Palace and at Chester, the order being reversed at each show.

The flowers staged in the class for the Jubilee Trophy were as grand a lot as I have seen this season. Nine of the chief growers competed, and it was no easy task to say which were first without a very careful and close scrutiny. L. P. Budd, Esq., of Bath, was the winner of the Jubilee Trophy for amateurs, and showed some of our darkest Roses in grand form; Doctor Andry, Marie Rady, Duchess of Bedford, Harrison Weir, A. K. Williams, and Duke of Wellington being particularly striking. Here, too, the first and second competitors were remarkably close; Rev. J. Pemberton and E. B. Lindsell, Esq. (the winner of the Metropolitan Trophy), following in the order named.

Fond as I am of Roses, and having travelled about two hundred and fifty miles to see this show, I must confess that the chief charm lay in the great pleasure of such charming collections of herbaceous subjects as those exhibited by Rev. Page-Roberts, Rev. L. Garnet, and others. I have never seen these set up more tastefully or to better advantage. I also noticed a grand new Fern in the collection of the Messrs. Dicksons, of Chester. This well known firm were not competing, but they showed some grand examples of Roses and various herbaceous flowers, in addition to their grand new Fern, Adiantum C. Veneris imbricatum. This is a beautiful variety of the semi-hardy British Maidenhair, and is certainly destined to put A. Farleyense on one side. Its pinules are almost as large and of much the same colour. Messrs. Dicksons assured me it was equally as hardy and easily grown as the type, and judging from appearances, independently of such trustworthy information, I should say it was one of the most useful of all Ferns for the ordinary greenhouse. It is quite as easily grown as A. cuneatum, and it would be difficult to say too much in its favour.—*Experience*

Cypripedium Evenor.

REDLEAF & PENSHURST.

The National Chrysanthemum Society arranged to have its annual outing on Friday, the 22nd inst. It took the form of a visit to Penshurst Place, Kent, the ancient baronial home of the Rt. Hon. the Lord de L'Isle, who kindly gave the use of his grounds for the day. Permission was also given the members, by F. Ernest Hills, Esq., to walk through his beautiful grounds of Redleaf. This was done on the way from Penshurst railway station to Penshurst Place. The party numbered nearly one hundred, and the day being delightfully fine and the arrangements excellent, the outing was a decided success.

Redleaf.

The grounds here were entered at the lodge gates about the middle of a hill or steep incline, and the avenue was lined on one side by tall trees of Cupressus Lawsoniana, while the other was skirted by patriarchal Beeches and Oaks with trunks of great size. Near one front of the mansion, a beautiful modern residence built of red bricks, with corners, cornices, and mullions of stone, were Cedars of Lebanon, Deodars, Wellingtonias, Thuya gigantea, 40 ft. high, and fine specimens of Picea Smithii. The conservatory was next visited, a moderate sized structure but apparently much larger by reason of the glass mirrors which multiply everything reflected in them. Filmy Ferns in glass enclosed places were in healthy condition; Fuchsias in baskets, and Cobæa scandens variegata adorned the roof. There was also a fine piece of the variegated New Zealand Flax. Close by was the Fernery, an even more deceptive and fairy scene on account of the method of laying out and planting and the reduplicating mirrors. The sides are built up in the form of rockwork, and planted with Ferns, including many Tree Ferns and fine-foliaged Begonias. The pillars are enclosed with wire netting, enclosing soil covered with a living greenery of Selaginella Kraussiana, while the capitals are planted with Maidenhair Fern and Nephrolepis exaltata. Filmy Ferns are also here; and Lygodium scandens is trained up the slender pillars or divisions of some of the mirrors. The whole presented a charming appearance, and looked quite animated when filled with visitors.

The southern aspect of the mansion is partly covered with Jasmine, Ivy, Ampelopsis Veitchii, and Lonicera flexuosa aureo-reticulata. In front of it is some neat carpet bedding. Looking down into the valley a charming prospect meets the eye, owing to the steep declivities and the naturally undulating character of the ground. To the right the natural rocks are seen cropping out on the opposite side of a valley, and to the left a lake is seen disappearing amongst the trees. The ground on the slope is richly variegated with some fine specimens of Retinospora plumosa aurea, Thuya orientalis aurea, T. o. elegantissima, and the golden variegated Lawson's Cypress.

Passing to the left the visitors walked through and down the face of a rugged piece of rockwork and

down a steep declivity having a very natural appearance. The boulders about the top were covered with masses of Ivy, Erica cinerea, Cotoneaster microphylla, Wild Thyme, Hypericum calycinum, Sedums of various hues courting the July sun on the drier and more exposed portions. Here and there are bold pieces of Funkias, Spiræa palmata, Eryngium Oliverianum, Lychnis coronaria, and Scotch Roses now in fruit. At the foot of the declivity are masses of Ferns, and on prominent places are clumps of Broom, Rhododendrons, Ivy, and Barberries. The path led through great clumps and beds of various subjects surrounded by rocky boulders and huge stones. Amongst the flowers were Lathyrus grandiflorus, Delphiniums, Dahlias, Poppies, Lychnis chalcedonica, Rhododendrons, etc.

From this point the numerous Conifers and other trees were features of the richly planted grounds. Two fine pieces of Picea excelsa Clanbrasiliana, 4 ft. to 6 ft. high, were specially interesting. Some Deciduous Cypresses, about 40 ft. high, stood out prominently with their fine feathery foliage of a light green. An isolated tree of the White Birch, 60 ft. high, with gracefully drooping branches, was a picture in itself. The path then led through an avenue of Douglas Firs, Cupressus Lawsoniana, Thuya gigantea, Cedrus Deodara, Abies Nordmaniana, and others; while in front of them were Roses, Sweet Peas, Delphiniums, Phloxes, and others. Amongst the trees close by were numerous specimens of the Douglas Fir, 60 ft. to 80 ft. in height.

From here the party passed through two secluded dells, surrounded and hidden by trees. In the centre of each was a small pond covered with Water Lilies; one of them was margined with Osmunda, Loosestrife, Irises, etc.; while the other was surrounded by Lady and other Ferns, including some grand pieces of the Royal Fern. The second dell was surrounded by a tall belt of Thuyas, Cypresses, and others. Many fine Conifers were to be noted from here to the gate opposite Penshurst Park, including the Redwood (Sequoia sempervirens), about 50 ft. high, with a trunk 2½ ft. to 3 ft. in diameter above the base, also Abies Pinsapo, 40 ft., and others. A weeping Silver Fir, about 20 ft. high, and so pendulous as to resemble a faggot of wood, was a curious looking object. Some trees of Negundo aceroides variegata, about 25 ft. high, were objects of great attraction on account of the distinct hue of the foliage. Along the sides of the walks Berberis Darwini was almost blue with fruit. The Conifers and flowers emitted a powerful fragrance under the influence of the midday sun.

PENSHURST PLACE.

As the party debouched from the grounds of Redleaf, some went by the vehicles in readiness to convey them, while others walked through Penshurst Park, an extensive and very old one planted with the trees that were most popular in the days of Queen Elizabeth, including the native Oak, the Plane, Sycamore, Elm, Beech, and others of great size. A huge Sycamore, heavily laden with red fruits, a by no means common occurrence, was very notable. One of the noted Oaks of England is also here, namely, that planted by Sir Philip Sidney in 1554. Arrived at the mansion grounds a cricket match was played between teams representing the National Chrysanthemum Society and the Sevenoaks Gardeners' Association.

The mansion consists of a series of rectangular buildings nearly forming a square, and erected at different times. One portion, by no means the oldest, bears the date of 1585, but the huge and old-fashioned Baronial Hall is much older, and has stone walls 4 ft. thick, with Ash, Ivy, and Wallflower in the crevices. Outside and in front of this is a sunk garden, the type of antiquity and highly interesting from the fact of its recalling gardening in the days of good Queen Bess. The other front of the mansion is surrounded by a wall, outside of which is a haw-haw. The aim of the Rt. Hon. Lord de L'Isle is to maintain the antique appearance of the place. There is a fountain in the centre of the garden surrounded by twenty beds of a few patterns, edged with neatly trimmed box about 18 in. high, and filled with old-fashioned herbaceous plants, such as Epilobium angustifolium album, which is plentiful and conspicuous, also Roses, Lilies, Larkspurs, Foxgloves, Canterbury Bells, single and semi-double Potentillas, Phloxes, Marigolds, Sunflowers (very popular here), Pæonies, Rosa rugosa, Eryngium Oliverianum, and others. The garden is surrounded on two sides with brick walls, and on the other side by neatly trimmed Yew hedges. The walls look the picture of antiquity, and Wild Thyme, Wallflower, Antirrhinums, St. John's Worts, Linaria Cymbalaria, and Ivy flourish upon them, growing in every crevice. On a level with the top of the wall are terraces filled with Shirley Poppies, Tradescantia virginica, Campanula lactiflora cœrulea, Pansies, Hibiscus syriacus and other shrubs.

A walk leads off into the kitchen garden, which is variously intersected with neatly cut Yew hedges. Fruit trees are planted in sections, between which are walks bordered with annual and perennial herbaceous subjects, including the curious looking Michauxia campanuloides. In other borders were fine clumps of Lilium testaceum, Atriplex hortensis rubra, Harpalium rigidum and annual Sunflowers. Large quantities of Carnations are grown, including the fine yellow Pride of Penshurst. Here also was a small pond in which were Water Lilies and Cape Pondweed (Aponogeton).

Passing through the fruit quarters some fine crops of Raspberries, Red and Black Currants were to be seen, while the Strawberries were over. Apples and Pears are trained on walls in fan shape, oblique and upright cordons. In the open ground the former are grown largely in the form of standards and bushes, the latter in many cases being heavily laden with fruit, in fact better than on the walls. Pears on walls are not promising, but Peaches and Nectarines are in many cases heavily laden. Waterloo and Alexander Peaches were ripe and very showy. These two varieties had also been gathered from open walls at Redleaf on the 18th inst.

An inspection of the houses showed some splendid crops of Peaches, Nectarines, Grapes, Figs, and Tomatos. The latter are grown in small and large pots, and also in large earthenware drain pipes standing on end.

The party had dinner in a tent upon the grounds and the day being fine, the cool shade of the tent pitched beneath the trees was very much enjoyed. Lord de L'Isle was confined to the house with a sprained ankle, and was unable to be present. The chairman (Mr. R. Ballantine) in an after dinner speech proposed his health, with thanks for permission to see and use his grounds. This was coupled with the name of Mr. Bridger, the most courteous gardener. He also proposed the health of F. C. Hills, Esq., of Redleaf, with thanks for permission to walk through his grounds, coupled with the name of Mr. Holah, his able gardener. "The Cricket Teams" were also proposed, coupled with the names of Mr. S. Cooke and Mr. E. Rowbottom. It may here be stated that the National Chrysanthemum Society's team won the match by a long score. After tea in the tent the party returned to the station after a most agreeable day's outing.

SUMMER FLOWERING PHLOXES.

THE above title is applied to an early flowering garden race of Phloxes, varieties of Phlox glaberrima suffruticosa. They precede by several weeks the autumn flowering Phloxes which have been raised from P. paniculata hybridised with P. acuminata and P. decussata, and are therefore worthy of the cultivator's attention, because they produce a display before the others come into bloom. The idea has got abroad that the summer flowering race are difficult to grow in the south, but if the ground or bed in which they are grown is mulched with short well-rotted manure or with coco-nut fibre, so as to keep the soil cool and moist about their roots during the drier periods of the summer they will grow and flower successfully. The autum flowering Phloxes for the matter of that fail as signally as the early flowering varieties if they are neglected in the matter of watering or mulching during a droughty period. They produce a large number of hungry and thirsty roots near the surface, and this accounts for their failure for want of attention to their special requirements. There is no difficulty in getting a satisfactory display of bloom if the cultivator is in earnest with his work.

A collection may be seen in the gardens of the Royal Horticultural Society, at Chiswick, where they have been flowering for the past fortnight or three weeks, and some of the later blooming sorts will continue to open their flowers. It may here be stated that the plants were small when put out last spring, and ought to be much stronger next year. The greatest fault of the varieties is that so many of them are so nearly of the same hue, but that should be rectified in a few years by careful manipulation of the blooms when cross-breeding and by rigid selection. As the number of good varieties increases, the finest only will be preserved for cultivation. The usual height of the plant varies from 18 in. to 2 ft., but some are considerably dwarfer than that.

A floriferous sort is Burns, having rosy-purple flowers with a deeper eye. Clouded Gem has large white flowers clouded with pale purple. Those of Jas. Thompson are warm rosy-purple with a deeply coloured eye. Similarly coloured varieties are Allen McLean, soft pinkish purple, Angus McLeod, similar but paler, E. L. Lewan with a dark purple eye, Forerunner, white with a deep purple eye, Miss Mina and Luna, white with a pale purple eye, Miss Cook, blush with a deep purple eye and large flowers, and Miss Erata Stevenson, similar to the last-named but paler.

Miss E. Cranston is only about a foot in height, and Luna is notably floriferous. The small white flowers of Miss Martin are produced on stems about a foot in height. Diana is similar to the last in having a purple eye to the small flowers, but the stems are only 12 in. high. The large, soft rose-purple flowers of John Burn are distinct from most of the above, but Rosy Gem is even finer, having deep rose-purple flowers and a darker eye. The flowers of Lady Napier are pure white even to the very eye and freely produced. This with Rosy Gem we consider the two best in the beds, at least of those in flower. Burns, Jas. Thompson, Diana, John Burn, and Luna would take a second place. All have been sent on trial by Mr. John Forbes of Hawick.

NORTH LONSDALE ROSE SHOW.

ON Friday the 22nd inst., the North Lonsdale Rose Society held its ninth annual exhibition of Roses and Pansies in the Drill Hall, Ulverston, which was well patronised by the local gentry and many visitors from the charming local watering place of Grange-over-Sands. Owing to the severe hurricane, which seemed to have visited the whole of the British Isles on the previous Tuesday, the show was not quite up to the usual form, as, with the exception of Messrs. A. Dickson & Sons' (Newtownards) blooms, the nurserymen's blooms were very much spoilt. Messrs. Dickson swept the decks clean, taking the whole few first prizes open to them. This is the biggest sweep they have ever made, and they deserved it, as their blooms were splendid, being almost as fresh at the end of the show as when first staged.

The sight of the show was two splendid blooms of their seedling Marchioness of Londonderry, both of which were awarded first prizes, one for the best Rose in the show and the other for the best seedling in the nurserymen's classes. This indeed is testimony enough as to the qualities of this truly magnificent white Rose, which is without doubt the best Rose raised within the last ten years. They also staged 12 blooms of their Chester gold medal seedling, "Mrs. W. J. Grant," a charming hybrid Tea Rose deliciously perfumed, any amount of substance and excellent colour, to which was awarded a certificate of merit. Their extra exhibit of 24 blooms of Margaret Dickson received great attention, as also their box of 12 new Roses, 8 of which were unnamed and gave great promise for the future, specially two dark ones. Mr. B. R. Cant staged some excellent blooms, but were not up to his usual excellence having had the full fury of the gale—the week previous he was in trophy form.

The competition among the amateurs was purely local, and very keen it was, as in one class nineteen boxes were staged and in another fifteen. Mr. J. H. Midgley and the Rev. Langtree, both of Grange, carried off most of the first prizes, Mr. Midgeley taking the three bronze medals for the best light and dark H.P. and best Tea. Mr. John Abbott took the bronze medal for best bloom in the restricted classes. The exhibition of Pansies was very fine. Mr. J. G. Paul, of Bridge of Weir, judged them, saying they were fit for the keenest Scotch competition, some 500 blooms being staged. Mr. H. Rothey, of Pennybridge, secured the Silver medal for twelve new Pansies.

IN THE DUKERIES.

On Thursday, the 14th inst., the Manchester horticulturists held their annual picnic, the programme on this occasion being a highly attractive one, namely, a visit to Welbeck Abbey, gardens, and Sherwood Forest; and upwards of fifty members and friends, headed by the president and three of the four vice-presidents, mustered at the London Road Station of the Manchester, Sheffield, and Lincolnshire Railway, and in due time reached grimy Sheffield.

From Sheffield, journeying by express, we quickly enter the shire famed in story, watered by the noble Trent, and which boasts the proud privilege of containing within its bounds a larger proportion of the "stately homes of England" than any other English county. We halt at Worksop, a quaint little town, and not at all the "busy hive" the illiterate rustic must have imagined it who mistook its name for "Workshop." At the Lion Hotel we lunch, and afterwards drive on to Welbeck, passing by hamlets whose cottage gardens offer many a bright bit of floral beauty: Roses heavy with blossom, Honeysuckles filling all the air with fragrance, tall Delphiniums (Larkspur) of deepest azure, and orange Lilies. At noon we enter the princely demesne of the Duke of Portland, with its deer park, its immense artificial lake, its endless gardens and glass ranges, and its vast pleasure grounds. But to describe all these in detail were as superfluous as it might be tedious in these days of universal travel, when to make the "grand tour" occupies fewer weeks than it formerly took years.

Most readers of the *City News* will have been to Welbeck. To him who pays it a first visit perhaps the most striking feature will be the frequent recurrence of small flattish glass domes, in shape reminding him of a bull's-eye light. These bespeak a vast mysterious world underground, undreamt of and unimagined, the outcome of a boundless indulgence of that eccentric taste of the late Duke of Portland's which has given to Welbeck features bizarre indeed and unique in this or any other country. Millions upon millions—mines of money spent in mining for nothing! Well may our continental friends write with caustic pen of the fantastic tastes, the strange vagaries, and wild freaks of English noblemen and millionaires. Even the lodges, of which there are about fifty on the estate, and each of which in the building cost no less a sum than two thousand pounds, have a part of their rooms underground.

But our more immediate concern is with the Welbeck gardens, over every nook and corner of which we were most courteously and kindly shown by the Duke's gardener, Mr. Horton. That this gentleman's position is no sinecure will be evident when we state that the kitchen garden alone occupies thirty-two acres, while the pleasure grounds cover more than fifty; and large as is the "head's" staff of assistants, that staff might advisedly be increased in view of the vast requirements of the place. Welbeck is nothing if not "vast" in character, indeed its immensity is such that the horticultural visitor is overwhelmed, and even oppressed, in his vain endeavour to grasp the stupendous "whole." It may be said to represent in itself the "Gardening World"—horticulture in all its departments. Not that every branch of gardening is equally well represented; on the contrary, we hold that in more than one Welbeck is conspicuously deficient. The number of glass structures, extending over a mile in total length, is enormous. These are mainly devoted to fruit culture and early forcing, and houses filled with the best varieties of Apples, Pears, Peaches, Nectarines, Grapes, and Figs follow one another in monotonous and apparently endless succession. Of Palms there is a fine and healthy collection, and the roseries were in good order. Ferns did not strike us. In the large stoves, among a fair miscellaneous collection, we could not but notice a magnificent Allamanda Hendersoni, huge as to size, and bearing perhaps a thousand of its exquisite yellow blooms. Two large specimens of the rich-scented Stephanotis appeared less comfortable, and were evidently suffering from the "sweating" process; this plant, in fact, to be flowered successfully, does *not* require the heat it usually receives.

But the chief floricultural feature—the feature par excellence—of the gardens at Welbeck is the enormous culture of the Carnation, and particularly the Rothschild variety of the delicate-hued Souvenir de la Malmaison, which is well known to be the favourite flower of the Duchess; and hence, no doubt, its large vogue at the present time, for what are English people if not fashionable? But the beautiful La Malmaison may well stand on her own merits; here, at any rate, she is constantly in evidence, elbowing out, with unnecessary coquetry, her less fortunate compeers of the floral world, and making ever fresh "conquests." One large new glass structure we noticed she had entirely taken possession of; others she greatly monopolized, while the courteous "head" informed us that several big houses, presently occupied with fruit trees, were to have their tenants ejected and to be placed wholly at the Malmaison's sweet will and pleasure; and thus goes on this triumphant nymph of the garden, "conquering and to conquer."

On the high walls surrounding the offices was trained, some in beautiful, others in grotesque form, one of the finest collections of ornamental Ivies we have seen this many a day, and representing, we should suppose, nearly every good variety in cultivation. But with the herbaceous collection at Welbeck we were distinctly disappointed, there being little to strike one but a variety of Delphiniums in many gorgeous colours. On the other hand, the bedding-out within grounds adjacent to the Abbey wore a good appearance; and we noticed that the popular floral favourite—the "coming flower"—we humbly beg her grace's pardon, and the fair Malmaison's also—the Begonia, was made to fill an important part in the general arrangement and effect.

On the Welbeck shrubberies, did time and space permit, we should like to dwell; but as our run through the Welbeck gardens was a hurried one so must we hurry over matters here. One avenue arrangement—purple Beeches alternating with the Horse Chestnut—was singularly effective; while the Conifer Avenue—dark Yews, Cypresses, and Cedars—fronted by splendid examples of the golden Retinospora—was "immense," to use an expressive vulgarism; but immense in its extent certainly, and most imposing in the *tout ensemble*; while the dividing sward combined the luxurious texture of a Turkish carpet with the hue of the emerald. Numbers of large conifers we observed had been transplanted quite recently with perfect success. Cedars of Lebanon near the Abbey were not comfortable for obvious reasons. On the whole, coniferæ form no inconsiderable element of landscape beauty at Welbeck. Passing by the borders of the lake, we saw gleaming below the surface of the waters the beautiful white flowers of Ranunculus aquatilis. But we linger too long, and our hurrying companions shout to us from afar. Away, away! so vast is the number of objects claiming attention at Welbeck.

As before hinted, this splendid demesne of one of the richest of our dukes gives more or less evidence of a paucity of "hands" on the staff. But Welbeck, strictly taken, what is it but a vast feeding-ground and supply-station to the ducal residence in London? And, in fact, as we pass by the offices, an immense floral consignment is being prepared for the evening dinner party at the capital, including, it is needless to state, many hundreds of specimens of the beautiful Malmaison; and our kindly "head" himself must away to superintend their despatch, while we hasten to the woodlands and "merry Sherwood."

But where is the forest? The time is indeed summer, "shaws be sheen" and "leaves be large and long;" but where is the famed forest? Where is "merrie Sherwood"? Alas! it is represented but by one or two weather-worn sylvan giants, old and decrepit. The glory of Sherwood has passed! And yet, a forest there is, if not the "definite article," and a beautiful one; and through the glorious woodlands, under a tranquil sky, we drive for miles and miles—by stately Thoresby, catching glimpses of its thousand beauties, and on and away past classic Clumber, with its sombre Cedars and its three-mile-long Lime avenue—a memorable drive of fifteen miles—a glorious panorama, unfolded, bit by bit, of highland, lowland, heathland, meadowland, woodland, lakeland, in the sweet heart of England—scenes famed in song and story—a picture in some of its features unsurpassed and unsurpassable in these islands. And indescribable as unsurpassable—to hang up, with all other sweet pictures, for ever in the treasure house of the memory. Not a drop of rain; nor any single alloy to the enjoyment of one of the pleasantest picnics in our horticultural annals.

Worksop is regained at five p.m., when, at the Lion aforesaid, a sumptuous repast, admirably served, awaits the party, and at seven p.m. we are bowling homewards.—*A. Stansfield, in "Manchester City News."*

SCOTTISH NOTES.

Midlothian Rose and Pansy Society.

Jubilee Show at Penicuik.

This society was instituted in 1842, and has had many ups and downs. But this year the committee having exerted themselves, and been well supported by the public, they were enabled to present an attractive schedule to those interested, and which brought forward a large number of competitors on Saturday last. The Drill Hall, Penicuik, was gay with Roses, Pansies, herbaceous and other plants and vegetables, and owing to the day being all that could be desired, a large number of visitors were present. John Cowan, Esq., of Beeslack, opened the show at 2.30, and presented the Jubilee cups to the several winners. The tables of plants (60 ft.) were the best features, and were much admired. Mr. A. Thoburn, gardener to C. W. Cowan, Esq., Valleyfield Gardens, was first (a valuable timepiece) for a nice lot, comprising nice Palms, Begonias, and Gloxinias, one of the latter especially the visitors much admired, a cream variety, spotted with ruby; Hydrangeas, Maidenhair Ferns, etc., etc. Mr. A. Dougall, gardener to John Cowan, Esq., Beeslack, was a good second with two grand Lilium auratums, Gloxinias, a beautiful Heath, and Ferns, etc., etc. Only one nursery firm was represented, Messrs. D. & W. Croll, Dundee, and they took the first prize for 36 Roses (Jubilee Cup and a money prize), and for 24 Roses, 12 h.p. 12 Teas. Their Roses were not large, but they were bright in colour, especially the crimson and yellow varieties

In the gardeners' and amateurs' class, Mr. A. Bryden, Inverleithen, was deservedly first with 24, and won the Jubilee Cup; he also gained the prize for the best Rose bloom in the hall. Mr. Pringle, Dalkeith, showed some good Roses, as also did Mr. Strachan, and others. The Rose table was greatly admired. The table in the centre of the hall with plants was well arranged, and the competition in all the classes was keen, especially for 4 plants, 2 flower, 2 foliage. Mr. Badger was 1st; and Mr. Strachan 2nd. The table with Pansies was filled, and the competition in the nurserymen's class was very close. For 24 fancy Pansies, Mr. J. Smellie, Busby, was 1st; Mr J. Sutherland, Lenzie, 2nd; and Mr. Campbell, Blantyre, 3rd. For 24 show Pansies, Mr. Irvine, Tignabruiach, came in 1st; Mr. J. Sutherland, 2nd; and Mr. Campbell, 3rd.

In the gardeners' and amateurs' class the Jubilee Cup was won by Mr. Frater, Linlithgow, with eighteen fancy Pansies; Mr. Borrowman being 2nd. For the eighteen show Pansies, the Jubilee Cup was won by Mr. Borrowman, Mr. Frater being 2nd, and Mr. Strachan, 3rd. Pansies in general were good. Mr. Strachan got 1st for the best fancy bloom in the hall, with a seedling of the Donald Morrison style, a grand flower; and Mr. Irvine was 1st for the best show bloom, with a primrose self. The herbaceous table was the best we have seen for many years, Mr. A. Simpson gaining the 1st prize—a barometer—with nine beautiful spikes; the Bouquets, Stocks, Marigolds, and Sweet William were largely represented. The vegetables were of first quality. Strawberries were large and fine coloured.

Taking the season and other things into consideration, it was the best show that has been held at Penicuik for many years.—*X.*

THE VEGETABLE GARDEN.

Hathaway's Excelsior and Vick's Criterion Tomatos.—I have never met with these old and well-known varieties in such fine form as I did last week, at Uffculmbe, Moseley, Birmingham, the new residence of R. Cadbury, Esq. The two varieties occupy the whole of a fine, span-roofed house, and the plants are carrying grand crops. Some of the later planted single stems are carrying nine to ten bunches each, and averaging quite two pounds per bunch. The first-named is a very handsome and prolific variety, nearly as round as a cricket ball, and delicious in flavour. Vick's Criterion has also a good appearance and fine flavour to recommend it, and it is likewise a great bearer. Mr. Menzies, the gardener, does Tomatos well, as also Melons, of which I saw a splendid house of fruit of Lord Strathmore and Eastnor Castle. The latter is a fine, green fleshed variety, the result of a cross between the famous old sorts Beechwood and Victory of Bath, of medium size and most delicious flavour.—*Rusticus.*

FLORICULTURE.

National Carnation and Picotee Society.

THIS annual exhibition, held at the Drill Hall, Victoria Street, S.W., in conjunction with the meeting of the Royal Horticultural Society, on Tuesday, was a little above the average of excellence, and constituted an exceedingly creditable display. Of course none of the northern growers competed, and as a matter of fact only some three blooms came from north of Oxford. Mr. Douglas well held his own in the larger classes, but in the minor ones it was decidedly the Southampton men's day. The three or four growers from the famous seaport were well in evidence in all but the two larger classes for Carnations and Picotees, and well deserved the rewards they obtained for their courage and persistency in coming so far year after year. As a general rule the flowers staged by all the exhibitors were bright and clean, though in many cases a little more bleaching would have been an advantage. The following is the prize list.

PRIZE LIST.

TWENTY-FOUR CARNATIONS, not less than 12 dissimilar:—1st, Mr. James Douglas, Great Gearies, with Homer, Thalia, Charles Henwood, Phœbe, Robert Lord, Rob Roy, Sarah Payne, Mrs. C. Graham, Lady Mary Currie, Robert Houlgrave, Alisemond, William Skirving, J. Crossland, and the remainder seedlings; 2nd, Mr. C. Turner, Slough; 3rd, Mr. M. Rowan, Clapham; 4th, Mr. F. Hooper, Bath.

TWELVE CARNATIONS, dissimilar:—1st, Mr. M. Rowan, with Thalia, John Hedderley, George Melville, Robert Lord, J. D. Hextall, Gordon Lewis, Alisemond, Sarah Payne, Alfred, Sportsman, Edward Rowan, and Robert Houlgrave; 2nd, Mr. C. Phillips, Reading; 3rd, Mr. H. W. Headland, Leyton; 4th, Mr. G. Chaundy, Oxford; 5th, Mr. R. Vesey, Clapham.

SIX CARNATIONS, dissimilar:—1st, Mr. J. Keen, Southampton, with Sarah Payne, Gordon Lewis, Lovely Mary, William Skirving, Fred, and Matador; 2nd, Mr. J. Lakin, Temple Cawley, Oxford, with Alfred, James Douglas, William Skirving, Matador, Harmony, and Sybil; 3rd, Mr. T. Catley, Bath; 4th, Mr. F. Nutt, Southampton.

SINGLE BLOOMS OF CARNATIONS:—Scarlet bizarres: 1st, Mr. M. Rowan, with Matador; 2nd, Mr. C. Turner, with Dr. Hogg; 3rd, Mr. Douglas, with a seedling; 4th, Mr. J. Keen, with Robert Houlgrave; 5th, Mr. J. Lakin, with the same. Crimson bizarres; 1st, Mr. F. Hooper, with Mrs. Catley; 2nd, Mr. R. Sydenham, Birmingham, with J. S. Hedderley; 3rd and 4th, Mr. Douglas, with Phœbe; 5th, Mr. H. W. Headland, with a seedling. Pink bizarres: 1st, Mr. J. Keen, with Sarah Payne; 2nd, Mr. F. Nutt, with William Skirving; 3rd and 5th, Mr. J. Keen, with William Skirving; 4th, Mr. Douglas, with Sarah Payne. Purple flakes: 1st, Mr. J. Keen, with George Melville; 2nd, Mr. C. Phillips, with James Douglas; 3rd, Mr. M. Rowan, with George Melville; 4th, Mr. Nutt, with George Melville; 5th, Mr. Douglas, with Mrs. Douglas. Scarlet flakes: 1st, Mr. Douglas, with Matador; 2nd, Mr. R. Sydenham, with Henry Cannell; 3rd and 4th, Mr. Rowan, with Sportsman; 5th, Mr. Douglas, with Alisemonde. Rose flakes: 1st, Mr. J. Lakin, with Sybil; 2nd, Mr. C. Turner, with Lady Mary Currie; 3rd, Mr. F. Hooper, with Mrs. G. Cooling; 4th, not recognised; 5th, Mr. Blick, with Thalia.

TWENTY-FOUR PICOTEES, not less than 12 dissimilar:—1st, Mr. Douglas, with Liddington's Favourite, Her Majesty, Violet Douglas, Brunette, Miss Flondy, Lady Holmsdale, Ann Lord, Mrs. Sharpe, Mrs. Bower, and the remainder seedlings; 2nd, Mr. C. Turner; 3rd, Mr. M. Rowan; 4th, Mr. J. Walker, Thame.

TWELVE PICOTEES, distinct:—1st, Mr. C. Phillips, with Jessie, Zerlina, Orlando, Murice, Brunette, Mrs. Ricards, J. B. Bryant, Mrs. Sharpe, Lady Curzon, Morna, Mrs. Gorton, and Tinnie; 2nd, Mr. H. W. Headland; 3rd, Mr. M. Rowan; 4th, Mr. G. Chaundy; 5th, Mr. R. Vesey.

SIX PICOTEES, distinct:—1st, Mr. J. Keen, with Norman Carr, Favourite, Ethel, Isabel Lakin, Madeline, and Clare Penson; 2nd, Mr. J. Lakin, with Favourite, Amelia, Juliette, Norman Carr, Isabel Lakin, and Elise Kirtland; 3rd, Mr. J. Rebbeck, Southampton; 4th, Mr. T. Catley; 5th, Mr. F. Nutt; 6th, Mr. A. Greenfield, Sutton.

TWELVE YELLOW GROUNDS, not less than 6 dissimilar.—1st. Mr. Douglas, with Aurora, Mrs. R. Sydenham, Remembrance, Lilian, Mrs. Henwood, and seedlings; 2nd, Mr. C. Turner; 3rd, Mr. C. Phillips; 4th, Mr. T. Catley.

SIX YELLOW GROUNDS—1st, Mr. F. Hooper, with Countess of Jersey, Mrs. F. Button, Mrs. Wood, and three Seedlings; 2nd, Mr. F. Nutt, with Almira, Duchess of Teck, A. Douglas, Terra Cotta, A. Chambers, and Stadtrath Bail; 3rd, Mr. F. Kew, Southend; 4th, Mr. J. Keen; 5th, Mr. J. Lakin.

SINGLE BLOOMS:—Red, heavy-edged, 1st and 2nd, Mr. Douglas, with Seedlings; 3rd, Mr. Lakin, with Isabel Lakin; 4th, Mr. C. Turner, with Dr. Epps; 5th, Mr. Turner, with Brunette. Red, light-edged: 1st and 3rd, Mr. Turner, with Thomas William; 2nd, Mr. Headland, with Souvenir de H. Headland; 4th, Mr. Rowan, with Mrs. Gorton; 5th, Mr. C. Phillipps, with Thomas William. Purple, heavy-edged: 1st, Mr. Douglas, with Muriel; 2nd, Mr. Keen, with Amy Robsart; 3rd, Mr. Turner, with Zerlina; 4th, Mr. Rowan, with Calypso; 5th, Mr. Nutt, with Becky Sharp. Purple, light-edged: 1st and 4th, Mr. Headland, with Pride of Leyton; 2nd, Mr. Lakin, with Miss Lakin; 3rd, Mr. Turner, with Mary; 5th, Mr. Douglas, with Ann Lord. Rose, heavy-edged: 1st and 3rd, Mr. Keen; 2nd and 5th, Mr. Nutt, with Mrs. Sharpe; 4th, Mr. H. Startup, with Chaundy's Seedling. Rose, light-edged: 1st and 4th, Mr. Douglas; 2nd, Mr. Headland; 3rd and 5th, Mr. Keen, all with Liddington's Favourite. Yellow Ground: 1st and 2nd, Mr. Turner, with Countess of Jersey and Mrs. Henwood; 3rd, not recognised; 4th and 5th, Mr. Nutt, with Elmira and Agnes Chambers.

MISCELLANEOUS, SELFS AND FANCIES:—Twenty-four blooms, not less than 12 dissimilar, 1st, Mr. Turner, with Germania, Lady Mary Currie, Mrs. Clements, Romulus, Rose Unique, Victory, Marine Murray, Niphetos, Iona, Ruby, Mrs. Fred, Rose Wynne, King of Scarlets, Lord Rendlesham, Gwendoline and The Governor. 2nd, Mr. Douglas. 3rd, Martin R. Smith, Esq. 4th, Mr. M. Rowan. 5th, Mr. F. Hooper. 6th, Mr. W. Toby, Fulham. 12 dissimilar, 1st, Mr. Keen. 2nd, Mr. Nutt. 3rd, Mr. Chaundy. 4th, Mr. Phillips. 5th, Mr. T. Anstiss, Brill. 6th, Mr. W. H. Headland.

THE MARTIN R. SMITH PRIZES.

THE BEST BORDER VARIETY OF SELF-COLOURED CARNATION:—1st, Mr. Douglas, with Oriflamme, a good scarlet. 2nd, Mr. Thoday, Willingham, Cambs, with Florence Emily Thoday. 3rd, Mrs. Jones, Kensington, with Pink Perfection.

SIX VARIETIES OF SELF-COLOURED BORDER CARNATIONS:—1st, Mr. F. Hooper. 2nd, Mr. Douglas. 3rd, Mr. Herrington, Shrubland Park, Suffolk.

NINE VARIETIES OF FLAKE, BIZARRE, OR FANCY CARNATIONS OR PICOTEES:—1st, Mr. F. Hooper; 2nd, Mr. Douglas.

In the seedling classes Mr. Douglas received first prizes for Gannymede, a heavy-red edged Picotee; for Atrato, a purple-flaked Carnation; for Homer, a crimson bizarre; Zeno, a light red-edged Picotee; and for Eurydice, a yellow ground, nice-edged Picotee, the purest yellow ground yet obtained. All but the purple-flaked Atrato received First-class Certificates also.

The National Pink Society.

NORTHERN SECTION.—The annual exhibition was held in the Botanical Gardens, Old Trafford, Manchester, on July 22nd and 23rd, and there was the usual number of exhibitors and flowers, but quality did not rule as usual. In the class for 12 blooms, 6 dissimilar, Mr. Campbell, Florist, Blantyre, was first with Pandora, Boiard, two very fine blooms of this variety, Leah, Minerva, Mrs. Campbell, a fine variety, Mrs J. Minty, Godfrey, Emmeline, with fine broad petals, Grace Simon, very fine in colour, Device, good, and Bertha. Second, Mr. A. R. Brown, Handsworth, with Bessie, two blooms, Amy, a small bloom but very rich in colour, Minerva (also the premier red), Emerald, Modesty, with very broad petals, Empress of India, Bertha, fine, Zoe, Godfrey, and Harry Hooper. Third, Mr. S. Barlow. Fourth, Mr. C. F. Thurstan.

Class 2, 6 dissimilar. First, Mr. Campbell, with Boiard, Minerva, John Drake, five, Princess of Wales, Emmeline, and Modesty. Second, Mr Thurstan, with Boiard, Modesty, Duke of York, Ada Louise, and a fine seedling. Third, Mr. Edwards, Blackley, near Manchester. Fourth, Mr. Barlow. Fifth, Mr. Beswick, Middleton.

Class 3, 6 blooms, 3 at least dissimilar. First, Mr. Brown, with Emerald, Bertram, (2) Amy and (2) Bertha. Second, Mr. Barlow. Third, Mr. Edwards. Fourth, Mr. Thurstan. Fifth, Mr. Taylor.

Class 4, 3 blooms, 1 red laced, 1 purple laced, and 1 black and white. First, Mr. Taylor, with Miss Pomroy, black and white, Alderman Thorpe, and seedling. Second, Mr. Edwards, with Boiard, Modesty, and seedling. Third, Mr. Thurstan. Fourth, Mr. Bartley. Fifth, Mr. Barlow.

SINGLE BLOOMS.—Purple laced. First, Mr. Campbell, with a very fine Boiard. Second, ditto, with Emmeline. Third, Mr. Cliff, with Boiard. Fourth, Mr. Brown, with Bertha. Fifth, Mr. Taylor, with a seedling. Sixth, Mr. Barlow, with James Thurstan.

RED LACED.—First, Mr. Campbell, with Clara. Second, Mr. Brown, with a small bloom of Amy. Third, Mr. Campbell, with Amy. Fourth, Mr. Brown, with Modesty. Fifth, Mr. Thurstan, with Empress of India. Sixth, Mr. Barlow, with Mrs. Dark.

THE ROSERY.

AUGUST should be a busy month among the Roses. Stale blooms should be removed as soon as possible, to throw more strength and quality into the autumn flowers of such varieties as produce a good second or third crop. The removal of the stale blossoms will also benefit those Roses which grow extra vigorously and flower so freely from their long growths the following summer. These extra strong sorts should be pruned now, and much more benefit will accrue from summer pruning than if left until the usual time in spring.

I am alluding to those of the Gloire de Dijon type among the Tea-scented, and Madame Gabrielle Luizet, Ulrich Brunner, etc., among the hybrid perpetuals. It is now generally accepted that these sorts are often too severely pruned in the spring. In short, they do not need any knifing at that time if properly treated now. As it is only the well-matured and long growths that throw the wonderful display of blooms that the majority of these varieties carry each summer, it behoves us to see that these growths are fostered and properly cared for. By removing the growth that has flowered and which is now comparatively useless, we shall be concentrating the whole strength of the plant into the young and long shoots that are rapidly forming for next season's use. If not removed now, these growths would need to have the greater portion of them cut away early in the spring; and this would be waste of strength.

It is just the same, whether they are being grown in beds for pegging down, on walls and fences, or tied up to arches and pillars, the system of summer pruning is equally beneficial. Not only do you concentrate the strength and energy of the plant where most required, but you also afford the wood much greater facilities for becoming well matured, as more light and air has access to the wood.

Budding is another operation that ought to be attended to at once, if the buds are to become properly "set" or callused to the stock. A word or two upon the carrying out of this operation may be acceptable to some. Let the stock, and also the portion of Rose wood you intend obtaining the eyes or buds from, be of as nearly the same stage of ripeness as possible, about half grown and ripened is best. Take great care that the seat or foot of the bud is well down, or it will be likely to starve and die from not being able to rest in direct contact with the alburnum of the stock. Do the whole operation cleanly, firmly, and without the least bruising or rough usage. Continue to secure any loose shoots of Roses that are growing strongly, or they may run the risk of being whipped out with wind and heavy rains.—*Experience.*

MOSELEY BOTANIC GARDEN, BIRMINGHAM.

FORMERLY this was a large educational college, which had been unoccupied for six years until just recently. It is beautifully situated in twenty acres of well-wooded grounds, but is now converted into a place for recreation of a somewhat high class character, and a Rose show on an extensive scale was the

inauguration fete on the 19th and 20th inst. The proprietor, Mr. Ross, offered some very liberal prizes, and a large number of the leading trade growers of the kingdom gave a generous response in their large entries, but the very unsettled weather, with so much rain just before the 19th, so bruised the blooms that a large number of withdrawals had to be made. Still there was a very fine display by Mr. B. R. Cant, Mr. Frank Cant, Messrs. Cooling & Sons, Dicksons, Limited, Messrs. Prior & Sons, Messrs. Perkins & Sons, Messrs. Jeffries & Son, Mr. H. V. Machin, and many local amateurs.

For 72 blooms, Mr. Frank Cant was 1st with a beautiful lot, including fine blooms of Mary Bennett, Victor Hugo, Her Majesty, Pride of Waltham, Duke of Edinburgh, Comtesse de Nadaillac, Benoit Comte, Madame Eugene Verdier, and Gustave Pigareau; 2nd, Mr. B. R. Cant, in whose stand were fine blooms of Mrs. John Laing, Prince Arthur, Ernest Metz, Countess of Rosebery, Gustave Pigareau, Mr. Paul, Comtesse de Nadaillac, and Madame de Watteville. For 48 blooms; 1st, Messrs. Perkins & Sons; 2nd, Mr. B. R. Cant; 3rd, Messrs Dicksons, Limited; 4th, Messrs. Cooling & Sons. For 36 trebles there had been 10 entries, but only one could be staged, from Mr. B. R. Cant, a fine lot of bloom, to which the first prize of £6 was awarded. For 36 dissimilar, there had been 13 entries: 1st, Messrs. Perkins & Sons; 2nd, Messrs. Dicksons, Limited; 3rd, Messrs. Jeffries & Son; 4th, Messrs. Prior & Sons.

For 24 Roses, amateurs, 1st, Mr. H. V. Machin, Worksop; 2nd, Mr. J. Egginton, Wolverhampton. The two classes for amateurs residing within six miles of the Birmingham Post Office were well filled and well competed for. For 24 Teas or Noisettes, open, 1st, Mr. Frank Cant: 2nd, Messrs. Jeffries & Son; 3rd, Messrs. Prior & Sons; 4th, Mr. B. R. Cant. In the classes for 12 Lights, 12 Darks, and 12 Yellows there was a good competition by the trade growers.

The withdrawals through the terrible weather numbered nearly 2,000 blooms, and all through the first day it rained with a strong gale blowing. The second day was a lovely one, and a large number of visitors attended. Messrs. Cooling & Sons contributed two boxes of their garden decorative Roses as at Wolverhampton, and they were much admired.

Large prizes were offered for circular groups of plants, and these filled the centre of a very long tent. Mr. W. H. Dyer, gardener to Mrs. Marigold, Edgbaston, was 1st with a very beautiful group; Mr. Earp, the gardener at Highbury, being 2nd with a fine group in which were several Orchids, but a flatness in the arrangement marred the effect here; Mr. Dunning was 3rd.

Some charming smaller groups in another class were also set up, and Messrs. Thomson & Co., nurserymen, staged a beautifully arranged group at the entrance to the tent. Messrs. Hewitt & Co. contributed a fine bank of Pelargoniums, a box of plants of the very pretty decorative variety A. F. Barron, fine Begonia blooms, and cut herbaceous plants. Messrs. Thomsons a collection of herbaceous blooms, etc. Mr. Hy. Eckford, Wem, 36 bunches of his fine Sweet Peas, including several new varieties. Mr. Jannoch, Lily Nurseries, Dersingham, a charming display of Lily of the Valley blooms, and his new fine Adiantum Capillus-Veneris, var. grande. Messrs. Hy. Cannell & Sons a grand lot of Double Begonia blooms admirably staged in sprays.

An exhibition of Dahlias and other things with good prizes is to take place the end of August.

CATTLEYA WARSCEWICZII HARDYANA.

The season has again come round for such handsome Cattleyas as C. Dowiana, C. Warscewiczii, better known as C. gigas, and C. W. Hardyana, to adorn the shelves and stages of the Orchid houses as well as the exhibition table. We were agreeably reminded of this fact by receiving some beautiful flowers of C. Warscewiczii, otherwise C. gigas, and C. W. Sanderiana from a Lancashire correspondent who signs himself "W." The flowers of the first-named, which was introduced about three years ago under the name of C. imperialis, measured somewhat over 8 in. in diameter and bore every evidence of good cultivation, considering that the plant itself was a very small piece when bought at Mr. Tautz's sale about two years ago. The special feature of the flower was that the two conspicuous eye spots of the lip were connected together across the disc, a circumstance which, we think, is not very common. The other variety had smaller, but sweetly scented flowers with a much darker lip, without the scattered spots seen in C. Warscewiczii. The eye spots were also distinctly separated, as in the variety C. W. Hardyana, which we illustrate to show the general character of the grand forms of C. labiata, which may be ranked under C. l. Warscewiczii. The lip of Mr. Hardy's grand Cattleya is notable for its rich and intense colours reminding us of what occurs in C. Dowiana and which led to its being supposed a natural hybrid between C. labiata Dowiana aurea and C. l. Warscewiczii, otherwise known as C. gigas.

Cattleya Warscewiczii Hardyana.

THE HERBACEOUS BORDER.

Choice Plants in Flower.

ORCHIS FOLIOSA.—Usually this is not regarded as an ordinary herbaceous subject, but in suitably moist soil it would give more satisfaction than is generally supposed. A cool position should of course be selected for it, and should the natural soil be in any way retentive, some peat and leaf soil worked into it would do wonders in enabling it to retain sufficient moisture to sustain the plants in health during droughty periods. More often than otherwise O. foliosa is planted in dry situations amongst the roots of trees where it can only languish, under the supposition that shade is all that it requires. The leafy stems and large purple flowers are very effective.

LILIUM HUMBOLDTII.—About ten or a dozen flowers form the usual average of this species, though sometimes it will produce thirty to forty in a broad deltoid panicle. They droop face downwards with revolute segments, and are reddish orange, variously lined or spotted with crimson. The lanceolate dark green leaves are borne in rather distant whorls along the stem.

LIATRIS SPICATA.—Composites are often rather coarse in habit, but the species of Liatris are characterised by their neatness. Most of the linear leaves of L. spicata arise near the ground and the stem seldom exceeds 15 in. to 18 in. in height although it may be less. The soft purple flowers are borne in a close spike and are very pretty. Division of the crowns may be effected in spring.

CODONOPSIS OVATA.—The habit of this plant is dwarf, compact, and neat compared with that of some of the other species, which are of a climbing nature and require support of some kind. The lower leaves are ovate, the upper lanceolate, and all of a decidely glaucous or almost grey hue. The flowers are deeply bell-shaped, pale lavender externally and most beautifully ornamented internally. Near the base are two purple zones with a white one between them, followed by an orange and then a black zone in the centre. It is a native of the Himalayas, proves perfectly hardy here, and may be propagated by half-ripened cuttings and seeds.

LATHYRUS SYLVESTRIS PLATYPHYLLOS.—The common Everlasting Pea is better known under the name of L. latifolius; but whatever name be given, it is certainly one of the most conspicuous ornaments of the garden at the present time. The flowers of different shades of rose are produced in racemes of twelve to fifteen blooms, and in the greatest profusion, forming a succession that endures for some weeks. When planted in the herbaceous border proper it should be relegated to the back line, and have a branching support over which it can climb.

ASTER SIBIRICUS.—Amongst the better known species, A. alpinus commences the season as far as the perennial Asters are concerned, and is followed by the somewhat taller A. sibiricus with its numerous large purple flowers which are in perfection now. The stems are about a foot in height, and branch freely near the top bearing a profusion of flowers.

SPIRÆA LOBATA.—The Queen of the Prairie, as it is called in its native country, North America, may occasionally be seen in British gardens about 4 ft. in height, and less often in the form that does not exceed a foot in height. Different varieties or forms under different conditions range up to 8 ft. high. All have a cymose and somewhat club-shaped panicle of pink or rosy pink flowers similar to those of our native Meadow Sweet except in colour. A moist position should be selected for it if possible.

CAMPANULA RHOMBOIDALIS.—Amongst the medium sized Bellflowers this holds a high position as far as general utility is concerned. The stems grow 12 in. to 15 in. in height as a rule, and bear a profusion of large, drooping blue flowers. When established in the herbaceous border it is well able to take care of itself, and is easily propagated by division. The front line of the border is the best place for it, as support is seldom necessary.

MORINA LONGIFOLIA.—The spiny leaves of this plant more resemble a Thistle than most of the members of the family to which it belongs. They gradually get shorter up the stem until they become mere bracts under the oblong head of flowers. The latter are white in bud, and as they expand become pink, and ultimately of a bright rose-red and are then at their best. The plant proves perfectly hardy even in the far north, planted in the ordinary border if the latter consists of light, rich and well-drained soil.

SENECIO KÆMPFERI.—There are several species of Senecio of the section Ligularia that have a bold and striking appearance apart from the beauty of their flowers, and the species under notice comes under that category. The heart-shaped leaves are of great size and toothed along the margins, while the flower stems rise to a height of 2 ft. to 3½ ft., bearing a terminal raceme of bright yellow flowers. It would therefore prove a bold object for the second or third line of a border.

CHRYSANTHEMUM CORYMBOSUM.—If the genus Pyrethrum were to be retained this plant would take its place under that name. Its deeply and finely cut leaves closely resemble those of P. roseum, now well-known from the great number of single and double varieties in cultivation. The stems attain a height of two feet and terminate in a corymb of numerous heads of moderate size, with white rays, but very effective in the aggregate even at a distance.

TRENTHAM FLOWER SHOW.

THE Trentham and Hanford Horticultural Society held its fifth annual exhibition on the 21st inst., in the world-renowned gardens of Trentham, and being favoured by glorious weather it was horticulturally and financially an unqualified success. It was the first show of the series that we have enjoyed the pleasure of seeing, and it was a revelation to us. With many others we had almost come to believe that a provincial flower show without other attractions than music can hardly now be made to pay, yet here was proof in abundance that given such favourable local circumstances as a suitable site, and a large population within easy reach, a "live" committee can still get together such purely horticultural attractions as will draw the public in sufficiently large numbers to leave a handsome surplus every year when all expenses are paid; and unless a good profit is made to keep the committee in heart and abreast of the times, but little good is done towards advancing horticulture.

The Trentham executive has no subscription list to help them along, they depend entirely upon the "gate" and special prizes for their funds, but they are fortunate in having the hearty support of the Duke and Duchess of Sutherland, and the Marquis of Stafford; in having magnificent surroundings to their show ground, than which there are none finer to be seen anywhere; in having a hard-working and resourceful secretary in Mr. John Taylor; and in having on the committee such an enthusiast as the Duke's gardener, Mr. Peter Blair, who knowing what visitors want and exhibitors can do applies his knowledge to the management of the society's business with judgment and effect.

The society so far from offering prizes for a medley of garden subjects, rather confines itself to a few specialities, which are groups arranged for effect, Roses, fruit, and cut flowers, the competitions for which are all open; and cottage garden produce, such as fruits, flowers, and vegetables, and by giving liberal prizes the plan works remarkably well. Thus the class for a group occupying space not exceeding 300 square feet, the prizes in which were—1st, £25; 2nd, £16; 3rd, £12; and 4th, £9, brought out five competitors, and it is not too much to say that five such groups were never seen together at any exhibition before. They were an exhibition in themselves, and an object lesson in grouping of rare excellence. Mr. Cypher, of Cheltenham, made his first public appearance as an exhibitor in this line, and secured the premier award with a group in which Orchids formed a conspicuous part, and which was made up with a smaller quantity of materials than the others, a point to which good judges attach much importance, other points being equal. Next came Mr. McIntyre, gardener to Mrs. Gurney Pease, Darlington; Mr. J. Edmunds, gardener to the Duke of St. Albans, Brestwood; and Mr. A. Webb, gardener to J. H. Manners Sutton, Esq., Kelham Hall, Newark, in the order named; and the fifth competitor, deserving of honourable mention here, was Mr. Currie, of Salisbury.

The Rose classes suffered greatly in point of numbers owing to the excessive rainfall of the previous Tuesday, which seems to have had a worse effect on Teas and Noisettes than on the H.P.'s, for of the latter the blooms staged could scarcely have been excelled for cleanness, size, and brilliancy of colour. In the classes for 48 and 36 single blooms respectively the awards went in the order named to Messrs. Harkness & Sons, Bedale; Messrs. Perkins & Sons, Coventry; and Mr. B. R. Cant, Colchester. For 24 Messrs. Harkness & Sons were first, and Messrs. Perkins & Sons, second.; and the last-named firm were first with 12 single blooms of any dark variety showing the little known Jean d'Liliere, one of the varieties sent out by the late Mr. Henry Bennett. In the corresponding class for light varieties Messrs. Harkness were first, with Mrs. John Laing; and Messrs. Dicksons, Limited, Chester, second. with Merveille de Lyon; and with a similar number of any other colour Mr. Frettingham, of Beeston, came in first, with Marie Baumann; Messrs. Perkins & Sons, second, with A. K. Williams; and Messrs. Dicksons, Limited, third, with Marie Baumann. The best epergne or basket of Roses came from Messrs. Jenkinson & Sons, who had also the best dozen bunches of cut, stove, and greenhouse flowers; and the best ball and bridal bouquets in very strong classes.

The display of fruit was remarkably good, both as regards extent and quality, in fact, the finest this season has yet produced, and will be very hard to beat, the Grape classes especially. For a collection of nine dishes of fruit there was a very spirited competition, and Mr. McIndoe, Hutton Hall, Guisborough, would have been placed first but for a misinterpretation of the schedule. He took, however, Messrs. Dickson, Brown & Tait's special prize for the best exhibit of fruit in the show, and so got a little consolation. The 1st prize went to Mr. Goodacre, Elvaston, who had a capital lot consisting of Black Hamburgh and Foster's Seedling Grapes, Sir J. Paxton Strawberries, Grosse Mignonne Peaches, Brown Turkey Figs, Countess Melon, Elruge Nectarines, Queen Pine and Black Circassian Cherries. Mr. Dawes, Temple Newsham, was a good 2nd, and Mr. Bannerman, Blithefield, Rugeley, 3rd. The last-named exhibitor was 1st with six dishes, having in his collection the best finished three bunches of Duke of Buccleuch we have seen for many a day. Mr. W. Elphinstone, Shipley Hall, Derby, was a near 2nd, showing amongst others a specially fine dish of James Veitch Strawberries; Mr. McIndoe was 3rd. In a very fine competition with four bunches of Grapes, two distinct varieties, Mr. Craven, gardener to J. Grant Morris, Esq., was 1st, with admirably finished Black Hamburgh and Madresfield Court; Mr. G. Allsopp, gardener to Lord Hotham, 2nd, with Muscat of Alexandria and Buckland Sweetwater; and Mr. W. Elphinstone, 3rd, with Black Hamburgh and Madresfield Court. The best Black Hamburghs came from Mr. McVinish, gardener to N. E. Curzon, Esq.; the best black, any other variety (Madresfield Court) from Mr. Wilks, gardener to Mrs. Meakin; the best Muscats from Mr. W. Elphinstone; and the best white, any other variety (Foster's Seedling) from Mr. Bannerman. In other competitions, Mr. McIntyre was 1st for a green-fleshed Melon; and Mr. B. Fitzherbert for the best scarlet-fleshed; Mr. McVinish had the best Peaches; Mr. C. J. Waite, Glenhurst, the best Nectarines; Mr. Elphinstone the best Strawberries; Mr. J. Hudson, Gunnersbury House, the best Cherries; and Mr. Allsopp the best Tomatos. The special prize given by Mr. W. Colchester for a dozen Peaches, two varieties, was won by Mr. W. Elphinstone.

Vegetables were also well and extensively shown, and the local Cottagers' Section also brought out a very fine lot of produce. The Society's prizes for a collection went to Mr. Wilkins, Inwood House, Blandford; Mr. Crawford, Coddington Hall, Newark; and Mr. C. J. Waite, Glenhurst, Esher, in the order named. Messrs. E. Webb & Son's special prizes were taken by Mr. Wilkins, Mr. Wilks, and Mr. McIndoe; and those given by Messrs. Sutton & Sons went to Mr. Wilkins, Mr. B. Fitzherbert and Mr. McIndoe.

Silver Medals were awarded to Mr. Jennings, gardener to Leopold de Rothschild, Esq., for a magnificent group of pink and white Malmaison Carnations; to Mr. Baison, of Wolverhampton, for mushroom spawn; to Mrs. Hodgkinson, of Withington, for skeletonised leaves; to Messrs. W. Cutbush & Son, of London, and Messrs. Hewitt, of Solihull, for flowers.

GARDENING MISCELLANY.

CAMPANULA ROTUNDIFOLIA SOLDANELLÆFLORA.

THE varieties of the Harebell are very numerous, and some of them are highly prized in the garden, sometimes under different specific names in the case of the more distinct varieties that grow wild on the continent. The variety under notice is remarkable for the way in which the originally bell-shaped corolla is cut into long narrow segments, and spread out in such a way that the flower appears semi-double. The colour is of a deep blue-purple, and with exception of the lacerated condition of the corolla there is nothing very special about the plant. Notwithstanding this, however, anyone not acquainted with the plant would fail to recognise in it a Campanula, much less the ordinary Harebell so plentiful on the commons but especially in hilly districts. Like the others, this very singular variety is most at home on rockwork, but may indeed be grown with the greatest of freedom in any ordinary garden soil. It should not be overshadowed by trees to any extent, otherwise it will not flower very strongly.

TEUCRIUM PYRENAICUM.

THE leaves of this little Teucrium are roundly cuneate and crenate along the outer edge. The flowers are crowded at the top of the short procumbent stems, and are white at first with a purple upper lip, soon assuming a darker hue; the lower lip also becomes pale purple or lilac after a time. This particoloured character of the flowers serves to give the dainty little Alpine a more conspicuous appearance than it would otherwise possess if the flowers were simply white. It is most suitable for the ledges of rockwork, and would be lost if planted lower down in closer proximity or in competition with grosser growing subjects.

DISPORIUM SESSILE VARIEGATUM.

THE leaves of this species are lanceolate, long pointed, and mostly arranged in two ranks upon the short stems. The variegation takes the form of an irregular white edge, and renders an otherwise uninteresting plant worthy of a place amongst hardy plants where it can be limited to a certain restricted area. The underground stems are very much inclined to ramble and appear at considerable distances from the mother plant, and it may be in the centre of something else. The best plan would be to make up a bed specially for it on or about rockwork, using a considerable quantity of peat. This area could be isolated from everything else by means of slates or slabs sunk edgeways in the ground and covered if necessary to prevent their being unsightly. Here it would look pretty all through the summer months.

CHRYSANTHEMUM MULTICAULE.

SEVERAL of the annual species of Chrysanthemum bear a close resemblance to one another, and the garden varieties require close scrutiny to distinguish those forms which belong to one species and those which belong to another. C. multicaule differs from most or all those species in cultivation both in habit and the form of the flowers. The stem becomes much branched at the very base, and all the stems are procumbent and terminate in a single flower head of medium size compared with those of C. segetum, to which in some respects it may be compared. The flowers are of a clear yellow, and the rays stand erect, making the head somewhat cup-shaped. The leaves are spathulate, serrate, and mostly lie close to the ground. The plant is only of annual duration, but may be considered pretty.

A FLOWER CLOCK.

IN the gardens of the Trocadero in Paris there is on exhibition a remarkable clock. It has neither barrel nor pendulum; its motive power is supplied by water, and the hour and minute hands as well as the figures on the face of the clock are made of flowers. The dial is composed of different species of dwarf plants, which are a speciality in the gardens. The machinery by which the clock is worked is situated under the ground and reached by a staircase. The water, coming from a cascade, is kept in a reservoir furnished with an overflow pipe, in order that there may be a uniform level in the reservoir. The details of the machinery, and the manner in which it is kept working by the water, are extremely simple, and were invented by M. Casalong. Not long ago a floral sun-dial was placed in one of the Chicago parks, and it is to be hoped that this example of a style of ornamentation in which horticulture and mechanism are so happily combined be followed in some of our own. The expense of these floral beauties is by no means great if the water for their working can be easily supplied. The subject might be recommended to those of our landscape gardeners who have exhausted all the orthodox modes of ornamentation. — *H. C. Fyfe*, 80, *Elsham Road, Kensington.*

CLEMATIS VIORNA COCCINEA.

WITH the shelter of a wall, this beautiful Clematis comes through the ordeal of our winters in the southern portion of England, at least, and flowers satisfactorily. To the uninitiated the flowers do not much resemble the common and most familiar kinds in gardens owing to the urnshaped arrangement of their sepals, which are four in number, erect, and revolute at the tips. The outer surface is bright scarlet, while the inner is yellow, and just shows itself to the beholder where the sepals become revolute. The leaves are glaucous, and divided into five or seven leaflets, or the uppermost ones may be quite entire and cordate. It is a climbing species with slender stems, and requires support of some kind. A little mound of ashes over the roots would make them doubly safe in winter.

SALVIA SYLVESTRIS.

THE species of Salvia are extremely numerous, but a great many of the hardy kinds are not sufficiently attractive to the general public to meet with its approbation. S. sylvestris is highly ornamental and very conspicuous when grown in a good sized clump and the desired dimensions it will soon attain when planted in any good garden soil and allowed to establish itself. The stems attain a height of 2½ ft. to 3 ft., grow very closely and branch freely in the upper part, so that the flowers, although not very large individually, produce a striking effect in the aggregate. They are of a bright blue, and the calyx, being of a bronzy purple, adds considerably to the general effect. The stems are well furnished with lanceolate leaves; and altogether the plant merits a place in the herbaceous border. At presents it ranks in the list of neglected plants.

SOCIETIES.

Royal Horticultural, *July 26th.*—The collections brought up for the inspection of the committees on Tuesday last were very varied, including Caladiums, Palms, Ferns, Gloxinias, carnivorous plants, hardy herbaceous perennials, and Carnations in particular. Orchids were fairly represented for this season of the year. A small group of Orchids was exhibited by Messrs. H. Low & Co., Clapton, including Sobralia Lowii, Lælia amanda, a fine form of Cattleya Leopoldiana and C. Schilleriana Lowiana. Cattleya Rex was shown by H. M. Pollett, Esq. (gardener, Mr. T. Paterson), Fernside, Bickley. Some Cypripediums were exhibited by C. Ingram, Esq. (gardener, Mr. T. W. Bond), Elstead, Godalming. Some grand spikes of Saccolabium Blumei were shown by the Marquis of Salisbury (gardener, Mr. G. Norman), Hatfield. Cattleya gigas Sanderiana, one flower of which had three lips, and a fine plant of Eria vestita were shown by C. J. Lucas, Esq. (gardener, Mr. G. Duncan), Warnham Court, Horsham. Cypripedium Youngeanum and C. Bryan, both hybrids, were shown by Norman C. Cookson, Esq. (gardener, Mr. W. Murray), Wylam-on-Tyne. Mormodes pardinum citrinum was exhibited by J. F. Alcock, Esq. (gardener, Mr. Wade), Northchurch, Berkhamstead. Welbore S. Ellis, Esq. (gardener, Mr. Masterton), Hazelbourne, Boxhill, Dorking, exhibited Cattleya Rex. A Cultural Commendation was awarded to F. Wigan, Esq. (gardener, Mr. W. H. Young), Clare Lawn, East Sheen, for a fine basket of Platyclinis filiformis. He also showed Stauropsis lissochiloides (Vanda Batemanni) and Dendrobium Leeanum atropurpureum. A fine variety of Cypripedium Godefroyæ and another of C. superbiens, with finely spotted petals, were shown by Mr. P. McArthur, the London Nursery, 4, Maida Vale. A little group of Orchids, including Cattleya Eldorado crocata and Cœlogyne peltastas and some Miltonias, were shown by G. K. Le Doux, Esq. (gardener, Mr. Bovyan). East Moulsey. A group of Cypripediums, Cattleyas, Miltonias, and Angræcum distichum was put up by Messrs. F. Sander & Co., St. Albans. A group of Orchids was also shown by Messrs. Pitcher & Manda.

A Silver Gilt Banksian Medal was awarded to Messrs. J. Laing & Sons, Forest Hill, for a large group of Caladiums, set up with Palms and Ferns. The number of varieties of Caladium was considerable, and the foliage varied and effective. A similar award was made to Martin R. Smith, Esq. (gardener, Mr. Blick), Hayes Common, for a beautiful and very varied group of Carnations grown in pots. Selfs were most predominant and rich in hue. A Silver Gilt Flora Medal was awarded to Messrs. Pitcher & Manda, Hextable, Swanley, for a large group of Carnivorous plants, brought up to illustrate a lecture on that subject. Sarracenias were most numerous and varied, but Venus Fly-trap, Sundews, and Cephalotus were also well represented. A small group of Sarracenias, Nepenthes, and Cephalotus was exhibited by Messrs. B. S. Williams & Son, Upper Holloway. A Silver Gilt Flora Medal was awarded to Messrs. J. Veitch & Sons for a large and varied collection of Nepenthes, including seedling Sarracenias, Droseras, hybrid greenhouse Rhododendrons, and five large boxes of Carnations and Picotees in great variety. Nepenthes Burkei excellens, and N. Curtisii superba were fine. A Silver Banksian Medal was awarded to Messrs. Pitcher & Manda for a collection of cut flowers of herbaceous plants. A tall flowering specimen of Dasylirion serratum was shown by W. A. South, Esq. (gardener, Mr. C. Payne), Neasden, N.W. A collection of Pentstemons, Carnations, and Picotees was set up by Messrs. J. Laing & Sons, Forest Hill, as well as a basket of a species of Zephyrauthes. A collection of double Begonia blooms of great size was set up by Messrs. H. Cannell & Sons, Swanley, and was awarded a Bronze Banksian Medal. A very fine strain of Gloxinias was shown by Mr. James B. Riding, the Nurseries, Chingford. A pretty and interesting collection of Sweet Peas was exhibited by Mr. H. Eckford, Wem, Salop; Orange Prince and Firefly were fine colours. A quantity of flowering branches of Clethra arborea was shown by Mr. G. Wythes, gardener to the Duke of Northumberland, Syon House. A beautiful, new, and free-flowering white border Carnation was exhibited by Mr. F. Webber, Quarry Hill Nursery, Tonbridge. A Silver Gilt Flora Medal was awarded to Messrs. Paul & Son, Cheshunt, for a large collection of herbaceous plants, Roses, Carnations, and Picotees. Twenty varieties of Carnations wintered in the open air at Kensington, were shown by Mrs. C. Jones (gardener, Mr. W. Barton). Two pans of Lilium auratum rubro-viltatum were shown by Messrs. J. Veitch & Sons. A bright scarlet Carnation named Jim Smyth was shown by Mr. H. G. Smyth, 21, Goldsmith Street, Drury Lane. A collection of single and double Begonia blooms was shown by Mr. T. S. Ware, Tottenham. Some flowers of a white Pink named Snowflake were shown by Henry Brownhill, Sale, Manchester. A fine collection of Gloxinias, including the new netted strain, Her Majesty, white; Duke of York, red and white, and some others, as well as a group of a very showy annual, named Nemesia strumosa Suttoni, were shown by Messrs. Sutton & Sons, Reading. Crocosmia aurea imperialis and Aster diplostephioides were shown by W. Marshall, Esq., Auchinraith, Bexley. Some beautiful Carnations, including Maggie Lawrie, Cantab (a scarlet Clove), and Mrs. F. Gifford, were exhibited by Mr. F. Gifford, Montague Nursery, Tottenham. Some Sweet Peas were shown by Messrs. Laxton Brothers, Bedford. A curiously fasciated stem of Verbascum phlomoides was shown by Mr. Herrington, Shrubland Park, Suffolk.

At a meeting of the Fruit Committee a Silver Knightian Medal was awarded to Messrs. J. Veitch & Sons for a large collection of Gooseberries, Currants, Raspberries, and Cherries. Some Melons were shown by Mr. G. Wythes; by Mr. S. H. Sage, Ham House, Richmond; by Mr. J. Fitt, Panshanger, Herts; and by Mr. O. Thomas, The Royal Gardens, Frogmore, the latter of whom obtained a Bronze Knightian Medal. He also had some fine Peaches. A Silver Banksian Medal was awarded to Lord Foley (gardener, Mr. J. Miller), Ruxley Lodge, Esher, for a collection of Peaches. A Silver Gilt Knightian Medal was awarded to Messrs. T. Rivers & Son,

Sawbridgeworth, for Peaches and Cherries neatly done up in boxes. A stand of Carter's Daisy Pea was exhibited by Messrs. J. Carter & Co., High Holborn, showing its dwarf fruitful nature.

ORCHID NOTES AND GLEANINGS.

Orchid Growers' Calendar.

MASDEVALLIAS.—Plants that were not repotted in the spring, should be seen to at once. We have succeeded in growing this brilliant cool house Orchid equally well whether the plants were potted in spring or at the present time, and in giving preference to August it is because there is not so much to be done in the way of potting at this season. The greatest care must be exercised whenever it is done, so as not to break the point of the roots, as Masdevallias do not throw out rootlets like Odontoglossums, Cattleyas, etc., should the point be damaged. Good peat with not too much of the fine shaken out, sphagnum moss in equal parts, and silver sand suits them well. Some growers use leaf soil with good effect, but the leaves should not be very much decomposed. Use as small a pot as seems consistent with the health of the plant and the quantity of roots it may have, and do not cover the rhizome. When finished the plant should be about an inch above the rim of the pot if a 6-in. pot is used, and so on in proportion. Very low potting does not suit them, as they like good drainage, Red thrips are very troublesome pests which infest these plants, and unless they are kept under by frequent dippings in tobacco water, will soon cause them to dwindle away.

LYCASTE SKINNERII is now growing fast and should receive liberal treatment by affording the plants guano water. This is an Orchid of easy culture and will grow under various modes of treatment, but does best when grown cool. Do not starve it, however, or it will not grow well anywhere.

MAXILLARIA VENUSTA, now in flower, helps to brighten up the dull season. This does best when grown cool, and on that account should be grown by amateurs.

LÆLIA ANCEPS.—We can now see how many of the white ones are going to flower. We have a few spikes, but not so many as we expected from the large growths made. Spikes on the dark ones are very plentiful, and enough has been seen of the white ones to tell us pretty plainly that to do it well it must be treated very liberally indeed. The plants that are flowering are all grown in baskets suspended high up, close to the glass, and the leaves almost touching it. On the plants grown in pots and standing on the stages, although close to the glass, there is not a solitary spike. These will, when the potting time comes round, be put into baskets and suspended with the others.

THE WEATHER still keeps very cold, which necessitates the fires being kept going during the night in the warm divisions, with a good circulation of air. It is much better to keep the temperature up by having recourse to fire heat with air on, than to do so by closing the ventilators. The fires need not be large ones, just enough to make the water in the pipes warm, so that the temperatures do not fall below those given in a previous calendar. —*C.*

Eulophiella Elizabethæ.

IT is seldom necessary to establish a new genus for the reception of a new Orchid, but this has been found necessary in this case. The pseudo-bulbs are somewhat similar to those of a Catasetum and bear numerous scars of the fallen leaves. The arching flower stalk bears a raceme of numerous blooms apparently about the same size as those of Odontoglossum citrosmum. The vinous purple flower stem and bracts are much about the same colour as the flowers while still in bud, and the outer surface of the sepals retains a rosy-red hue even after expansion. The inner surface of both sepals and petals is white or nearly so, and the lip has a large yellow blotch on the disc. Its native country has not yet been divulged, but it will evidently require to be grown in a warm house. It was introduced by the Messrs. Linden, Parc Leopold, Brussels, and has been named in compliment to Queen Elizabeth of Roumania, who is known in literary circles under the title of "Carmen Sylva." There is a coloured figure of it in the *Lindenia*, pl. 325.

Bulbophyllum barbigerum.

As the season again comes round for this interesting curiosity to bloom it proves as novel as ever. The flowers individually are neither large nor have they bright or attractive colours: the great feature of interest is the heavy beard of relatively long, black hairs on the moveable lip which keeps swinging up and down with the slightest breath of wind, and looks more like an animated being than a plant. The precise object of this movement we have still to determine, for there is yet much to learn of the ways of nature. A plant was flowering the other day in the Orchid house at Kew.

WHAT TO DO IN THE GARDEN.

Eucharis grandiflora.—Pots of this plant desired to flower during the winter months should at present be encouraged to make good growth, for upon the strength of the foliage will depend the ability of the bulbs to flower strongly.

Gardenias.—Sturdy little plants of this can be obtained by the end of autumn if cuttings of fairly ripened wood are taken off now and put into bottom heat, either artificial or that obtained from fermenting manure. Growths should be selected with two or three shoots, so that they will practically be little plants when they are rooted.

Selaginellas.—Several of the Selaginellas that are found very useful for decorative work, and which are very liable to damp off when they get old and very dense, should be propagated now with the object of fresh young stuff for winter work. This might include S. Kraussiana and its varieties, S. apus, and some of the more quickly growing forms of S. Martensi. S. apus under ordinary conditions is often difficult to keep through the winter, especially if the plants are old; but the difficulty can be considerably lessened by making up a few pots or pans of it now.

Ixoras.—Nice young plants of this can be obtained now with a little bottom heat, to be grown on for cut flowers next year in conjunction with older and cut-back plants. Young plants are desirable for this kind of work, as by potting them on a vigorous growth can be obtained and larger trusses of bloom than from old plants. They are very serviceable for indoor decoration when carrying from four to nine trusses each.

Camellias.—Plants that have now completed their growth for the season may be advantageously potted on at this stage if the state of their roots requires it. Good fibrous loam and peat in equal proportions, with some small lumps of charcoal, some finely crushed bones, and sharp sand, proves a useful compost in which to pot them.

Pot Roses.—Any repotting that may require to be done can be more advantageously effected at this time than later on, because the fresh soil can be permeated with roots before the fine weather is over, and the plants will be in a better condition for forcing than when potting is done late.

Cinerarias and Primulas.—A sowing of seeds of Cinerarias for late flowering may still be made. The earliest batch should by this time be in 60-size pots, or some of the more forward of them in 48's even. Good fibrous mellow loam enriched with a good quantity of well-decayed cow manure and leaf soil will form a suitable compost for them. Both they and the young plants of Chinese Primulas may enjoy free exposure during mild and cool weather, but protected when heavy storms of wind and rain prevail. Shade from direct sunshine if the latter is at all powerful.

Vineries.—The vineries from which the fruit has been gathered should be kept freely ventilated night and day. The terminal shoots may be allowed to ramble at their freedom, and likewise the laterals so long as there is plenty of room for the foliage and for the young wood to be properly exposed to light and air so that it may get thoroughly ripened. The laterals must be judiciously shortened back when there is any liability of undue crowding. Water the borders with clean water before they get in any way too dry. Successional houses, especially where the Grapes are not in a very advanced condition, should be assisted with fire heat. This will be all the more necessary if we have a continuance of the cold and wet weather which has hitherto characterised the greater part of this month. When the sun comes out bright and strong, the heat can of course be turned off till the sinking sun gets less powerful.

Morello Cherries.—The fruits on the early varieties of Cherries grown on walls having been gathered, the nets used to protect the fruits from birds will now be at liberty to be transferred to the Morellos, now commencing to colour on north aspect walls. Before doing so the trees may be inspected to see whether they are clean and free from black fly to which they are very subject. If little is the matter with them a forcible syringing from the garden engine will be sufficient, otherwise an insecticide consisting of strong soap suds to which some tobacco juice has been added may be used before netting the trees.

Winter Spinach.—Make a sowing of this vegetable during the first week in August. The lines should be 15 in. to 18 in. apart if full justice is to be done to it.

Coleworts.—Breadths of Coleworts, popularly termed Collards, should be planted out at once; the ground is in capital order as to moisture, and the plants will soon get established and grow away vigorously. The Rosette and hardy Green are amongst the best; but some growers prefer certain of the ordinary Cabbages as substitutes for Coleworts.

Broccoli, Savoys, and late Celery.—For the first two of these subjects it will be unnecessary to dig the ground if it was well prepared last winter or spring. Clear it of weeds, make out the lines, and plant. The latest crops of Celery may be got in; dig out the trenches, and put some good manure in the bottom, and plant out the Celery forthwith, watering if the weather should prove dry.

Obituary.

WE regret to record the death, which took place somewhat suddenly on the 16th inst., of Mr. JOSEPH ELLAM, superintendent of the University Parks at Oxford, aged 53 years. Mr. Ellam was for many years gardener at Bodorgan, in Anglesea, where he made for himself a good reputation as a master of his art, and raised the famous little early Cabbage which will keep his memory green for many a year to come. On the death of Mr. John Fleming he became gardener to the Duke of Westminster at Cliveden, and subsequently went to Oxford to take charge of the University Parks, a post which well suited his failing health and singularly quiet unassuming disposition.

QUESTIONS AND ANSWERS.

**** Correspondents are requested, in order to avoid delay, to address all communications to "THE EDITOR" or "THE PUBLISHER," and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa, London."*

NAMES OF PLANTS.—*W. M.*: The shrub is Neillia opulifolia; the red flower Astrantia major; and the white one Sidalcea candida.—*Omega*: The yellow flower was the dwarf Helenium (H. pumilum), it has no special popular name; the other the Crowned Campion (Lychnis coronaria).

WATERING PLANTS WHEN DRY.—*Omega*: It would be unwise to water plants in a dry state with very strong liquid manure, as the roots would be likely to suffer owing to the strength of the manure; but if the soil was moderately moist, then the manure would undergo further dilution and be harmless. The soil if very dry might be moistened a short time previous to the application of the liquid manure, and nothing serious will be amiss. When liquid or any other concentrated manure is given too strong the acids and salts contained in it have the effect of withdrawing moisture from the interior of the roots, the latter being unable to appropriate it because too strong.

SEEDLING PEAS.—*J. S.*: There is no necessity for pulling out those seedlings which do not appear to possess any special merit, for the good ones will not be in any way influenced by them. Pea flowers are no favourites with bees, either because they possess no special attraction for them, or because the bees are unable to obtain access to any food that may be there. At all events Peas can dispense with any extraneous aid to set their flowers, for they are self fertilising, and the blooms last but a short time in full beauty, as the pollen soon takes effect. Any number of varieties may therefore be grown together with little fear of inter-crossing. In some varieties at least the lower petals forming the keel of the flower never open.

CUTTING BRACKEN.—*Omega*: The fronds now being full grown and fairly well hardened it may be cut at once, and if put in little heaps after a day or two to prevent it from getting brittle, it will be less liable to crumble to pieces when being used than if

allowed to become thoroughly dried in the full sun. In fact it may be treated in the same manner as well-made hay. Some people cut it after it has become partly dried up, but it is then very liable to crumble to pieces. You cannot do better than cut it at once.

TOMATOS SETTING.—*T. R.*: When planted in the open ground the first formed bunches of flowers often hang a long time before reaching the flowering stage. Cold weather and frosty nights will act as checks on growth; and it may be that the energies of the plant are expended upon making growth during the early stages. Some of the flowers will as a rule set notwithstanding, even after the second bunches commence to do so. You may safely commence feeding the plants after a fair quantity of the fruit has commenced to set. Guano and nitrate of soda do act as stimulants upon growth, but a manure containing potash as well as the nitrogen and phosphates of guano will give better results in the yield of fruit than either of those plant foods alone. A general or complete manure given in small quantities at intervals of a month through the growing season will give a greater weight of fruit in conjunction with the farmyard manure applied to the soil in the previous autumn or winter, than an overdose of any single artificial manure. An overdose of a highly concentrated manure should not be given at any one application at any stage of growth, otherwise the plants may be more or less injured if not killed outright, especially during a dry time.

MARSDENIA ERECTA.—*J. Wilton*: The best plan is to take off cuttings in April or May and insert them in light, sandy soil, placing them in a little bottom heat. Take them off with a heel of the old wood if the cuttings are very soft; about 3in., or even less, would be a suitable size. There would be no harm in putting in a pot or two for trial as cuttings are plentiful just now. You might even try cuttings of the ripened wood a little later on, and after keeping them close for a time in a cold frame, place them in a heated pit to encourage the formation of roots. There is nothing better than making trial of those things, as they may be found by experiment to root under various conditions.

ONION FLY.—*A. R.*: The badly-affected bulbs may be destroyed now by burning or by deeply burying them so that the flies proceeding from the pupæ may be unable to get to the surface next year. You should have commenced this work early in the summer, or as soon as the young plants showed signs of becoming yellow, as you would then have been sure of getting the maggots in the bulbs. After they are full fed they leave the bulbs and drop into the soil where they change to pupæ and lie in the ground for a long time and then become perfect to produce several broods in a summer. The destruction of the early broods is therefore very important. The late broods lie in the ground all the winter and appear early in the following season. A good plan would be to trench the ground deeply in the autumn, turning the top spit into the bottom. A good sprinkling of gas lime scattered over the first spit in the trench would also destroy a great many of the pupæ in the soil. The deep trenching will prevent those in the bottom from getting to the surface if any of them are still alive.

HARD WATER.—*H. P.*: There is a method of filtering the water by "Maignon's Anticalcare Filter;" but we are not sure whether the filters are made sufficiently large to prove of service for your purpose; and no doubt a large one would be expensive. The next best possible remedy would be to make a tank or large tub in the open air and pump the water into this, allowing it to stand two or three days before use. You would, in fact, require two tanks so that the water in one might be used while that in the other is standing to soften by exposure to the atmosphere. You cannot expect a complete change in the water, but it would be considerably improved. We think, however, in the long run that it would pay you to have a good sized tank of slate or concrete constructed beneath the staging of the house where this does not already exist so as to catch the rain water from the roof. We are well aware that a deposit of lime is left on the foliage of all plants that are syringed with chalky water; and likewise that lime in any form is very injurious to all plants of the Heath family, including Rhododendrons, Azaleas, Kalmias, Andromedas, &c. For that reason it is necessary to use much peat and leaf soil for the making up of beds in which to plant those subjects. It must be equally bad if used in any quantity in the potting soil.

COMMUNICATIONS RECEIVED.—S. G.—E. P.—A. O.—S. & S.—S. C.—W. D.—G. H. M. (many thanks).—S. B.—A. P.—J. C.—M. R.—J. C. & Co.—O. O.—H. B. S.—C. H. B.—L. I. A.—W. K.

TRADE CATALOGUES RECEIVED.

WILLIAM BAYLOR HARTLAND, Cork.—Select List of Daffodils.

H. C. HARTEVELT, Lisse, near Haarlem, Holland.—Dutch and other Bulbous Roots.

HERD BROS., 47, King Street, Penrith.—Dutch Bulbs and other Spring-flowering Roots.

COVENT GARDEN MARKET.

July 27th.

FRUIT.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.
Black Currants ½ sve	5 0	
Red Currants ..½ sve.	2 6	3 0
Cherries .....½ sve.	3 0	5 0
Grapes..... per lb.	1 0	2 0
Peaches... per dozen	2 0	8 0
Melons..... each	1 6	2 0
Pine apples. —St. Michael's, each	2 6	6 0
Strawberries per lb.	0 3	0 9

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.
ArtichokesGlobe doz.	3 0	6 0
Beans, French, perlb.	0 9	
Beet..... per dozen	2 0	3 0
Cabbages ... per doz.	1 6	2 6
Carrots ... per bunch	0 6	
Cauliflowers, Eng.dz.	3 0	6 0
Celery.....per bundle	2 6	
Cucumbers .....each	0 4	0 9
Endive, French, doz.	2 6	3 0
Herbs .....per bunch	0 2	0 6
Horse Radish, bundle	2 0	4 0
Lettuces ...per dozen	1 6	2 0
Musbrooms, p. basket	1 3	2 0
Onions.....per bunch	0 4	0 6
Parsley ... per bunch	0 6	
Radishes... per dozen	1 6	
Smallsalading,punnet	0 4	
Spinach, per strike...	1 6	
Tomatos..... per lb.	0 6	1 0
Turnips .....per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arum Lilies, per doz.	6 0	9 0
Begonias ...per doz.	6 0	12 0
Crassula ...per doz.	12 0	24 0
Cyperus .....per doz.	4 0	12 0
Dracæna term., doz.	24 0	36 0
Dracæna viridis,doz.	9 0	18 0
Evergreens,invar.doz	6 0	24 0
Ferns, invar..per doz.	4 0	18 0
Ferns, small, per 100	8 0	12 0
Foliage Plants, doz.	12 0	60 0
Fuchsia, ...per doz	3 0	8 0
Heliotrope, per doz.	4 0	6 0
Ivy. Pelargoniums, per doz. pots	4 0	6 0
Lilium Harrisii,doz.	12 0	24 0
Lobelia, ...per doz.	2 6	4 0
Marguerites, perdoz.	6 0	12 0
Mignonette, per doz.	4 0	6 0
Musk, ...per doz.	2 0	4 0
Palms in variety,each	2 6	10 0
Palms, Specimen ...	15 0	63 0
Pelargoniums,perdoz.	6 0	12 0
—scarlet .....per doz.	2 0	4 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arum Lilies, 12 blms.	2 0	4 0
Bouvardias, per bun.	0 6	1 0
Carnations, 12 blooms	1 0	3 0
Carnations, doz. bun.	4 0	6 0
Cornflower doz bnchs	1 6	3 0
Eucharis ...per doz.	2 0	4 0
Gardenias 12 blooms	1 6	4 0
Gladioli...doz. buns.	6 0	12 0
—..... doz. spikes	1 6	3 0
Heliotropes,12 sprays	0 3	0 6
Lilium Harrisii, doz. blooms	2 0	4 0
Liliums var., dz.blms.	1 0	3 0
MaidenhairFern,12bs.	4 0	6 0
Marguerites, 12 bun.	2 0	4 0
Myosotis or Forget-me-not, doz. bnchs.	2 0	4 0
Mignonette... 12 bun.	1 6	4 0
Moss Roses, dz bchs	6 0	12 0
Pelargoniums, 12 sps.	0 6	0 9
—scarlet.....12 bchs.	3 0	4 0
Primula, double, bun.	0 6	0 9
Pinks .....doz. buns.	2 0	4 0
Pansies, doz. bchs ...	1 0	2 0
Pyrethrum doz bnchs	2 0	4 0
Orchid Bloom in var. per bloom, from	0 2	0 8
Roses, doz bunches	2 0	6 0
Roses, yellow, dozen	2 0	4 0
— Red..... doz. blms.	1 0	2 0
— Saffrano...per doz.	1 0	1 0
— Tea ..... per dozen	0 6	2 0
Stephanotis, dz. sps.	1 6	3 0
Stocks.....doz. bun.	3 0	6 0
Sweet Peas, dz. bns.	2 0	4 0
Sweet Sultan, dz. bn.	2 0	4 0
Tuberoses, per doz	0 4	0 6

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FLOWER SHOWS, &c., 1892.

[*The Editor will be greatly obliged if Secretaries of societies will communicate to him the dates of their exhibitions as soon as fixed.*]

AUGUST.

1.—Cottagers' Show at Earl's Court.
1.—Beddington and Carshalton Flower Show.
1.—Mansfield Flower Show.
1.—Northampton Flower Show (2 days).
1.—Southampton Flower Show continued.
2.—Oxford Union Carnation Show.
2.—Abbey Park, Leicester, Show and Gala.
6.—Midland Carnation and Picotee Show at Birmingham.
9.—Royal Horticultural Society: Committee Meetings at Drill Hall.
10.—Sevenoaks Flower Show.
10.—Queen's Park, Longton, Flower Show.
10.—Wilts Horticultural Society, at Salisbury.
10.—St. Anne's-on-the-Sea Show.
11.—Maidenhead Flower Show.
11.—Taunton Deane Flower Show.
12.—Cheadle Flower Show (2 days).
17.—Shrewsbury Flower Show (2 days).
17.—Cardiff Flower Show (2 days).
18.—Aberdeen Flower Show (3 days).
20.—National Co-operative Flower Show.
23.—Royal Horticultural Society: Begonia Conference, etc., at Chiswick (2 days).
23.—West Malvern and Mathon Flower Show.
24.—Kingswood, Gloucester, Flower Show.
25.—Droitwich Flower Show.
25.—Kenilworth Flower Show.
27.—Morley and District Paxton Society's Show.
29.—Cresswell Flower Show.
29.—Sheffield Flower Show (2 days).
30.—Brighton and Sussex "New" Horticultural Society's Show (2 days).
30.—Harrogate Horse and Horticultural Show.
31.—Bath Floral Fête (2 days).
31.—Bishop Stortford Flower Show.

SEPTEMBER.

1.—Oxford Flower Show.
1.—Stirling Flower Show (2 days).
2.—National Dahlia Show at the Crystal Palace (2 days).
6.—Royal Horticultural Society: Committee Meetings at Drill Hall.
7.—National Chrysanthemum Society's Show at Royal Aquarium (2 days).
7.—Royal Caledonian Horticultural Society (2 days)
9.—Autumn Flower Show at Earl's Court (2 days).
10.—Leicester Early Chrysanthemum and Dahlia Show.
20.—Royal Horticultural Society: Committee Meetings at Drill Hall.
28.—National Chrysanthemum Society: Meeting of Floral Committee.

OCTOBER.

4.—Royal Horticultural Society: Committee Meetings at Drill Hall.
5.—Fruit Show at Earl's Court (3 days).
12.—National Chrysanthemum Society's Show at the Royal Aquarium (3 days).
18.—Royal Horticultural Society: Committee Meetings at Drill Hall.
25.—Fruit Show at Earl's Court (3 days).
26.—National Chrysanthemum Society: Meeting of Floral Committee.
27.—Alverstoke and Gosport Chrysanthemum Show (2 days).

NOVEMBER.

1.—Royal Horticultural Society: Committee Meetings at Drill Hall.
1.—Kent County Chrysanthemum Show (2 days).
1.—Brixton Chrysanthemum Show (2 days).
1.—Barnstaple Chrysanthemum Show (2 days).
1.—Brighton and Hove Chrysanthemum Show (2 days).
2.—Ascot Chrysanthemum Show (2 days).
2.—Ealing Chrysanthemum Show (2 days).
2.—Portsmouth Chrysanthemum Show (3 days).
2.—Croydon Chrysanthemum Show (2 days).
3.—Steyning Chrysanthemum Show.
4.—Bolton Chrysanthemum Show (2 days).
8.—National Chrysanthemum Society at Royal Aquarium (3 days).
8.—Kingston and Surbiton Chrysanthemum Show (2 days).
8.—Enfield Chrysanthemum Show (2 days).
8.—Sevenoaks and West Kent Chrysanthemum Show (2 days).
8.—Batley Chrysanthemum Show (2 days).
9.—Bath Chrysanthemum Show (2 days).
9.—Birmingham Chrysanthemum Show (2 days).
9.—South Shields Chrysanthemum Show (2 days).
9.—Cardiff Chrysanthemum Show (2 days).
9.—Bournemouth Chrysanthemum Show (2 days).
9.—Hornsey Chrysanthemum Show (2 days).
10.—Chelmsford Chrysanthemum Show.
11.—Leicester Chrysanthemum Show (2 days).
11.—Sheffield Chrysanthemum Show (2 days).
11.—Eccles and Patricroft Chrysanthemum Show (2 days).
11.—Wellingborough Chrysanthemum Show (2 days).
11.—Dundee Chrysanthemum Show.
15.—Royal Horticultural Society: Committee Meetings at Drill Hall.

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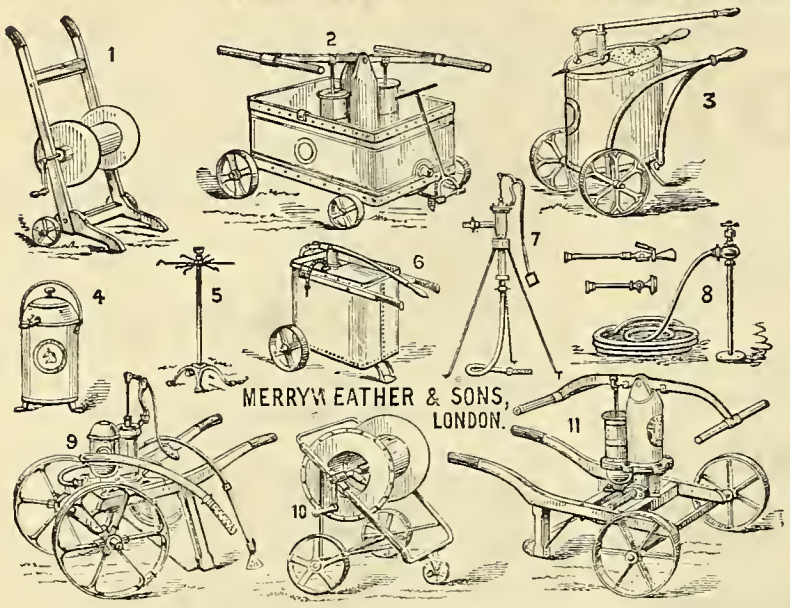

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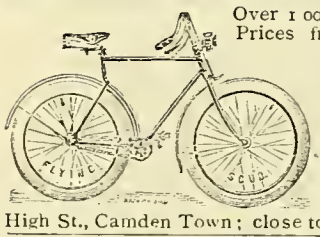

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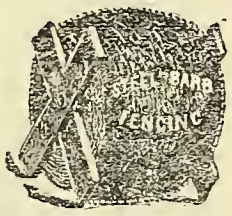

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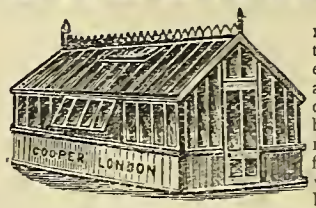
GREENHOUSES.



These Greenhouses are made especially for Amateurs at a cheap rate, so that everybody can have one that any handyman or gardener can put together in a few hours, as the framework is made so complete. All the framework is of good, sound well-seasoned red deal. The bottom part filled in with good, sound match boards, tongued, grooved, and beaded, and well seasoned. Ventilation given according to size of each House. The glass is good 16-oz. English, cut and packed (no charge for packing cases). The House is painted one coat of good oil colour, lock for door, all necessary iron-work for ventilation, stages on each side for plants. All parts carefully marked, securely packed and put on rail, or delivered, erected and glazed complete, within 20 miles of London Bridge, at the following respective Prices:—

(Proportionable Prices for other size, and or erecting in any part of the country.)

Long	Wide	High		On Rail.	Delivered & Erected Complete.
7 ft.	5 ft.	7 ft.	4 ft. to eaves	£2 16 0	£4 5 0
8 ft.	5 ft.	7 ft.	4 ft. to eaves	3 10 0	5 0 0
9 ft.	6 ft.	7 ft. 3	4 ft. to eaves	4 0 0	5 10 0
10 ft.	7 ft.	7 ft. 6	4 ft. 6 to eaves	5 0 0	6 15 0
12 ft.	8 ft.	8 ft.	5 ft. to eaves	6 0 0	8 [illegible] 0
15 ft.	10 ft.	8 ft. 6	6 ft. to eaves	8 10 0	12 0 0
20 ft.	10 ft.	9 ft.	5 ft. 6 to eaves	12 0 0	16 0 0
25 ft.	10 ft.	9 ft.	5 ft. 6 to eaves	17 0 0	22 0 0
50 ft.	10 ft.	9 ft.	5 ft. 6 to eaves	30 0 0	40 0 0
100 ft.	10 ft.	7 ft.	5 ft. 6 to eaves	50 0 0	70 0 0

¾-Span-roofs, this quality, can be had at same price.

Estimates given for any size on application. Deduct 10 per cent. if required for brickwork.

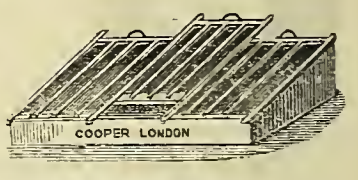
STRONG GARDEN LIGHTS.

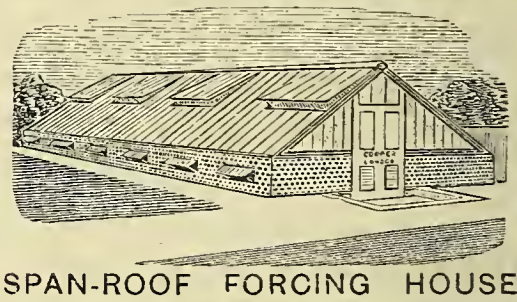
Painted and glazed, 3 by 4 ft., 6s. 6d.; 6 by 4 ft., 9s. each.

CUCUMBER FRAMES.

Complete from 18/-

See List for full particulars.





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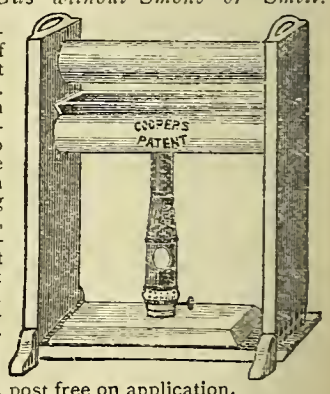
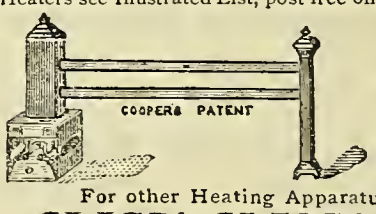
Built for brickwork 3 ft. high, of well-seasoned red deal; roof ventilation according to size; all 21-oz. glass. Suitable for Nurserymen, Market Gardeners, and all those who require a cheap, strong house for forcing or growing Cucumbers, Tomatoes, Melons, &c., &c. Delivered to any station in England carriage free. 20 ft. by 9 ft., £9. For Illustrations and Prices of other sizes see Illustrated Price List free.

COOPER'S HYGIENIC HEATER,

Burning Paraffin or Gas without Smoke or Smell.



These Heaters are constructed as a means of Heating by Hot Air without the use of hot water or fire. Its peculiar construction economises the heat generated, so that there is no waste of heat or fuel. There being perfect combustion in this Stove, and nothing whatever injurious to plants, but actually everything conducive to their health, it should be observed that plants may be had in full bloom throughout the severest winter. From 20s. complete. For full particulars and prices of other sized Heaters see Illustrated List, post free on application.



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	15-oz., 100ft.	21-oz., 100ft.	15-oz., 200ft.	21-oz., 200ft.
4th.	8s. 9d.	12s. 0d.	17s. 0d.	24s. 0d.
3rd.	10s. 2d.	13s. 0d.	19s. 0d.	26s. 0d.

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Glass cut to any size required: 15-oz., 1½d. per ft.; 21-oz., 2½d per ft. Large sizes for cutting up, 15-oz., per case, 300 ft., 26s.; 21-oz., per case, 200 ft., 26s. All glass is cut and packed in own warehouses and put on rail free of charge; quality of glass and careful packing guaranteed. Special quotations for large quantities. Have cash estimates from me before ordering elsewhere.

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Putty prepared especially for greenhouse work, 7s. 6d. per cwt. Every description of prepared Horticultural Timber; for prices see List, post free.

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"Dear Sirs,—I am very much pleased with the working of the lengths of hose supplied in May, 1881, which are still in use and are most satisfactory.—Yours faithfully, (Signed) "HURST DANIELL."

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

FRIDAY, Aug. 5.—Orchid Sale at Protheroe & Morris' Rooms.
TUESDAY, Aug. 9.—Royal Horticultural Society: Committee Meetings at Drill Hall.
WEDNESDAY, Aug. 10.—Sevenoaks Flower Show.
Queen's Park, Longton, Flower Show.
Wilts Horticultural Society, at Salisbury.
St. Anne's-on-the-Sea Flower Show.
THURSDAY, Aug. 11.—Maidenhead Flower Show.
Taunton Deane Flower Show.
FRIDAY, Aug. 12.—Cheadle Flower Show (2 days).

The Gardening World.
Edited by BRIAN WYNNE, F.R.H.S.
SATURDAY, AUGUST 6th, 1892.

BANK HOLIDAY.—What a world of meaning lies hidden in these two words. It would seem as if of all our Annual Holidays, that of the month of August was the most popular and most widely observed. The crowded denizens of our urban courts and alleys, and of our narrow streets, where a thousand human beings are compressed on to an acre of ground, find no higher aspect of enjoyment than in getting out, if the day be fine, into the remoter country or rural districts, amidst the fields, the lanes, hedgerows, woods or commons, indeed anywhere that fresh pure air, ample room, and Nature may be found in her brightest aspects.

To all such persons there seems, as compared with their own dark dismal crowded surroundings, to be at once Paradise and Heaven in a garden of flowers, or in the fields and woods just now so brightly garnished with all the floral beauty that nature can create. Bank Holiday, this year, found the country, in its warmest parts, with the sickle in motion and the reaper full of activity. There is no part of the year when the country is fuller of life and of beauty than just at harvest time. In some areas the fields are still full of waving corn, beautiful, like inland seas. In others the standing sheaves bear resemblance to a Liliputian encampment.

In others, the wains bearing to the stack yards the produce of the year form scenes of joyous activity which give vitality to the landscape and delight to the observer. To all those of our town pent brethren, whose Bank Holiday thus enables them to breathe pure air and share in the joyous beauty of rural life, if ever so short a time, we offer congratulations that they in their holiday opportunities made of them such excellent use.

APPLES AT SWANMORE PARK.—Whether due to the soil which is a reddish stony loam, on chalk; whether due to a lofty breezy situation, where wood ripens well, or to these two elements allied to some artificial shelter furnished by trees and high hedgerows, certainly a finer crop of Apples than Mr. Molyneux has on the trees in his garden orchard, could hardly be found anywhere. Those gardeners who have furnished such dolorous reports as to their comparatively poor Apple crops this season, may well envy Mr. Molyneux, just as that gardener has found it very difficult to realise not one but so many cases in which Apples figure so badly in the fruit returns.

The orchard at Swanmore is on grass. The trees are evidently from 12 to 20 year old; some of standard form, some feathered to the ground yet tall. Of kitchen sorts Echlinville gives a grand crop, and the fruits are already unusually coloured. Warner's King is another heavy cropper. So too is Lord Grosvenor, Waltham Abbey Seedling, Mère de Ménage, now red as Quarrendens, Keswick Codlin, Lord Suffield, New Hawthornden, and some other good varieties. Then of dessert sorts Cox's Orange Pippin, King of the Pippins, Golden Pippin, Irish Peach, Red Quarrenden, Worcester Pearmain, Wormsley Pippin, are all heavy croppers; indeed the crop is a splendid one, clean and fine.

With such good results no wonder Mr. Myers, at his gardener's instigation, has laid down in the more open part of the estate as an experiment some five acres with Apples. Now in the second year's growth are the standards at 30 feet apart, and which are chiefly of Bramley's Seedling, Cox's Orange Pippin, and Worcester Pearmain, whilst dwarfs planted 15 feet apart are Warner's King, Ecklinville, Cox's Orange Pippin, Mère de Ménage, &c. Belts of Larch and Fir have been planted round this orchard to furnish shelter.

LAVENDER.—To the ordinary flower lover or grower who values anything, however beautiful or sweetly perfumed, for its colour or smell, it seems far fetched to assume that any plant grown with so little care and concern ordinarily as is Lavender should become so very important in many districts, and always so very interesting an article of commercial value. Of course the plants are cheap enough. Any number of them may be purchased for a mere trifle each. Even bunches of the flowers when cut obtain no very great pecuniary return, although somehow made profitable; but were it not for the inherent perfume of the flowers derived from the possession of an oil which is of an enduring nature—thus preserving the perfume of the flowers, even when dried for a long period—it is doubtful whether bunches of the flowers would obtain even a trifling profit.

The great secret of the commercial nature of Lavender flowers however lies in the possession of this sweetly perfumed volatile oil, which, extracted by distillation, becomes one of the choicest of chemically obtained perfumes and thus also an article of much commercial importance. The assumption that even Lavender culture may be more profitable than it is seems an absurd one; but there is good reason to believe that on proper soils and positions it may present features of profit to which even wheat may not aspire. Mr. Molyneux, so well known as an eminent Chrysanthemum grower, is with the approval of his employer, Mr. Myers, M.P., testing on this gentleman's estate at Swanmore, East Hants, the capacity of Lavender to produce profitable results, and judging by the fact that on a very open exposed site and on a calcareous soil that is rather poor than otherwise, plants have in a couple of years developed into bushes from 24 to 30 inches across, and flowering profusely, there is good reason to hope not only that the experiment will be an entire success, but that Lavender culture may soon become a profitable industry in the district.

GARDEN VISITS.—Formerly, and when the Royal Horticultural Society was enjoying anything but a prosperous time, the council of that body gave to all the members of its various committees some needful refreshment at the meetings, though not at considerable cost. Still it just possibly did cost the society some 20/- to 25/- per head for the year, so that by foregoing that much of hospitality something appreciable was saved. In those days also the members of these committees were not necessarily fellows of the society; now that they must be so, it is very probable that not only has the society by its own economy saved perhaps £60 per year, but it has further added an equal sum to its annual income through the adoption of the compulsory payments by members thus pointed out.

Now that the society gives to the members nothing whatever for their services but bare honours, it does seem that it might make them some recompense by organizing an outing for the members of the committees during each summer, of a kind that should be at once instructive and enjoyable. If the committee of the National Chrysanthemum Society can do so much and so well for their members and friends why not the council of the Royal Horticultural Society?

Lest the council should in alarm think that we suggest their doing so much out of the society's funds we would say at once that such is not our contention. The council might organize the outing and pay some of the expenses so that all the rest might be met by a very moderate charge, levied upon each member of a committee attending. An outing of this description might, in the hands of experienced caterers for garden enjoyment, be made of exceeding interest, and thus become to each one attending a red letter day in their horticultural year.

Mr. C. Woolford, formerly gardener to Wm. Lee, Esq., at Downside, Leatherhead, and more recently Orchid grower to the Right Hon. J. Chamberlain, M.P., at Highbury, Birmingham, has been engaged as gardener to H. Grose Smith, Esq., The Priory, Ryde, Isle of Wight.

Miss Ormerod, who, as honorary Entomologist to the Royal Agricultural Society, has rendered such valuable services to agriculture and horticulture, has resigned her official appointment on the ground of ill-health and the enormous increase in the work of her department, but we are glad to know that Miss Ormerod still hopes to be able to reply to the enquiries of agriculturists on subjects directly connected with agricultural entomology.

The National Co-operative Festival.—This now well-known co-operative event, which this year enters upon its fifth anniversary, will be held at the Crystal Palace on Saturday, August 20th. The promoters—who are representatives of working men's co-operative societies throughout the kingdom—intend to a great extent to follow their programme of previous years, and provide a flower show, under the auspices of the Agricultural and Horticultural Association; an exhibition of co-operative productions from profit-sharing workshops; a great choral concert upon the Handel orchestra of 6,000 voices; athletic sports for adults; children's sports, games, and dances, in which there is a long list of events open to all comers for both boys and girls; a choir contest for gold and silver medals; a public meeting, and many Crystal Palace attractions. The general secretary is Mr. Wm. Broomhall, 49, Bedford Street, Strand, W.C., who will provide full details of the society's work to inquirers.

"The Coming Flower."—At a recent meeting of the New York Florists' Club, Mr. Griffin, of the Oasis Nursery, Westbury, Long Island, exhibited some specimens of his new sweet-scented Begonias, and Mr. John H. Taylor, the president, in proposing a vote of thanks to Mr. Griffin for bringing them to the club, said that he foresaw the day when the now popular Chrysanthemum would be dethroned in public favour by the tuberous Begonia.

Large Tree Fern Stems.—A shipment of Tree Fern stems received recently by Messrs. Pitcher & Manda, of Short Hills, New Jersey, contained some of the largest stems ever seen in any importation. The entire lot was unusually large, but those measuring 17 ft. to 19 ft. in length, and with a circumference of over 7 ft at the largest part, have attracted considerable attention since their arrival at Short Hills.

The Giant Birthwort, Aristolochia gigantea, the largest flower known, if we except the Rafflesia Arnoldi, has recently flowered under the care of Mr. Latham, in the Botanical Gardens, at Edgbaston, Birmingham. It is a native of the West Indian Islands, Brazil, and parts of South America. The flowers measure, including peduncle and tail-like appendage, 4 ft. 9½ in. This plant was introduced by the Royal Horticultural Society of London, 50 years ago, and soon after was lost to cultivation till re-introduced to the Royal Gardens, Kew, about two years since.

Gardeners' Orphan Fund.—At a meeting of the executive committee, held on the 29th ult., the following special receipts during the month were announced:—Proceeds of a sale of flowers at the Croydon Rose Show, per Mr. W. G. Cummins, £8 1s.; proceeds of sale of flowers at the Moseley Rose Show, per Mr. W. Dean, £3 3s.; collected by two little girls at Weybridge Flower Show, 15s.; Mr. Herbst, £2 2s., second donation; and Mr. W. Marshall, £2 2s. At the conclusion of the usual routine business, the Committee adjourned until the last Friday in October.

Value of English Oak.—Messrs. Richardson, of Stamford, recently conducted a sale of Oak in Burghley Park, when extraordinary prices were realised. Trees made £80, £81, £72, £66, £64, two trees each £61, £50, £44, £32, £26, £24, and twelve more trees averaged £22 each. One brown Oak, containing 150 ft., made £80. The same firm sold an Oak last season for £110.

The Weather in July.—Taken as a whole the month of July undoubtedly added another to the already long run of unsettled Julys, the mean temperature in London being nearly 3 degrees below the normal. For five consecutive years the weather in July has been cooler than one has any right to expect at this time of year, the least unpleasant month in this respect being that of 1891, and the worst that of 1888. In comparison, however, with many previous Julys, the past month showed a very bad record. This year there was only one day with a maximum temperature in London exceeding 80 degrees. With regard to rainfall the past month exhibited a rather striking deficiency, the total amount in London being rather over an inch and a half, or less than two-thirds of the average.

Azalea indica Germaine Pynaert.—A beautiful illustration of this equally beautiful Azalea appears in the *Revue de l'Horticulture Belge* for the present month. The flowers are of large size, regular in shape, semi-double and of a beautiful pink flushed with rose in the centre. It is one of a series of three sports originating from a fourth, and itself arose as a natural sport or freak from Charles Pynaert, as did another one named Leon Pynaert, having beautiful pure rose flowers. On the other hand Charles Pynaert originated from the pure white Louisa Pynaert. All four constitute a beautiful set of late flowering Azaleas that bloom in May and June, when all the other varieties are out of bloom and forgotten. Louisa Pynaert was sent out in 1879, and has already obtained great distinction in France, Germany, England, and to some extent in America.

The Society of American Florists will hold its annual convention at Philadelphia on August 16th and three following days. A heavy business programme has been arranged and provision made on a large scale to make the visit to the capital an enjoyable one to the members who may attend.

NEW & RARE PLANTS.

Of the new plants, flowers and fruit exhibited at the meeting of the Royal Horticultural Society on the 26th ult., the undermentioned were considered worthy of certificates. The Orchids certificated are recorded on another page.

Aster (Heterochæta) diplostephioides.—The heads of this plant are solitary, terminating the stem; but if deficient in numbers they make up for it in size, for they measure from 2 in. to 3½ in. across. The long rays are pale blue or lilac, varying in different individuals or according to the age of the flowers. The disc is blackish at first, changing to yellow as the florets open. The species is a native of Sikkim, from whence it was introduced in 1882, and was at one time classed in the genus Heterochæte. A First Class Certificate was awarded it when shown by Wm. Marshall, Esq., Auchinraith, Bexley.

Crocosmia aurea imperialis.—The type of this plant is well known for its rich golden-yellow flowers. The variety under notice differs by the rich orange-scarlet of the outer surface of its flowers while the interior is more or less suffused with a rich yellow. The flowers may also be somewhat larger. An Award of Merit was accorded it when shown by Wm. Marshall, Esq.

Cattleya Schilleriana Lowiana.

Nemesia strumosa Suttoni.—In this we have an important addition to a race of annuals which at present are neglected, considering their beauty and intrinsic prettiness. That under notice surpasses those which have already found their way into gardens, on account of its rich and varied colours, and we suppose the varietal name Suttoni, has been given on account of this variation. The grower has only to select a number of the more prominent variations and give them separate names. A plant that already shows such variety should soon become popular, and add a race of annuals to the already existing lists offered to gardeners for their delectation. The upper lip of the flower is 4-lobed, and the lower one broader and bifid. The whole flower may be orange, or the upper lip may be orange and the lower one white, blotched with blue. Others are purple, yellow, creamy, or variously striped. There is also a blue and white blotch at the base of the upper lip. The opposite leaves are lanceolate and serrate. A First Class Certificate was deservedly awarded it when shown by Messrs. Sutton & Sons, Reading, who had a beautiful little group of it.

Gloxinia Her Majesty.—The strain of Gloxinias is continually being improved. A beautiful collection of plants in pots was exhibited by Messrs. Sutton & Son, in which was a small group of Her Majesty. The leaves were elliptic, somewhat ribbed, neat and compact, just lying down over the pots. The erect, funnel-shaped flowers were pure white and of good substance, contrasting beautifully with the glowing red and white margined Duke of York. Award of Merit.

Begonia Meteor. — Altogether this tuberous variety has the dwarf habit and the beautifully marked foliage of B. Pearcei, which was indeed the seed parent crossed with a sort named Double Carmine. The leaves are olive green above netted with paler veins, red beneath and lie close to the ground, while the erect flowers stand clear above them. The outer surface of the sepals is deep red while the inner is orange-scarlet fading to yellow in the centre. It is useful as a summer flower-bedder. An Award of Merit was accorded it when shown by Messrs. Sutton & Sons.

Begonia Baronne St. Didier.—The flowers of this tuberous variety are large, double, and primrose yellow with one or two centres, and the outer sepals are toothed at the edges while the inner ones are wavy or crimped. The leaves are broad, deep green, and the plant shown was about 15 in. high. An Award of Merit was accorded it when shown by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham.

Begonia Princess May.—The pure white flowers of this Begonia are double with the sepals arranged round a common centre, and wavy like a Petunia. Like the last it is a tuberous variety, and the plant shown by Mr. T. S. Ware was about a foot high and received an Award of Merit.

Carnation Miss Constance Graham.—This is a scarlet flake, but as in the bulk of Carnations of the flake and bizarre types, the ground colour is not pure white but blush. The flower is large and full without being crowded with petals.

Carnation Aline Newman —The flowers of this sort are large, red, and quite full with nearly entire petals. The leaves, or grass as they are termed, are of moderate width, glaucous, and good. The variety may be described as a border one.

Carnation Marnie Murray.—In habit and general appearance this may be compared to Aline Newman, and like that it is suitable for border work, but the flowers are of a rich soft scarlet, of large size with nearly entire petals.

Carnation Horace Skimpole.—The large orange-salmon flowers of this variety are quite full, with the petals more or less incurved at the edges. The long, broad leaves are indicative of a good constitution.

Carnation The Pasha.—Here again the foliage is good, and the large, bright terra-cotta flowers have incurved petals more or less toothed at the edges. All the five varieties were exhibited by Martin Smith, Esq. (gardener, Mr. Blick), Hayes Common, Beckenham, and an Award of Merit was accorded in each case.

Sweet Pea Lady Beaconsfield.—A bunch of flowers of this variety has a delicate and pleasing appearance. The upper petal or standard is flesh-coloured, while the wings and keel are of a creamy yellow. The odour is sweet. It was exhibited amongst a group of others by Mr. Henry Eckford, Wem, Salop, and received an Award of Merit.

Carnation Lady Wantage.—This would seem to be suitable for border work, and is rather refined in appearance, with broad, rounded, and entire, pure white petals that are slightly wavy. The flowers are fragrant, which is not always the case with modern varieties. An Award of Merit was accorded it when shown by Mr. Badcock, Oxford Road, Reading.

Carnation Oriflamme.—Border varieties are in the ascendancy, and this one is bright scarlet, floriferous, and full, but not crowded, with the petals slightly toothed at the edges. It received an Award of Merit when shown by Mr. J. Douglas, gardener to Mrs. Whitbourne, Great Gearies, Ilford.

Fruit.

Tomato Royal Sovereign.—Surely Tomatos have now reached their limits as to size in this huge-fruited variety. Six fruits shown by Mr. R. Gilbert, Stamford, weighed in the aggregate ten and a half pounds. They were similar in shape to those of Perfection, when well grown, or rather more flattened on the top, smooth, and of a dull red, but apparently quite solid in the centre. An Award of Merit was accorded it.

Melon Emerald Gem.—The fruit of this variety is small, oval, and green, slightly marked with grey, but not netted. The surface is fluted with rounded ridges. The scarlet flesh is of considerable depth, and in every respect it seems a promising sort. It was exhibited by Mr. G. H. Sage, gardener to the Earl of Dysart, Ham House, Richmond, and received an Award of Merit.

CATTLEYA SCHILLERIANA LOWIANA.

So different in colour is this variety from the type, that one could readily mistake it for something else at first sight, especially in the half expanded state. The psuedo-bulbs are oblong, and 1½ in. to 2 in. long, and ribbed, being therefore wonderfully small in proportion to the size of the flowers they produce. The oblong sepals and petals are green, spotted with dark brown internally. The middle lobe of the lip is oblate, and of a beautiful mauve-lilac, closely striated with white lines; the margin is also finely toothed. It was exhibited at the last meeting of the Royal Horticultural Society by Messrs. H. Low & Co., Clapton, and received a First-class Certificate.

SCYTHE MOWING.

There are hundreds of young men now developing into gardeners who know nothing about the art of mowing with a scythe. What was once an absolute necessity is now largely a useless practice, for in few gardens is it needful to employ the scythe, which somewhat crude and ancient implement has long been superseded by the lawn mower. And yet there are lawns much marked by trees, or slopes, or hollows, or other irregular and difficult places, where the mower will not operate, and the scythe becomes an absolute necessity. Young gardeners of to-day may later have the control of such places, and they will find themselves in a very awkward plight should they be called upon to use the scythe or overlook others.

Old-fashioned and comparatively unused as the scythe may be in gardens, still there is a use for it found sometimes; and a knowledge of its use and successful handling should never be despised. There is no form of bad work in gardening which can be less hidden than is bad mowing. Good work should leave behind no evidence of the passing of the blade, beyond the fact that the lawn is smooth shaven. Bad mowing leaves an awfully scored, seared surface to the lawn, and recalls the incompetence of the operator every hour. The introduction of the lawn-mower has largely revolutionised the work of keeping pleasure grounds in neat condition. The lawn may now be twice or thrice the area it was in scythe-mowing days, and yet entail on the gardener not one half the labour that scythe mowing involved, even apart from the inevitable sweeping which had to follow.

Then the men had to turn out to their mowing at four or five o'clock in the morning, mowing till breakfast time and often later. Now the mowing is accomplished during the day with ease, and by one man and a horse or pony. No gardener need desire to return to the "good old times" of scythe mowing, but all the same no good gardener will allow it to become with his subordinates an absolutely lost art. —*D.*

ALLOTMENT GARDENS.

Recently, there appeared in one of the weekly gardening papers an article complaining that those who have allotment gardens, and grow for exhibition, devote their attention to producing a few things in very fine character and neglect the rest. This may be a picture of the true state of things in some places, but as far as I have seen of the Ealing allotment gardens this season it is not true of them. I am bound to say that a good average excellence all round was the character of the gardens that were entered for competition. And I think this general excellence was witnessed at our annual show in Gunnersbury Park a few days ago. There were as many as eighteen and twenty entries in many of the classes for vegetables, and the time consumed by the judges in making the awards in the cottagers' classes was the fittest testimony to their general excellence. At Ealing we have some 350 allotment gardens, and forty prizes are offered every year for the best kept ones—twenty for Ealing Dean allotments, and twenty for the St. Mary's allotments, they being some distance apart. As one of the judges I may perhaps be allowed to give my experience of some of them.

Points in Judging Allotment Gardens. Our largest allotment gardens are one-eighth of an acre—that is twenty poles or "rods" as they are commonly termed. Two gardens among the Ealing Dean allotments ran each other very close for the supremacy. A searching comparison resulted in William Farndon being placed first, and W. Goldsworthy (P.C.) second. William Farndon grew on his eighth of an acre—counting one for fruit and another for flowers—twenty different articles. As a matter of course, the judges could set a value on the growing crops only as their appearance justified, and taking four points as representing the highest excellence. W. Farndon gained four points each for Potatos, Lettuce, Spring Onions and Parsnips, and three each for Jerusalem Artichokes, Fruit, Peas, Celery, Carrots, Broad Beans, Cabbage, and Scarlet Runners; and he was awarded the same number of points for succession crops, such as winter stuff, so as to occupy the ground when the summer crops are over; and the same number for cleanliness and general culture. In one case he fell down to one point, and all the rest gained two points. W. Goldsworthy grew on the same sized piece of ground twenty-six different articles, but his crops though of good general excellence, presented to the view of the judges nothing worthy of four points. In fourteen cases three points were awarded to him; three or four fell down to one point. The larger number of subjects grown upon W. Goldsworthy's allotment gained for him a few more points than for W. Farndon; but when the growing crops came to be compared, the balance was on the points of the latter. Four points were given only where the subjects were exceptionally good, three where they were very good; and so it will be seen that no valid charges could be brought against either of these competitors on the ground that they paid attention to a few subjects only and neglected others. The general excellence all round was remarkably good, and in both cases the highest number of points for succession crops, for cleanliness and good culture, were allowed by the judges.

The best garden among the St. Mary's allotments was that of H. Doble, but he also was run close by P.C. W. Soper. The former had something like tweuty-three different subjects, and the latter about as many. In three cases four points were given to H. Doble, viz., for Scarlet Runners, Peas, and Vegetable Marrows; he also gained three points in ten instances, and an additional three each for succession and cleanliness. Altogether H. Doble gained 69 points, and in no case was less than two awarded. W. Soper is a most industrious and painstaking worker, and though that dreaded visitant—the club—had attacked his Cauliflowers and Cabbages with great virulence, he yet stood at 60 points. W. Soper has come nearly to the top of the successful holders with a bound; and he will no doubt make a determined effort to be quite at the top next season.

There are some who assert that these gardens are brought up to a high stage of good culture at one particular time simply to win prizes, and neglected afterwards. I do not think this is quite true. I am of opinion that our allotment gardens are, on the whole, well cultured all the year round, regard being had to the time of the year. As autumn draws on, the evenings become very short, and there is little time for work on the allotment. The Saturday afternoon is often very wet, and when that is so the week sometimes has to pass with little or nothing done, unless there be moonlight. The gardens are generally well furnished with green stuff—Kales, Brussels Sprouts, Broccolis, and Turnips especially—during the winter months. The allotment holders plant out their winter stuff between their early Potatos, at the end of June. The result is they get a good start, and quickly cover the ground when the Potato crops are lifted.

The Need of Other Allotment Gardens. Ealing Dean requires a considerable extension of allotments, because this is the district in which the working class element in the community is rapidly extending. If a portion of the market garden land by the side of Lee's Nursery could be had for the purpose it would be a great boon. A good depth of frontage might be reserved for building land, and behind this reserved line ten acres should be formed into allotments. Failing this, a movement would have to be made north of Drayton Green, where there is suitable land, if available. North of Haven Lane allotments are also needed; and within that extensive parallelogram bounded by the Uxbridge Road on the north and by the Grove on the south, by High Street on the west and Oxford Road on the east, there must reside a large number of workers who would gladly hire and work allotment gardens. All the land north of the District Railway, and up to the Warwick Road, with the exception of a building frontage, might probably be had for allotments, if the necessary steps were taken to secure it. Allotment gardens are ten times better than a ridiculous ornamental lake which is sometimes advocated, which would never be anything better than a duck-pond, and a death-trap for the young. And we want a real, and not a sham Allotment Act—an Act framed to answer to a want, and not merely to catch votes; and with it a public-spirited local body who will compassionate the poor—given these, and a substantial addition to our allotment gardens might be looked for at no distant date.—*R. D.*

NOTES FROM PENNSYLVANIA.

From the first day I set foot on American soil, it has been my ambition to experience the various changes from the temperate to the tropical climes. My desire is now half consummated, and I ask myself, what is the result? Well, I am more discontented and uncomfortable than I was when the foolish idea struck me some years ago that the old country was too slow. A gardener's life here, in the majority of cases, is one continual round of drudgery, a combination of farmer, coachman, and houseman, etc. Well, it takes the conceit out of us, and we often wonder where the "dignity of labour" is that schoolboys rhyme of and men shout about who never know what it is to fight Rose bugs and kill weeds with old Sol right overhead, and the temperature 100° in the shade.

I am now temporarily located in one of the wealthy suburbs of Philadelphia, the Quaker city, the city of William Penn, the most regularly built, and most charitable city in the United States. From a horticultural point of view it ranks behind New York and Boston, and to the gardener who determines to cross the ocean, I would recommend these latter cities.

The month of June was hot and scorching, with the usual accompaniment of insect pests, the most determined and destructive of which is the Rose bug. They appear about the first of June in appalling numbers, just when the Roses are in their glory, and they seem to blight every Rosebud they touch. They prefer pink and white to other shades, and they eat holes and blacken the petals, and ruin them for any purpose whatever. The best remedy is persistent hand picking every moment you can spare. I have experimented with the whole catalogue of insecticides, and the most satisfactory was Hughes' Fir Tree Oil, an imported product. A continuous application strong enough to cause death to the insects, also meant death to the Roses. By spraying them to-night you have ten thousand deaths to your account, by to-morrow night half a million will be awaiting destruction.

When the Roses gave out they attacked the Grapes, settling on the bunches just while in flower, destroying the crop completely. In desperation I syringed them with white Hellebore with the desired result. They decamped to plague some one else, and I slept the better for it. Next year I shall apply Hellebore to the Roses early in the season. But my advice to owners of gardens here is, never to attempt to grow Roses in the open air on a large scale, there is neither satisfaction nor profit in it. They become unsightly from the ravages of insects and the application of antidotes. A glass structure amply repays itself, with one-third the attendant worry and labour curtailed by outside culture.

Another vicious pest is the squash bug. He eats the leaves and flowers of the Squash, Melons and Cucumbers with amazing rapidity, especially those sown in the open air in May. This year I placed a few seeds in inverted sods in April in hot-bed, and hardened them off and set them out in May. The weather was warm and they started to grow at once. Result, I had plants with vines two feet long, strong and healthy before the dreadful bug made his appearance. I planted seeds near by to serve as decoys, and I dusted the permanent crop with a mixture of dry plaster and a little London Purple, a sure protector from their attacks.

The same remedy means death also to the Potato bug, another inveterate enemy of the gardener and farmer. If not applied as soon as washed off by rains the crop stands a chance of being ruined. They hatch three times a year. The Cherry crop was a failure throughout the county, owing to the spring rains, which were unusually heavy, causing the fruit to rot. Peaches, Plums, Apricots, etc., promise a fair crop. Grapes are showing a heavy crop, but much will depend on the season holding out as it promises.—*Jas. S. Reid, Ashbourne, Pa., U.S.A.*

ROTATION CROPPING.

A few remarks on this subject may prove useful to some of your younger readers, as one of the most important of a gardener's duties is that of supplying his employer's table constantly with good and well-grown vegetables; and closely connected with this subject is the regular cropping of the garden in proper rotation. The requirements of different families are so varied that what would apply in one case would be unsuited in another, so that it is impossible to lay down any set of rules that would be applicable under all circumstances.

To a practised eye nothing gives more satisfaction than to see a kitchen garden well and judiciously cropped, and apart from that when it is indifferently done it is a disgrace to the gardener and a direct loss to the employer. One acre of kitchen garden well and skilfully managed will in some instances yield as much produce as two where it is only indifferently done, as is too often the case where land is plentiful and there is not sufficient strength to keep it up. I do not advocate small gardens in which the gardener may be so cramped up for room that he has not sufficient ground for his crops; but I do advocate a reasonable extent according to the wants of the house, because it will afford more pleasure and as much profit as a larger one, and there can be no real pleasure in inspecting a garden in which the crops are partially hidden with weeds and is otherwise in an untidy state, or, to be still plainer, where two men have to do the work of four. No such garden can satisfy either the eye or the mind of the owner, but give the same two men two men's work to do and we shall find, whether we look at it in a commercial light or in any other light, that the results are more satisfactory.

Spring is the time when the real work of the kitchen gardener begins; the mind must be carried somewhat in advance of the work, for with only a moderate amount of forethought the gardener can see one whole season before him, and with only a little preparation can select the sites for his crops another year. A plan of the garden should be kept, and the ground divided into portions, and a careful record kept of all crops, trenchings, and manurings. One portion of the garden will be required for the season's supply of Peas, commencing at one side with the first and continuing them so throughout. Between the rows of Peas may be sown a row of summer Spinach, Radishes, or Lettuces, and as the early Peas are ready to come away the ground would come in for Brussels Sprouts or winter Broccoli. As the later Peas are removed the ground may be filled with spring Broccoli up to the middle of August, and the following summer this piece would only want

what I may call a short crop such as dwarf Beans or early Potatos, so that the next winter it could be trenched and exposed to the action of the frost.

Another portion of the garden I will suppose is cropped with Celery, and the following summer this same portion will come in well for the crop of Onions, Carrots, Parsnips, and Beetroot, for which the extra moving of the soil necessarily attending the cultivation of Celery has rendered peculiarly fitting. After the Onions are removed the ground will come in well for a bed of spring Cabbage to be planted in the autumn. When the other crops are removed and the ground has been well manured and trenched during winter, it will serve for an early crop of Cauliflowers the next spring, and for the first batch of Brussels Sprouts. The Cabbages and Cauliflowers should be succeeded by Leeks or a crop of winter Spinach. Another portion may have half set apart in the spring for Savoys, as these do best when planted in June upon soil that has not been previously exhausted by a crop the same season. The other part may be planted with early and second early Potatos, to be followed with Walcheren Broccoli, Sprouting Broccoli, Borecoles, etc.

Then there would be early Turnips, Salsify, Scorzonera, as well as Broad Beans, Scarlet Runners, and dwarf Beans; but as these are chiefly summer crops they should have a quarter devoted to their use upon which in the previous year grew the strong-growing Broccoli, etc. The early Turnips might come away in time for a crop of Lettuce or other salading the same year.

Bush fruits, such as Currants, Gooseberries, and Raspberries, should have a quarter devoted to them exclusively and where they would be more productive than if distributed all over the garden, where they are continually being knocked about and bruised by wheelbarrows, and besides are always in the way. Such things as Rhubarb, Seakale, Globe Artichokes, and other permanent crops should be grown near together because some of them are untidy subjects, and if dotted here and there about the garden render it both unsightly and unmanageable.

Many of the herbs require a warm border, but such as Tarragon, Fennel, etc., would do with a less favoured spot. I have endeavoured in these few remarks to give an outline of the subject; but unless the ground is deeply dug or trenched, no change or rotation of cropping will be satisfactory, and the importance of doing this thoroughly is more and more shown the longer it is practised. I would strongly recommend young gardeners to well study this subject, for to become a proficient hand it requires much thought as well as practice.—*A. W., Bella Vista, Northfield.*

THE ROSE GARDEN AT THE CHICAGO EXHIBITION.

Anyone standing in the beautiful bower of Roses on the World's Fair grounds would imagine himself in the famed Vale of Cashmere, which Moore has so beautifully pictured in his story of Lalla Rookh. To be there in the early morning, when the dew glistens on the Rose's cheeks like diamonds glittering on a queen's at a ball, is enough to bring forth from the most indifferent breast an exclamation of pleasure.

This beautiful spot is situated in the centre of the south end of the wooded island. It is partially surrounded by Oak trees, the north end opening out to the centre of the island. There are some three dozen beds surrounded by an irregular border, the whole covering about one acre.

The design in itself is very attractive; in the centre are four beds forming a circle. These are filled with one hundred varieties of Clematis on bamboo balloons. Some new Gladiolus have been planted between the Clematis. Next to these are circular beds of standard Roses, sent from Hungary; these, it may be said, are not what we would like them to be for an occasion like this. Surrounding these are beds of dwarf Roses from the different countries, with France, Germany, and England not heard from yet.

It is well-known that the soil of Chicago is not the best for the cultivation of the Rose, and, despite this fact, with the many other handicaps, these Roses have done remarkably well. The three beds containing those sent from California, however, seem to outdo all the others. They have done splendidly, and upon investigating the cause we find them budded on what is believed to be a wild Rose from China. However, the roots are very vigorous and brittle and seem to give the plant more nourishment than the old Manetti, which is not suited to the light, sandy soil here. American Beauty, Magna Charta, Baroness de Rothschild, Her Majesty, Merveille de Lyon, and such Roses as are of vigorous growth seem to be doing the best, and though they have made but little growth, yet they have bloomed profusely.

Many varieties of Honeysuckles are planted round the edges of all the Rose beds. These will be arranged as a low trellis; this is a grand idea. Honeysuckle and Roses are "chum flowers," and in addition to adding a profusion of contrasting bloom it will shade the Roses from the scorching sun. New varieties of Nasturtiums are growing round many of the beds, whilst in the border which frames the Rose gardens are planted many herbaceous novelties. This border is marked with a trellis of Honeysuckle and Climbing Roses, which will also form arches of beauty and sweetness over the four entrances to the garden. The edge of the border is planted with 3,000 Phlox bifida which Chief Thorpe has had collected from the fields close by. It is a lovely mauvish-white flower closely resembling Phlox subulata. This will next year appear like a fringe of delicate lace on a rose-embroidered pillow.

Above this is a row of Œnothera Youngii which were sent here by Bassett. They were planted out early in May in light soil, and when about a foot high were laid down in a ribbon. They are now beyond doubt the most beautiful yellow flowers in these parts. They have been a mass of rich yellow blooms for the past month and many thousands showing. They frame the Rose gardens like a heavy gilt frame round a canvas of Roses, and excite admiration from all who see them. Yellow is a scarce colour in the summer time; perhaps there is not a bed of yellow in all the parks of Chicago. It is too hot for Calceolarias here, but Œnothera Youngii will, if it is treated as above and planted out in the open, make one of the prettiest effects in either a ribbon or bed.

Of course many more famous Rose growers intend to send exhibits, and by the 1st June '93 the Rose gardens of the World's Fair will be a lovely bower of Nature's queen, to whom the members of the American Rose Society will have to apologize for not acknowledging her claims long before.—*James Davis, in The Florists' Exchange.*

CROSS-BRED STREPTOCARPUS.

Improvement is gradually being effected in this now popular class of plants, and we hope the time is not far distant when they will enjoy a greater standing than they already do in gardens. Their floriferous nature and the small amount of artificial heat they require even in winter to bring them through should all tell in their favour for the popular esteem. A fine display appeared at the Temple Sbow last spring from the nursery of Messrs. J. Veitch & Sons, Chelsea, where a large number of the same plants may still be seen in flower. Another batch of them has had their flower stalks cut off and the plants selves committed to the soil in a specially prepared bed in one of the intermediate houses. They are evidently commencing to root, for a second good crop of flowers is now on the move, and will bloom in a couple or three weeks, so that a display till the end of the season may be reckoned upon.

At present, however, the chief centre of attraction is a large batch of seedlings, now finely in bloom, as far as the first sowing is concerned, and which was made last December, or just seven months ago; but they commenced to bloom over a month ago. A second sowing made in January, that is, six months ago, is also commencing to flower freely. By May next they will be about the same age as the plants shown at the Temple last spring. An endless variety of colour may be noted in the flowers, some of which are of large size; the more intensely coloured types are being selected at present, as well as tints not formerly possessed, but which it is desirable to develop. The palest is undoubtedly a pure white, without any of the stripes or markings so prevalent in the throat. The white varieties with three broad bands of various shades of pale and dark rose, purple, crimson, or violet are also very pretty. Then there is magenta, rose-purple, blue-purple, mauve, rose, lilac, purple, pale blue, and striped in the throat, and other shades too numerous to mention. The selection of varieties of distinct shades of colour, either for named varieties or as standard sorts from which to select seeds, is only a question of time; but there is still a wide field, we hope, for enterprise in this interesting garden race of flowers, which as a race, we hope, is only yet in its infancy.

Seedlings bear from two to six flowers on a peduncle, while old plants carry from twelve to sixteen. It must be remembered, however, that size and numbers like that can hardly ever be concomitant in any race of flowers; from this point the strain might be selected and developed along two distinct lines, namely, for size of flowers, and secondly, for numbers, irrespective of size. Both types would be sure to find plenty of admirers. We noted a peloric flower with six segments, each of which had a violet band running down into the throat. It would be a distinct advance from a horticultural standpoint, if it would prove constant, but nature is often very fickle.

BALSAMS.

There are several species of Impatiens enjoying a greater or less amount of popularity, but that universally known as the Balsam is I. Balsamina, which although still widely grown is not so popular as it was twelve to fifteen years ago. There are growers and growers of Balsams, but very few can or will take the trouble to bring them to that perfection of which they are capable under skilled management. As they grow rapidly they must receive close attention from the very first. The seeds should be sown in pans of sandy but rich light soil and placed where there is a bottom heat of 65°, and as soon as the seeds have germinated, the pans must be placed as near the glass as possible to prevent the seedlings from getting drawn. When the first true leaf makes its appearance, the seedlings should be potted into 60's, burying the stem up to the cotyledons if possible so to avoid leggy stems. As the roots reach the sides of the pots give further shifts according to the rate of progress, keeping them in a moderately high temperature close to the glass with plenty of ventilation to maintain a short-jointed and sturdy condition.

At a very early stage flowers make their appearance on the main stems, but these should be picked off to encourage a vigorous development of the side branches. The latter should be tied out as they grow to admit air into the centre of the plant, as this encourages continued growth, an absolute essential if plants of good size and form are required. When Balsams were popular as exhibition plants, he could only expect to succeed who adopted this method of treatment, artificial as it seems. The same treatment has to be given to I. Sultani if the grower would secure healthy plants a yard in diameter.

Pyramidal specimens 18 in to 2 ft. high and 15 in. to 18 in. or more in diameter at the base may be obtained without any training whatever, provided the plants are shifted on when they require it and are afforded plenty of space for development, free exposure to light and air and liberal treatment in the matter of watering. Liquid manure is also of great assistance to them when making their growth.

A batch of double-flowered Balsams of good quality, may be seen in the gardens of the Royal Horticultural Society at Chiswick, and which have been grown on without any training whatever, and form pyramidal specimens 18 in. to 2 ft. high. The larger proportion of them have pure white flowers with light green stems. Others are flesh-coloured with a darker centre and metallic looking stems. A third series have blush flowers; while the darkest variety has brilliant carmine flowers fading to rosy carmine more or less tinted with purple. All are branched from the base, but the branches from the axils of the cotyledons are sometimes at a greater distance from the next branch than are the succeeding branches from one another. They only illustrate the old difficulty of keeping the plants dwarf, owing to the tendency of the internodes of the stem to elongate when the conditions are not absolutely such as to prevent it.

Butterflies to the number of 150,000 will be shown in the Pennsylvania exhibit at the World's Fair. The collection is said to be the most complete and finest in the world.

BORDER CARNATIONS.

As the popular flower of the time Carnations are having it all their own way, and concurrently with the period of their greatest beauty comes that of propagating or layering them for the next display twelve months hence. In this respect the plants are comparable to Chrysanthemums, although the labour attached to them is infinitely smaller. Planting out, staking the flowers, and layering are the chief items of labour, but it may be said also that they have to be kept in pots during winter at Chelsea in the nursery of Messrs. J. Veitch & Son, because the ground has to be occupied with pot vines. On the whole the labour attached to them is small, and their beauty infinite while it lasts, either in the beds or for cut flowers.

The beds were in their prime when we examined them the other day; but of the extensive collection we singled out only a few of the best of the leading types. The bulk of them are ostensibly for border work, but some of them are known by the best of cultivators to be well suited for pot culture as well even in winter. Yellow varieties in most gardens are a failure, although Pride of Penshurst does fairly well in some soils. We can speak of the behaviour of Germania at Chelsea, some being grown under glass and in a large bed in the open. In the latter case the stems are 2 ft. high with an abundanc of "grass" 6 in. to 12 in. long. We should consider it the best yellow for outdoor work on account of its vigour. Flowers for cutting or any other purpose may be had in abundance, and in fine condition too. Like all the rest this variety was planted out in the third week of March. There were several other yellow varieties, including Almira, but we should give the preference to Germania. Leander is a taller sort, but the young shoots are poorer and the shape not so good as that of the last named.

Several white varieties are grown, more or less excellent in their way, but for purity, size, dwarf free-flowering habit and shape, that named Mrs. F. Watts must take a leading place. The stems are only 12 in. to 14 in. high. The other white varieties we noted were Comte de Chambord and Gloire de Nancy, both somewhat in the way of the Malmaison type, with broad glaucous leaves and large white flowers. The last-named is the purest, for Comte de Chambord is slightly tinted flesh, at least during expansion. Going from the pale to the darker colours, we may notice the pink varieties; and here we must give the palm to Rose Celeste, a beautiful rosy-pink variety of delicate hue that keeps its colour well. A bed of it was simply charming in its profusion of flowers. It is also of dwarf habit and robust constitution, so that there is no difficulty in keeping a stock of it. Dr. Park is rather a taller variety, with larger flowers very freely produced, but we should not give the preference to it on that account.

Scarlet or rosy scarlet and red varieties are numerous, but the leading place must be given to Winter Cheer, by reason of its bright colour, floriferous character and extremely dwarf habit. The stems are only 10 in. to 14 in. high, and bear flowers in all stages of expansion; it will, in fact, keep on flowering till October. No other can compete with it in dwarfness, while the young shoots about the base form quite a bush. The flowers are of a brilliant scarlet. Pot plants will continue the flowering period all the winter. The variety might well be termed perpetual. Queen of the Bedders (Turner) is by no means a refined flower, but its habit and constitution are good, while the large rosy scarlet flowers are produced in great abundance. Ruby is equally floriferous, but the brilliant rosy scarlet flowers are liable to burn at the edges. Grant Allen is similar in character, but the scarlet flowers shaded with rose are less liable to burn or bleach with the sun. It is moreover, a more refined flower. The brightest of this type is Joe Millet, with brilliant and cheerful, light scarlet flowers that do not burn in the slightest. It grows about 18 in. high and is conspicuous even at a distance. The variety named Brilliant is rose shaded with scarlet, grows about 2 ft. high and is very floriferous.

There are some very bold purple-flowered varieties, of which Purple Emperor may be reckoned the best for exhibition purposes, as it has large, uniformly dark purple flowers. Beauty of Foxhall is a bright or magenta-purple variety of great merit. There is also a tint of blue at the edges of the petals, and it may be considered one of the best of this type. Walter Ware is a deep purple with entire edges, and grows about 18 in. high, with plenty of grass. There are several dark crimson types of great merit for those who like flowers of this colour. Crimson Pet grows about 20 in. high, and bears maroon-crimson flowers that become darker as they get older. Similar in colour is Wm. Toby, with medium sized flowers produced in great profusion.

Many of the Picotees are well suited for border work, including Professor Goodheart, a yellow ground with orange-salmon edges, broad glaucous leaves, and a good constitution. A very pretty variety is Alice, having a rosy ground of definite character and a crimson edge. Quite another type is J. B. Bryant, with an unusually broad crimson-purple edge and a white ground. Chaste and pretty is Loddington Favourite, a white variety having a delicate rosy-pink edge. A somewhat peculiar type is Fanny Trommsdorf, a German variety finely striped with heliotrope on a white ground; but it is liable to sport to a heliotrope self with a satiny lustre and spotted pink. Of this peculiar colour we noted a finer sort in one of the houses, of a uniform heliotrope tint and silvery or satiny gloss. Its flowers were also strongly fragrant. The name of the variety is Desire Ardoise Nacré. Another good border flower is Karl Schurz, with a broad crimson-lake edge and a white ground.

Flaked and bizarre types are also grown in some variety, but we noted only a few of the more striking, including Harry Veitch, a light and pleasing rose flake raised by Ernest Benary, Erfurt. The Earl of Beaconsfield is distinctly flaked with crimson, or rather chocolate, on a deep red ground. Notwithstanding the amount of flowers that have been cut for exhibition purposes, no impression has been made upon the collection, which we were fortunate in seeing at its best.

ODONTOGLOSSUM CRISPUM.

There are but few of the Odontoglots which possess so much beauty as does a well-grown plant of O. crispum when in flower. Much has been written about its fascinating charms, its habit, its culture, and I think its renown is now everywhere known. Experts and novices have repeatedly given us their opinions respecting its merits. The press has paid considerable attention to it, and has directed the attention of the public to its superlative qualities. Financiers and speculators have reaped golden harvests as the result of good importations, and much good has been done and much benefit derived from such "labours of love." Anyone with means can buy a few dozen plants of it. But, alas! how often is the result failure?

Perhaps the best way of obtaining a collection of Odontoglots, or indeed of any other Orchids is to buy the imported bulbs. In my experience this has been the most satisfactory, and to anyone who knows how to treat the imported masses after he has procured them, I would say by all means buy imported bulbs. Assuming that we have before us an importation of the pseudo-bulbs just unpacked from the case—ugly, worthless-looking things they are—and we wish in twelve months time to transform these "dry bones" into living, beautiful plants, perhaps bearing in some cases two or three spikes of their lovely blossoms; how are we to proceed? First, wash the pseudo-bulbs very carefully in tepid water, so as to thoroughly cleanse them from all parasites both insect and fungoid, which are almost certain to be there; cut away all dead roots, bulbs, leaves, etc.; in short, make them perfectly clean. At the shady cool end of the stove spread a mat on the stage, and on the top of this a layer of broken crocks, washed and perfectly clean; place the cleansed bulbs base downwards on these, and syringe them several times a day, being guided by the brightness of the weather. The sun's rays must be shaded off with fine straw paper, gradually admitting more light as the young growths make their appearance.

When the rootlets appear, and before they attain any large size, and the growths are beginning to nicely develop themselves, put the masses into pots of suitable size, three parts filled with clean crocks and a few pieces of charcoal; place one or two lumps of very fibrous peat on the top of this, as close as expedient to the young rootlets. Let the bulbs be set as firmly as circumstances will admit, and upright on this until they have laid hold of the material with their roots, syringing periodically as they develop. After a time press carefully and firmly into the pot other pieces of fibrous peat, so as to form a mound around the pseudo-bulbs, at the same time taking care that the bulbs rest on the summit—as nearly as possible—of the mound, and plant over with fresh, green sphagnum. At this stage they can be removed into a cooler temperature. The sphagnum must always be kept fresh and green; and in order to accomplish this, rather plentiful supplies of water must be given. As long as the sphagnum is in good condition, the plant itself is certain to be right; the sphagnum should never be allowed to become dry. After the first leaves are fully developed, they may be moved into their proper quarters in the cool house, and grow on there, giving them plenty of moisture and ventilation. In all probability many of them will flower the first year.

This mode of treatment is about the most successful, and one that never fails. After the plants are established nothing is required but the necessary ventilation, watering, and syringing. In very bright weather they should be slightly sprayed over with the syringe at least four times a day, and the floor of the house should be kept constantly damp. Plenty of water must be supplied to the roots if the drainage is in good order, and the potting compost is of a porous nature. Too much water can scarcely be applied; at least, such is my conclusion after six years' constant experience with this lovely species. When they grow too large for the pots in which they have been established, they must be carefully moved into a larger size. When any of the pseudo-bulbs decay, they must be cut out with a sharp knife. One of the most desirable features about O. crispum is that it will succeed in a most satisfactory manner in company with such plants as the Clivias, Dracæna congesta, Ferns, and similar subjects.—*C. H. B.*

SPOT ON GRAPES.

There are several varieties of Grapes which are subject to the well-known "spot," but Lady Downes Seedling is more liable to the malady than any other Grape with which I am acquainted, and the means of preventing it has often enough been submitted to readers of the various gardening papers. A dry atmosphere, a free circulation of air, and early opening of the top lights are precautions which are often advised, but some do all that and still the spot does its usual amount of mischief till colouring begins, when the skins of the berries seem to become more elastic and the "spot" gradually disappears, but not before the bunches are sadly mutilated and disfigured.

Some treat the "spot" as myth, simply because they are not liable to suffer from it, and proprietors of vineries occasionally come into conflict with their gardeners as being incompetent when the disease appears and it is not mastered. Plenty of air and dryness are very desirable agents in warding off "spot," but a brisk temperature is also essential to keep matters right, and not only is early airing necessary, but air at the top especially should be kept on at night as well as in the day in order to prevent damp settling on the berries. I always did fairly well in saving Grapes by free air and dryness, but have always done much better when the pipes were kept warm, thus creating a free circulation of air in the house. The "brisk" heat practice I adopted from instruction received from the late Mr. Wildsmith, of Heckfield, who grew capital Lady Downes Grapes.—*Stirling.*

FORCING SHRUBS.

In conversation recently with a nurseryman on the subject of the preparation of shrubs forced one year for a similar operation the next, I found myself quite in touch with his views regarding the proper mode of treatment, which might be summed up as follows:—Get them to make their growth early, and to ripen and rest them thoroughly while there is good foliage on the plants. Those forced early, such as Staphyleas, Andromedas, Azalea Mollis, Hydrangea panniculata grandiflora, Laurestinus, Lilacs, Prunus, Rhododendrons, Deutzias, and Viburnums, should be given the benefit of heat and moisture after they have flowered, in order to ensure good growth before they are gradually hardened off and eventually placed out in the open air.

The pots, which by that time should be full of roots, should be plunged in a bed of ashes or old tan, where the sun can have full play upon the plants,

and in such a position they will become firm, matured early, and consequently well prepared for early forcing. We have had a number of such forced shrubs turned out of their pots into rather firm ground, where they will remain till the forcing season begins, when they will be lifted and potted up firmly. It is an extravagant practice to throw away the stock of forcing shrubs every season as soon as they have yielded their crop of flowers.—*Stirling.*

THE FLAME-FLOWERED NASTURTIUM: TROPÆOLUM SPECIOSUM.

TROPÆOLUM SPECIOSUM

THERE are few who have seen this hardy Tropæolum in characteristic condition but would like to try it in their gardens if they have any. It is a native of Chili, and seems to inherit the cooler and moister portions of that country judging from its behaviour in this. In the drier and more sunny south of England it is very difficult to establish, and although it may take hold of the soil and send up shoots here and there or sometimes plentifully, yet the said shoots in many cases refuse to elongate to any great extent and flower poorly or not at all. There are many cultivators who take great trouble with it, yet obtain very unsatisfactory results. Others, however, succeed in establishing it, and are handsomely rewarded for their trouble, as may be seen by reference to the accompanying illustration of the porch of the Sanatorium at Harrow School.

Some growers use peat as a medium by which to keep the fleshy tuberous roots cool and moist, and are thus able to get a considerable amount of growth if the plant does not flower. It is quite different in the north, where it may be planted anywhere and in any exposure with equally successful results. The fronts of many cottages and the sunny exposures of railway sidings in Aberdeenshire are wreathed and adorned with its flaming tresses in the same way as cottages in old-fashioned villages used to be adorned with the hedge Convolvulus (Convolvulus sepium). The front of a hotel at the foot of Ben Nevis also presents a sight that would charm would-be growers of this plant, improperly termed Nasturtium, and known amongst botanists as Tropæolum speciosum. In far off and bleak Caithness it seems equally at home, so that its hardiness is thoroughly established, and the facts concerning its behaviour in this country would point to the atmospheric conditions as governing its success or failure.

Those who attempt its culture in the south should choose a cool and moist position for it, although not a position where stagnant moisture exists, otherwi s the fleshy rhizomes would be liable to rot. Peat or leaf soil may be used to ameliorate the staple and moisture holding power of the natural soil. A few twiggy stakes or a trellis may be used by which it may support itself by means of its twisting petioles. We do not know that any cultivators have tried the effect of standing some earthenware pans filled with water about the foot of the stems in order to ensure atmospheric moisture, but it might be worth while making the experiment. The pans should be hidden and made as unobtrusive as possible, and kept filled from time to time.

THE HERBACEOUS BORDER.

Choice Plants in Flower.

GERANIUM PRATENSE FLORE PLENO.—The value of the double variety of the Meadow Crane's Bill becomes apparent after the single varieties have gone out of bloom. The same applies to the semi-double form (G. P. semipleno), for they are both late in coming into bloom and last well. The flowers are purple shaded with blue, quite full with the petals gradually smaller to the centre. Sometimes the inner ones are mixed with small sepals, but that is probably of rare occurrence. The semi-double variety has fewer petals and less neatly arranged. Division is easily effected in spring.

LYTHRUM VIRGATUM.—The general aspect of this European species is very similar to that occurring on the banks of our native streams, and the purple flowers are nearly as large; but in all other respects the plant is smaller, with slender, twiggy and much-branched stems. The dry season has no doubt contributed much to keep it dwarfer than it would otherwise be.

CAMPANULA LACTIFLORA.—The typical form of this has milk white flowers tinted with blue, but it is rare in British gardens, although introduced from the Caucasus in 1814. The bright blue variety C. l. cœrulea is the greatest favourite and really a fine thing. The stems vary from 2 ft. to 6 ft. in height according to soil and culture, bearing a panicle of erect, medium sized, bell-shaped flowers. It should be planted in the back line of the border if the soil is at all good, for it is a showy plant.

LYSIMACHIA CLETHROIDES.—This Loosestrife still remains the best of the white flowered species, on account of its long and terminal stout raceme of bloom. It usually grows about 18 in. high in the open border, but could probably be grown much stronger by having it planted in a damp situation, for it delights in plenty of moisture.

LATHYRUS TUBEROSUS.—The stems of this climber are shorter than those of several of the more popular species of Lathyrus, but it is nevertheless a pretty herbaceous subject with deep rose flowers, borne in a short raceme of four to five together. The leaves are small and consist of a single pair of small obovate-elliptic leaflets. A few branching stakes about 2 ft. to 3 ft. high will be quite sufficient to support it.

CORONILLA VARIA.—Most of the Coronillas, whether dwarf or tall and shrubby as in Coronilla Emerus and C. glauca, have yellow flowers but those of the herbaceous species under notice are entirely different. The standard is pale purple, the wings blush and the keel tipped with deep purple. The flowers are produced as in the other cases in a circular whorl, and are suitable for border decoration or to cut from. Propagation may be effected by careful division in spring.

VERONICA VIRGINICA.—The flowers of this North American species are pale purplish blue, sometimes white and produced in a long raceme terminating the stem or in shorter racemes terminating the few short side branches. The leaves are lanceolate and are borne in distinct whorls not merely pairs as in most of the other species. In good soil the stems attain a height of 3 ft. to 5 ft., so that the back line of the border is the most appropriate place for it.

SPIRÆA ULMARIA FLORE PLENO.—Our native Meadow Sweet is as deserving of a place in gardens as many of the more pretentious but less showy exotics. The double flowered form like that of S. filipendula has even more recommendations, as each individual flower consists of a globular ball of petals that remain in position till they wither.

ASTER PYRENÆUS.—The succession of Asters is kept up by the species under notice, and which is a native of the Pyrenees. The stems seldom much exceed a foot in height, and the pale purple flowers are produced in a terminal cluster. One good feature of this Aster is that no suckers or stolons are produced from the rootstock, which therefore increases very slowly. Division may be effected in spring, and it should be done carefully, but not with a spade, otherwise many of the young crowns will be severed from the roots.

ACHILLEA PTARMICA THE PEARL.—There are evidently several double forms of this and closely allied species or varieties. That sent out under the name of the Pearl has larger flowers than those of A. P. flore pleno, but equally pure in colour, and therefore well adapted for cut flower purposes. Propagation by division is easily effected, but in case a large stock should be required for any purpose, cuttings of the moderately firm shoots or those proceeding from the rootstock in spring may be taken.

VERONICA INCANA.—This species is frequently extensively propagated from seeds, and by that means some amount of variation has arisen. All have foliage of a more or less hoary aspect and some are quite white. Those are usefully employed for bedding purposes, more particularly in carpet bedding. The ordinary forms are pretty and useful however for the front lines of the herbaceous border.

MATRICARIA INODORA FLORE PLENO.—The double white flowers of this double Matricaria are very useful for cutting, and seeing that they are produced during the greater part of the summer, the plant should find its way into many gardens. The blooms are nearly the size of those of a Pompon Chrysanthemum. The plant must be propagated from cuttings, as no seeds are produced.

THE COTTAGERS' SHOW AT EARL'S COURT.

"A MUCH better show than we anticipated," was the general verdict of the experts on Monday, after closely examining the display of cottage garden produce at Earl's Court. Considering that the day was a Bank Holiday, and that Monday of all days in the week is the worst for holding a flower show, it was, indeed, a very creditable display, and in some sections an exceedingly meritorious one; and that nearly 30,000 persons visited the grounds at Earl's Court spoke volumes for the attractiveness of the programme.

The exhibition was held as usual in the large hall in the western gardens, and a few of the leading nurserymen sent groups which largely made up for the lack of specimen plants among the cottagers' productions. Thus Messrs. Wills & Segar sent two grand groups of their large and handsome Palms, which splendidly set off the ends of the two great bays. In front of one of them Messrs. John Laing & Sons put up a large and exceedingly effective group of Caladiums and other fine foliaged plants, which was flanked on either side by semi-circular collections of stove and greenhouse flowering and fine foliaged plants from the same firm, who were deservedly awarded a Gold Medal. Messrs. Edward Shuttleworth & Co. also contributed a couple of groups of Palms. Messrs. Barr & Son took a Silver Gilt Medal for a very imposing array of cut hardy flowers; and a similar award went to Messrs. Dobbie & Co., of Rothesay, for a mixed stand of vegetables and flowers, among which were finely grown examples of their Champion Leeks, white and red Celery, curled Parsley, African and French Marigolds, Violas, etc.

Mr. T. S. Ware had a large and showy collection of Gaillardias and Carnations put up in bunches, and which gained a Silver Medal. A similar reward was also made to Messrs. Jarman, seedsmen, of Chard, for a collection of vegetables tastefully arranged. The Carnation Show was limited in extent, the amateur growers mostly holding back for Mr. Dodwell's feast on the Tuesday, and with a few notable exceptions the blooms staged were of very poor quality. Mr. Turner of course was in rare form, and won in all the classes in which he competed; Mr. F. Hooper, of Bath, being the next best trade grower; and Mr. Blick, gardener to Martin R. Smith, Esq., the best among the gardeners. The stands of these exhibitors would have done honour to any show.

The cottagers' vegetables were admirable throughout, and the entries fairly numerous in most of the classes. For a collection of six distinct kinds, there was a very spirited competition, and the honour of being placed first fell to Mr. A. Farmer, of Gunnersbury, a railway signalman, whose Onions, Turnip-rooted Beet, Potatos, Canadian Wonder Beans, Peas, and Vegetable Marrows, any grower might have been proud to own. The second best lot came from Mr. R. Watson, of Lanark; Mr. H. L. Sell, of Luton, being third; and Mr. G. North, of Buckingham, fourth. So good was the competition, that Mr. Milner wisely decided to give five extra awards, and these went to Mr. J. May, South Ealing; Mr. C. Sharp, West Norwood; Mr. W. Peasey, Ealing; Mr. J. T. Attwood, Twickenham; and Mr. W. Edwards, Tunbridge Wells. The single dish classes for Peas, Beans, Potatos, Shallots, Marrows, Turnips, &c., were all exceedingly good, as were also some of the classes of plants in pots, and cut flowers.

The classes confined to market growers brought but a limited entry, though the produce staged was very good. The largest exhibitor was Mr. F. Le Poidevin, of Guernsey, who had Melons, Figs, Tomatos, and Peaches, and secured two 1st prizes. The best packed basket of Grapes, and the best shallow of black Grapes came from Mr. Featherby, of Gillingham, Kent; Messrs. Parsons & Bourgaize, of Covent Garden, were 1st with a shallow of white Grapes.

First-class Certificates were awarded to Messrs. John Laing & Sons for Begonia Charmer, Dendrobium Schroderianum, and Bertolonia Madame Van Geert; and to Mr. Charles Turner for Carnations Rose Wynne and King of Scarlets, and Picotees Edith M. Wynne and Lady Emily Van de Weyer.

THE ROSE IN AMERICA.

"HELLO, hello!"

"Is that Hotel Reynolds, Boston?"

"Yes, what do you wish?"

"We want to talk with Mr. Hugh Dickson, a very tall young man from Belfast, Ireland. Have you such a party stopping with you?"

"Yes, he is right here."

"Hello there, is that you Dickson? As they say to the actors, 'How do you like America?'"

"As the cat said to the cream pitcher, 'I'd like to stay here all the time.' But, to tell the truth, I haven't seen much of it yet, for my visits up to the present time have been confined to a few of the eastern cities. I was fortunate enough this time to be in Boston during the annual Rose and Strawberry exhibition of the Mass. Horticultural Society which naturally interested me very much."

"Well, how did you like the exhibition? Did it compare favourably with similar shows in England?"

"Well, the Strawberries were very fine in appearance, but I really don't think they have as good flavour as ours. But the Roses were what interested me most. Now, I must say I was greatly disappointed in this department of your show. In finish, colour and size the blooms taken as a whole were very weak and would not at all compare with the English Rose shows. This can to a certain extent be attributed to the very hot spell we had for the week before the show, but I fancy if the same attention was given to your outdoor Roses that you give to your indoor ones you could greatly improve your flowers."

"What would you suggest?"

"Well, firstly I would be inclined to tickle the Rose beds with a hoe, say 2 in. deep, before the hot summer suns begin, then mulch the beds with a good dressing of rotten cow manure, say 2 to 4 in. deep. On this I would spread the short grass of the lawns, which will prevent the weeds growing and give the bed a neater appearance and at the same time prevent the hot suns taking all the moisture out of your manure and soil. I also think that if the hose was applied freely in the cool of the evening you would get a better growth than you at present do and possibly a fall bloom. I always understood that you showed your Roses here on very long stems. Now, I was very much disappointed in this too. I think we show our blooms on quite as long stems as you do and certainly in a neater way. We have a wire support to each bloom which keeps it setting erect and all of a uniform height in a row, the back row of the box of course being higher than the front. Then as to classification I think it would be a great improvement if you would admit hybrid teas and teas. Look what an improvement to the tone of a box a good Perle or Hoste would be when placed between two crimsons."

"But you must remember, Mr. Dickson, that these are not hardy here. Our great object is to encourage the raising and planting of hardy Roses."

"Oh, yes, some of them are hardy. There is Gloire Lyonnaise, sent out by Guillot as a yellow hybrid perpetual. He made a mistake there as it is a creamy yellow hybrid tea. But it is perfectly hardy here and will give more blooms than any other Rose of its colour that I know of. It looks almost mildew proof. I saw a three year old plant in Philadelphia from which Dr. Huey cut this

season already 150 blooms, and I believe he will cut another 150 before the season is out."

"We understand that at certain shows in this country Magna Charta has been ruled out of the hybrid perpetual class. How would you class Magna Charta?"

"We hold it as a hybrid perpetual."

"What stock do you bud your Roses on?"

"For hybrid perpetuals we use Manetti and for teas the Dog Rose."

"What advantage do you claim for budded over own-root stock?"

"Immediate effect. The purchasing public gets from budded stock as much bloom in two years as will repay the whole outlay, whereas with own-root stock you must wait two years before the plant is any size. You must not confound Roses properly budded low down on Manetti stock with the stuff budded high on the stem which is sent over here from Holland for auction sales. We exercise great care in the preparation of our stocks. First we cut the wood into lengths of about 12 in. and cut out all the eyes from the base up, leaving only three at the top to grow. These are then planted and after a twelve months' growth we lift them, cut off all the rootlets that may be up the stem, also cut back the roots at the base so that they will break away again and became bushy, and plant about 4 in. deep. Then when we come to bud we scrape out all the soil from around the roots and bud close down. The following spring, say in March, after the bud has started, we cut off the top of the stock and mould the plants up slightly. In this way we often get our Roses not only with the roots of the stock but with own roots as well. If budded stock is planted deep you are liable and likely to have them doubly rooted. In addition to the hot suns which are against your Roses in outdoor culture, I find you suffer a great deal more from insect scourges than we do."

"About your hybridizing: what are you doing and what are you aiming for?"

"Well, we know that if we can only strike a yellow tea of good substance and colour it will be a ten strike for the American trade alone, so you will understand that this is one thing we are striving hard for. In our early trials we used Gloire de Dijon considerably, but have found since that it is useless as a parent, for no matter what the other parent may be the Dijon blood is most manifest. It may interest you to know that the result of one cross between Dijon and Perle was a purplish red. In crossing two Roses of sweetest fragrance we often in the progeny get a Rose without a vestige of perfume."

"How do you account for this?"

"Don't know how to account for it, and would like to meet the man who can."

"How do you like American Beauty over there?"

"Not at all. We kicked it out long ago. It lacks finish and is inclined to be off colour. You must remember I am talking of Roses grown out of doors only. We have never to my knowledge tried Beauty indoors. Our forcing of Roses in Great Britain is not very extensive. On the Continent they can best us in this department, but that I account for by the bright weather they get as compared with us in winter. If you don't get sun to ripen wood you can't get flowers. Perle, Niphetos, Safrano, Mermet and Bride we grow extensively outdoors.

"What is your experience with the Waban?"

"Waban with us comes deformed as a rule. Indeed, the majority of its flowers are imperfect. Occasionally we get an undoubtedly fine flower and the colour is very rich. If they would only all come as good as the plant from which it sported it would be a great acquisition. It is our experience that a sport is rarely equal to its parent. From this rule, however, I would exempt the Bride, which I consider about our best white tea. Nothing better could be desired for size, form and finish. No amateur or professional Rose grower and exhibitor can afford to be without the Bride, as its great size, magnificent form and excellent finish add many points from a judicial point of view to an exhibition stand. Cusin with us is a very good Rose, but Watteville beats it in every way. A large part of the Roses in our cut flower markets come from the South of France. Compared with the flowers seen in your American shops they are miserable things, and they are all short stemmed. One point I will make before saying good-bye. While the world runs we are bound to have both sexes, otherwise the world stops. Now, apply that to your flower trade. Wherever you find a girl of taste her chosen flower is the Rose. And wherever you find nice girls there are fools of fellows, and the Roses are sure to go whether the fellows can afford it or not."

"That's good philosophy. Will you make any exhibit at Chicago next year?"

"Yes, we sent over last February in compliance with Mr. Thorpe's request a lot of 1,200 Roses, largely our own seedlings."—*American Florist.*

GARDENING MISCELLANY.

LANTANA DRAP D'OR.

LANTANAS of any colour whatever hardly get justice done them in this country, either as specimens, standards, or for bedding purposes. That under notice is well named Cloth of Gold, for the flowers are of a uniform clear yellow, and evidently not liable to the variation which effects many other kinds in cultivation, which may be yellow, creamy yellow or some other shade of that sort and change to lilac, rose or purple after they have been some time expanded. Drap d'Or is used in Messrs. Veitch's nursery at Chelsea as the outside edging to a bed, for which it is well adapted, being now only 4 in. to 6 in. high. It keeps on developing its trusses or umbels of flowers till autumn.

DIDYMOCARPUS LACUNOSA.

THERE are few species of this Gesneraceous genus in cultivation, but they are generally neat and dwarf stove or intermediate house plants. That under notice is particularly so, for at a little distance it looks like a dark flowered Pinguicula. Of course on close inspection the structure and shape of the flower is altogether different, being tubular, drooping, with a five-lobed lamina; the latter is violet, but the tube is deep purple. It is a relatively new introduction, having flowered last year for the first time. It is figured in a recent number of the *Botanical Magazine*, t. 7236. A fine batch of seedlings is now coming into flower in the nursery of Messrs. J. Veitch & Sons, Chelsea.

NEPENTHES DICKSONIANA.

UNDER good culture the pitchers of this Nepenthes get to an extraordinary size, and we should think not much smaller, if any, than those of N. Rajah, and certainly larger than those of the latter are likely to get in this country. Laying a measuring rule against one of the pitchers in Messrs. Veitch's Nepenthes house, we found it a good 12 in. long, exclusive of the lid, and proportionately wide. The greater part is blotched with crimson on a light green ground, and although the colours are neither very dark nor prominent the pitchers may be reckoned amongst the handsomest in cultivation.

CAREX EUROPEA VARIEGATA.

A FEW years ago a striped leaved Carex appeared in cultivation, and received a Certificate of Merit; but it is so weak a grower that it is never likely to become popular. Now another plant is rapidly making headway, and may possibly become almost as popular as Scirpus riparius (Isolepis gracilis) for decorative work. The leaves are very narrow, grass-like, and deep green, with narrow white margins; they are more erect in habit before curving over, and grow 1 ft. to 2 ft. in length. It is healthy and vigorous, and may be propagated rapidly by division. The green or typical form is perhaps more extensively grown than the variegated one, but we noted the latter in plenty in the nursery of Messrs. J. Veitch & Sons, Chelsea.

STATICE BUTCHERI.

ONE of the most popular of the Statices for decorative or exhibition purposes is S. profusa, a hybrid between S. puberula and S. Halfordii, the latter itself being a variety or a hybrid of which S. macrophylla is one of the parents. In general appearance and habit S. Butcheri may be compared to S. profusa; but it is an improvement, the flowers being somewhat larger, produced in denser trusses, and the persistent or durable calyx of a more decidedly blue tint. There is a considerable amount of purple in the calyx of S. profusa. Both have white flowers, and have been flowering for a long time past in the gardens of Falkland Park, the residence of J McMeekin, Esq.

BEGONIA MARIE LOUISE.

THERE is already a considerable amount of variegation amongst the varieties of Begonia Rex, but the limit has evidently not yet been reached. There is a fine batch of Marie Louise in the nursery of Messrs. J. Veitch & Sons, at Chelsea. What the ultimate size of the leaves may be is not yet apparent, as the plants have just been raised from leaves and are now growing away finely. The central portion of the leaf is dark olive green, and this is followed by a broad, bright green zone, and that again by an olive green margin. The whole surface is about equally blotched all over with nearly circular white blotches, and the under-surface is variegated with red. Some growers of this class of plants are equally pleased with the colour of the lower surface as well as what other hues may shine through when the plants are grown on shelves close to the glass.

AGAVE VICTORIÆ REGINÆ.

PLANTS of this species are comparatively rare in gardens, and what exist are usually of no great size. Possibly the two large specimens in the gardens of J. McMeekin, Esq., Falkland Park, South Norwood Hill, are unique in this country. Both have thrown up flower stems, the lower blooms of which are on the point of expansion. These flowering stems are 6 ft. to 7 ft. in length, cylindrical or rod like, gradually tapering to a point, with about 2 ft. densely covered with bracts at the base, and all the rest as densely covered with flower buds. The stems may yet elongate to some extent and are certainly stately, surmounting as they do the dense, shortly conical, rigid mass of leaves, but the flowers can hardly be expected to be showy considering that the most of those which have hitherto bloomed in this country are in no way conspicuous or highly coloured. As far as we know, this is the first time that A. Victoriæ Reginæ has flowered in Britain. They were wintered in a warm greenhouse, but since they commenced to throw up their flower stems they have been stood upon the balustrade of a stone staircase in front of the mansion, where they look as appropriate as they are unique. Their flowering is almost certain to destroy the fine mass of leaves, even if it does not kill the plants, which would be a decided loss notwithstanding that one or two smaller ones are on the establishment. Possibly the plants may ripen seeds and so secure their increase.

ODONTOSPERMUM MARITIMUM.

IN some gardens this may be better recognised under the name of Asteriscus maritimus. Whatever name may be given it, the plant is certainly one of the most refined and neat habited of the Composites, and only about 6 in. high. The leaves are spathulate and compactly arranged upon the stems, which are terminated by a solitary flower head about the size of those of a Helenium or Buphthalmum. The toothed rays are bright yellow, while the disc is golden yellow. Altogether the plant is very suitable for planting in the crevices of rockwork, for it likes a little shelter and perfect drainage in winter.

SPIRÆA BULLATA.

A NUMBER of the shrubbery Spiræas are dwarf and suitable for rockwork including that under notice, and which does not usually exceed 12 in. to 15 in. high. The dark green colour of its leaves is very noticeable, as well as their rugose or blistered character. What purpose the wrinkled surface serves is not very evident, any more than in the case of Myrtus bullata, for there is wide difference between the colour of the two. The branches are here also very short, and terminate in corymbs of red flowers which change to pink as they expand, but are very pretty and effective from their numbers. The species is a native of Japan, and is occasionally seen in gardens under the name of S. crispifolia. In the southern portion of Britain at least it proves perfectly hardy.

THE BLUE POPPY.

THE bold character of the Himalayan Meconopsis Wallichiana, and the large, drooping sky-blue flowers are sufficient to make the cultivator forget all his trouble and pains taking in raising and carrying it through the winter. The great cluster of stamens in the centre have blue or purple filaments and golden yellow anthers, and the petals in some varieties are also of a decidedly purple hue. The stems of some plants on the rockery at Kew vary from 3 ft. to 6 ft. high, and are leafy to the top with a short flowering branch from the axil of each leaf, so that the whole inflorescence or group of inflorescences may be described as forming a cylindrical panicle of 2 ft. to 4 ft. in length. The uppermost flower is the first to expand, and the opening proceeds from thence downwards, thus keeping up a succession for a considerable length of time. The leaves are in themselves also highly ornamental, deeply lobed as they are and covered with long,

orange coloured hairs. Like M. nepalensis it is practically only a biennial, as it dies in the second year if it flowers and ripens seeds. Smaller and weaker plants may not bloom till the third season.

NOTOSPARTIUM CARMICHÆLIÆ.

In New Zealand, its native country, this attains the dimensions of a small tree, but can be grown and flowered in this country both in pots and in the open air while still in quite a small state, say 18 in. to 3ft. high. It is of course safest as a greenhouse plant, but with the protection of a wall it way be safely wintered in the open and proves a great curiosity besides being pretty. The leaves are compound with small leaflets, but the latter are only of short duration and soon drop, so that the plant is leafless while in bloom. The flowers are disposed in short lateral racemes from the nodes. The stems and branches are flattened, pale green, and rush-like, while all the smaller twigs are pendulous. A flowering plant about 2 ft. high may be seen on a west aspect wall by the herbaceous ground at Kew.

ORCHID NOTES AND GLEANINGS.

Amongst the Orchids which were exhibited at the meeting of the Royal Horticultural Society on the 26th ult., the following received Certificates:—

Cattleya Rex.

Already the first arrivals of this Cattleya to England have commenced to flower and appear in public. At the first sight we should place its affinity with C. Dowiana. The oblong sepals and broader, elliptic petals are white, faintly tinted with a creamy hue. The interior of the lip is crimson, with numerous yellow lines, while the side lobes are yellow; the lamina is pale purple, deepening to crimson at the base, and the crisped margin is white. A plant bearing four flowers in a raceme was exhibited by H. M. Pollett, Esq. (gardener, Mr. T. Paterson), Fernside, Bickley. Another plant was shown by W. S. Ellis, Esq., (gardener, Mr. Masterton), Hazelbourne, Box Hill, Dorking, the sepals and petals of which were more decidedly tinted with creamy yellow. A First-class Certificate was awarded in each case.

Cypripedium Bryan.

The seed parent of this hybrid was C. lævigatum crossed with the pollen of C. Argus. The leaves are oblong, green, and slightly tessellated with a darker hue. The upper sepal is ovate and spotted with purplish-black markings in lines, between which are slender green lines on a pale ground. The large, strongly declinate petals are heavily blotched with black on a pale ground; and the lip is pale dull purple.

Cypripedium Youngeanum.

This also is a hybrid between C. superbiens and C. lævigatum superbum, the former being the seed parent. The ovate upper sepal is pale pink, lined with brownish-green. The petals are oblong, declinate, 3 in. to 3½ in. long, pinkish, and richly spotted all over with crimson and black. The lip is of large size and of a pale dull purple. The petals are undoubtedly the most striking feature of the flower. Both hybrids were accorded Awards of Merit when exhibited by Norman C. Cookson, Esq. (gardener, Mr. W. Murray), Oakwood, Wylam-on-Tyne.

Sobralia Lowi.

The stems of this plant are only 6 in. to 12 in. long, and furnished with lanceolate, long-pointed, and strongly ribbed, dark green leaves. The flowers are of medium size in proportion to the size of the plant, and have oblong-lanceolate, purple sepals and petals, with a darker coloured lip. A Botanical Certificate was awarded it when shown by Messrs. Hugh Low & Co., Clapton.

Cœlogyne peltastas.

The sepals of this curious little species are linear-lanceolate, and the sepals linear and more slender, while all are of a light green. The lip is densely spotted with brown on a pale yellow ground, and furnished on the disc with whitish warts. The pseudobulbs are ovate and compressed, with the lanceolate leaves springing from them. The plant was grown on a block or raft and at a short distance. Very much reminds one of an Epidendrum, owing to its colours being very prevalent in that genus. It was exhibited by G. R. Le Doux, Esq., Langton House, Moulsey.

WHAT TO DO IN THE GARDEN.

Hippeastrum Aulicum.—This autumn-flowering species is now making its growth, and in that it should be encouraged, for upon a vigorous growth being made will depend the fineness of the rich crimson-red flowers later on. Weak liquid manure given at intervals will improve the results considerably.

Late Achimenes and Tydæas.—A close eye should be kept on all those subjects intended for winter flowering. As soon as they commence to make free growth, give a liberal amount of water; later on when the flower buds commence to appear, diluted liquid manure may be given at each alternate watering. A heated pit where they may be kept near the glass will suit as well as any place for them.

Maidenhair Fern.—In establishments where a large quantity of cut fronds is required for use in winter, the present is a good time to encourage the growth of young fronds. The atmosphere of the house may be kept warm and close during the early stages, but as soon as the fronds are fully developed, it should be kept cool and airy in order to harden and thoroughly mature the fronds so that they may be able to come through the ordeal of winter with its feeble light.

Seedling Ferns.—As a rule a plentiful supply of seedlings can be obtained by simply lifting and potting those which come up about the house. Sometimes very fine varieties of Adiantum Capillus-Veneris may be picked up in this way, and occasionally some of the others sport into valuable varieties. In any case seedlings of most kinds grow with great vigour and make useful stuff.

Lachenalias.—The bulbs of this useful class of spring-flowering plants will soon commence to grow and should be repotted at once. Shake them out of the old soil and sort them into sizes, so that all the stronger and flowering bulbs may be potted together, and the small ones put more closely in pots or pans by themselves.

Roman Hyacinths.—The consignments of Roman Hyacinths and allied forms as well as paper-white Narcissus are arriving, and those who desire to secure good bulbs shonld lose no time in getting the quantities they require. A batch of them may be potted at once when obtained, and plunge the pots in cocoa-nut fibre in some sunny and sheltered position. A very light covering of fibre should be placed over the top and the heat of the sun will soon start them into growth, after which they may be removed to a slightly heated structure.

Peaches.—As the fruit in succession houses gets all gathered, the trees should be subjected to a thorough syringing by means of the garden engine to clear them of red spider or other vermin that may have increased there while the house was kept dry. All weak and superfluous wood may be removed at once to allow that remaining to get thoroughly ripened for next year's work. The winter pruning will then be reduced to a minimum. The cold and windy nature of the weather has been unfavourable for exposing the trees by taking off the sashes, but that may be done later on should we be favoured with bright sunshine.

Melons.—Fruits that are now swelling and approaching the ripening stage would derive advantage by receiving a little heat at night, so that more ventilation can be given them than would otherwise be the case owing to the cold weather. For autumn work a light compost of sandy, mellow loam with a good sprinkling of wood ashes to keep it open and sweet, would be more suitable than heavier material.

Tomatos.—Those who are depending chiefly upon their outdoor plants for a supply of fruit will find themselves rather short owing to the ungenial and backward nature of the weather. To provide against such a contingency in the future, it would be well to forward a number of plants in pots under glass in spring so that some of the lower bunches might be set, and the fruits begun to swell before planting them in the open air.

Cauliflower.—About the end of the third week of this month make a sowing of Cauliflower in a sheltered situation, to be transplanted later on into cold frames where they may be preserved till spring for the earliest planting under handlights and *cloches*.

Lamb's Lettuce.—Make a sowing of this winter vegetable next week on a warm south aspect border. The seeds may be sown in lines about a foot apart, and covered to the depth of three quarters of an inch or thereby; but if watered occasionally they need not be buried so deeply.

Turnips.—Some of the well-known and approved varieties of the latter may be sown at the same time as the above in a sheltered situation, taking care to leave sufficient space between the lines for such strong-growing varieties as Snowball, Golden Ball, etc.

Lettuce and Endive.—As soon as the seedlings for the later crops are fit to plant out, have a sufficient breadth of them put out at once to meet the requirements. A further sowing of Lettuce, including Bath Cos, Hick's Hardy White Cos, and Hardy Hammersmith Cabbage, may be made about the third or fourth week of this month for planting out later on, in warm sheltered positions, west aspect borders, and even at the foot of walls in cold and northern situations.

SOCIETIES.

Acton Horticultural.—The annual show of this society was held on the 27th ult., on the recreation ground, where an interesting little show was got together. The competitive groups were not so numerous this year, but the non-competitive made amends for that. The 1st prize for a group was taken by Mr. T. Butcher, gardener to Mrs. Toynbee, who certainly had the best exhibit of Palms, Lilies, Francoas, Streptocarpus, and Maidenhair Fern. Mr. G. Benham, gardener to R. O. Davies, Esq., was 2nd with a totally different kind of group. Mr. T. Butcher was again 1st for 4 stove and greenhouse plants, including Datura Knightii, 8 ft. high. He also took the 1st prizes for Caladiums, 6, 4 and 2 Fuchsias, 3 foliage Begonias, 6 Cockscombs, 1 specimen plant in bloom (Stephanotis floribunda, 4½ ft. high), 3 tuberous Begonias, and a collection of twelve varieties of cut flowers. Mr. W. Brooks, gardener to H. G. Lake, Esq., also secured a number of 1st prizes, amongst others for 2 stove and greenhouse plants, 4 foiiage plants, 1 specimen foliage plant, and 4 Ferns. Mr. G. Rouse, gardener to C. T. Sutton, Esq., had 1st prizes for Coleus, Petunias, 2 Ferns, and Gloxinias. Mr. W. Polley, gardener to A. Hubbard, Esq, J.P., had a leading prize for foliage plants, and Mr. G. Sizmur, gardener to W. C. Smith, Esq., had two 1st prizes for Roses. In the fruit classes, Mr. T. Butcher had two leading prizes for Black Grapes, and for vegetables he had three leading prizes, including that offered by Messrs. J. Carter & Co. for a collection. Mr. W. Wilks, gardener to J. Bishop, Esq., had the 1st prizes for a collection of fruit, 1 bunch of white Grapes, a brace of Cucumbers, and a collection of vegetables. Mr. Brooks had the best two bunches of white Grapes. Mr. C. Burrows, gardener to E. E. Owen, Esq., had a 1st prize for Melons. The exhibits of vegetables by cottagers were numerous, and in some instances showed evidence of good culture, but we cannot commend the judgment that awarded the 1st prize to the largest Marrows; the 3rd prize lot we should have placed 1st. Amongst the miscellaneous and non-competitive exhibits was a fine group of stove and greenhouse plants from Mr. G. Reynolds, gardener to the Messrs. de Rothschild, Gunnersbury Park. Another pretty, but smaller group was contributed by Mr. D. Cooper, gardener to E. M. Nelson, Esq., Ealing. Messrs. Chas. Lee & Son, Royal Vineyard Nursery, Ealing, contributed a group of herbaceous plants in variety, as well as a collection of cut flowers of Roses. Messrs. W. Fromow & Sons, Sutton Court Nursery, Chiswick, contributed a group of variegated Negundos, stove and greenhouse plants. Mr. Denison, gardener to T. A. Gladstanes, Esq., Manor House, Gunnersbury, had cut flowers of Orchids, etc. Roses were shown by Mr. Will Tayler, Hampton. Mr. Webb contributed a dish of the Zulu Pea with purple pods.

A Quaint Notice.—The following quaintly-worded notice, which appears upon one of the garden walls at the seat of the Hon. Mark Rolle, at Bicton, is perhaps worth repetition, although possibly pretty well known to those who have paid a visit to this charming spot, the pleasures of which were lately enjoyed by the members of the Exeter Gardeners' Association:—

A gardener at a hole looks out,
And holes are plenty hereabout.
A pair of pistols by his lug,
One load with ball, the other slug.
A blunderbuss of common shape,
Just ready to discharge with grape.
Let midnight thief or robber stand
And pause ere he puts forth his hand.
While those who come in open day
May look but carry nought away!

Bicton, 1850.

QUESTIONS AND ANSWERS.

**** *Correspondents are requested, in order to avoid delay, to address all communications to* "THE EDITOR" *or* "THE PUBLISHER," *and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed* "*Bambusa, London.*"

CASSIOPE (ANDROMEDA) HYPNOIDES AND MENZESIA CŒRULEA.—Can any reader tell me where I can obtain plants of these? I cannot find them in any trade list issued in this country.—*Hawick.*

CHRYSANTHEMUM STAND.—*G. A, Tenbury*: A stand for 12 blooms, incurved, should be 2 ft. long, 18 in. wide, 6 in. high at the back, and 3 in. in front. Stands for Japanese varieties are usually made the same size, but might well be made a little longer if you are making them yourself, and can make cases to fit.

NAMES OF PLANTS.—*J. T.*: Veratrum nigrum.—*A. S.*: 1, Pteris scaberula; 2, Adiantum caudatum; 3, Selaginella apus.—*R. S. L.*: 1, Veronica virginica; 2, V. longifolia; 3, Sedum spurium; 4, Erica cinerea; 5, Spiræa Douglasii; 6, Spiræa salicifolia.—*A. Rand*: 1, Begonia semperflorens; 2, Erica mammosa pallida; 3, Sanguisorba officinalis; 4, Echinops Ritro.—*J. M. K.*: Cattleya Loddigesii Harrisoniæ.

ONIONS AT EXHIBITIONS.—*C. B. G.*: The dressing of various kinds of vegetables or flowers would consist in the removal of anything superfluous, unnecessary, or the arrangement of petals or what not, but nothing should be added to them. The removal of the outer skin from Onions might under certain circumstances spoil the effect of the exhibit, but at the utmost could only be a point against it. The judges would not disqualify the exhibit. Onions are or ought to be washed and the outer loose skins removed to get a smooth even surface; but if an exhibitor overdoes the dressing, he ought to know that it would detract from rather than add to the appearance of the Onions.

GLAZING.—*Omega*: 1, Yes; 2, March 26, 1892, p. 472.

TOMATOS.—*W. White*: The question as to how much water a Tomato plant would require cannot be definitely stated on paper, because so much depends upon circumstances with which it is impossible for anyone at a distance to tell. The question you should ask yourself is whether the border in which the plants are growing is dry. Examine the soil a little below the surface if you are in doubt, and if fairly moist there is no necessity for watering. Tomatos often get overwatered when planted out in borders or beds; but as you say your border is only 8 in. deep, there will be a necessity for watering occasionally, particularly in dry weather. If you are assured that your border is dry, then give water with unstinted measure, so that the whole of the soil in it will be thoroughly moistened. A small drop around the plant while all the rest of the soil may be dust dry is a mistake. Do not water any more until the soil is dry again. Liquid manure may be given them. Keep the atmosphere of your house as dry as possible in order to assist the setting of the fruit.

COMMUNICATIONS RECEIVED.—A. W.—E. H. K.—C. P.—A. D.—H. B. S.—E. W.—T. S.—O. T.—J. S. W.—G. B. T.—W. K. S.—X.—Curicus (you should enquire at the office of the paper).—T. M.

TRADE CATALOGUES RECEIVED.

WM. CLIBRAN & SON, Oldfield Nurseries, Altrincham.—Duch and other Bulbous Roots.

H. C. HARTEVELT, Lisse, Haarlem.—Dutch Bulbs.

JAMES DICKSON & SONS, 32 Hanover Street, Edinburgh.—Dutch Bulbs and other Spring Flowering Plants.

PAPE & BERGMANN, Quedlinburg, Germany.—Various Bulbous and other Plants.

COVENT GARDEN MARKET.

August 3rd.

FRUIT.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.
Black Currants ½ sve	5 0	
Red Currants ½ sve.	2 6	3 0
Cherries ½ sve.	3 0	5 0
Grapes per lb.	1 0	2 0
Peaches... per dozen	2 0	8 0
Melons each	1 6	2 0
Pine apples. —St. Michael's, each	2 6	6 0
Strawberries per lb.	0 3	0 9

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.
Artichokes Globe doz.	3 0	6 0
Beans, French, per lb.	0 9	
Beet per dozen	2 0	3 0
Cabbages ... per doz.	1 6	2 6
Carrots ... per bunch	0 6	
Cauliflowers, Eng. dz.	3 0	6 0
Celery per bundle	2 6	
Cucumbers each	0 4	0 9
Endive, French, doz.	2 6	3 0
Herbs per bunch	0 2	0 6
Horse Radish, bundle	2 0	4 0
Lettuces ...per dozen	1 6	2 0
Mushrooms, p. basket	1 3	2 0
Onions per bunch	0 4	0 6
Parsley ... per bunch	0 6	
Radishes... per dozen	1 6	
Small salading, punnet	0 4	
Spinach, per strike	1 6	
Tomatos per lb.	0 6	1 0
Turnips per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arum Lilies, per doz.	6 0	9 0
Begonias ...per doz.	6 0	12 0
Cyperus ...per doz.	4 0	12 0
Dracæna term., doz.	24 0	36 0
Dracæna viridis, doz.	9 0	18 0
Evergreens, invar. doz	6 0	24 0
Ferns, invar., per doz.	4 0	18 0
Ferns, small, per 100	8 0	12 0
Foliage Plants, doz.	12 0	60 0
Fuchsia, ...per doz	3 0	8 0
Heliotrope, per doz.	4 0	6 0
Ivy Pelargoniums, per doz. pots	4 0	6 0
Lilium Harrisii, doz.	12 0	24 0
Lobelia, ...per doz.	2 6	4 0
Marguerites, per doz.	6 0	12 0
Mignonette, per doz.	4 0	6 0
Palms in variety, each	2 6	10 0
Palms, Specimen ...	15 0	63 0
Pelargoniums, per doz.	6 0	12 0
—scarlet ...per doz.	2 0	4 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arum Lilies, 12 blms.	2 0	4 0
Bouvardias, per bun.	0 6	1 0
Carnations, 12 blooms	1 0	3 0
Carnations, doz. bun.	4 0	6 0
Cornflower doz bnchs	1 6	3 0
Eucharis ...per doz.	2 0	4 0
Gardenias 12 blooms	1 6	4 0
Gladioli...doz. buns.	6 0	12 0
—... doz. spikes	1 6	3 0
Heliotropes, 12 sprays	0 3	0 6
Lilium Harrisii, doz. blooms	2 0	4 0
Liliums var., dz. blms.	1 0	3 0
Maidenhair Fern, 12 bs.	4 0	6 0
Marguerites, 12 bun.	2 0	4 0
Myosotis or Forget-me-not, doz. bnchs.	2 0	4 0
Mignonette... 12 bun.	1 6	4 0
Pelargoniums, 12 sps.	0 6	0 9
—scarlet...12 bchs.	3 0	4 0
Primula, double, bun.	0 6	0 9
Pinks ...doz. buns.	2 0	4 0
Pansies, doz. bchs ...	1 0	2 0
Pyrethrum doz bnchs	2 0	4 0
Orchid Bloom in var. per bloom, from	0 2	0 8
Roses, doz bunches	2 0	6 0
Roses, yellow, dozen	2 0	4 0
— Red... doz. blms.	1 0	2 0
— Saffrano...per doz.	1 0	1 6
— Tea ... per dozen	0 6	2 0
Stephanotis, dz. sps.	2 0	4 0
Stocks ...doz. bun.	3 0	6 0
Sweet Peas, dz. bns.	2 0	4 0
Sweet Sultan, dz. bn.	2 0	4 0
Tuberoses, per doz	0 3	0 6

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FLOWER SHOWS, &c., 1892.

[*The Editor will be greatly obliged if Secretaries of societies will communicate to him the dates of their exhibitions as soon as fixed.*]

AUGUST.

9.—Royal Horticultural Society: Committee Meetings at Drill Hall.
10.—Sevenoaks Flower Show.
10.—Queen's Park, Longton, Flower Show.
10.—Wilts Horticultural Society, at Salisbury.
10.—St. Anne's-on-the-Sea Show.
11.—Maidenhead Flower Show.
11.—Taunton Deane Flower Show.
12.—Cheadle Flower Show (2 days).
16.—Clay Cross Flower Show.
17.—Shrewsbury Flower Show (2 days).
17.—Cardiff Flower Show (2 days).
18.—Aberdeen Flower Show (3 days).
20.—National Co-operative Flower Show.
23.—Royal Horticultural Society: Begonia Conference, etc., at Chiswick (2 days).
23.—West Malvern and Mathon Flower Show.
24.—Kingswood, Gloucester, Flower Show.
25.—Droitwich Flower Show.
25.—Kenilworth Flower Show.
25.—Leighton Buzzard Flower Show.
27.—Morley and District Paxton Society's Show.
29.—Cresswell Flower Show.
29.—Sheffield Flower Show (2 days).
30.—Brighton and Sussex "New" Horticultural Society's Show (2 days).
30.—Harrogate Horse and Horticultural Show.
31.—Bath Floral Fête (2 days).
31.—Bishop Stortford Flower Show.

SEPTEMBER.

1.—Oxford Flower Show.
1.—Stirling Flower Show (2 days).
2.—National Dahlia Show at the Crystal Palace (2 days).
6.—Royal Horticultural Society: Committee Meetings at Drill Hall.
7.—National Chrysanthemum Society's Show at Royal Aquarium (2 days).
7.—Royal Caledonian Horticultural Society (2 days)
9.—Autumn Flower Show at Earl's Court (2 days).
10.—Leicester Early Chrysanthemum and Dahlia Show.
20.—Royal Horticultural Society: Committee Meetings at Drill Hall.
28.—National Chrysanthemum Society: Meeting of Floral Committee.

OCTOBER.

4.—Royal Horticultural Society: Committee Meetings at Drill Hall.
5.—Fruit Show at Earl's Court (3 days).
12.—National Chrysanthemum Society's Show at the Royal Aquarium (3 days).
18.—Royal Horticultural Society: Committee Meetings at Drill Hall.
25.—Fruit Show at Earl's Court (3 days).
26.—National Chrysanthemum Society: Meeting of Floral Committee.
27.—Alverstoke and Gosport Chrysanthemum Show (2 days).

NOVEMBER.

1.—Royal Horticultural Society: Committee Meetings at Drill Hall.
1.—Kent County Chrysanthemum Show (2 days).
1.—Brixton Chrysanthemum Show (2 days).
1.—Barnstaple Chrysanthemum Show (2 days).
1.—Brighton and Hove Chrysanthemum Show (2 days).
2.—Ascot Chrysanthemum Show (2 days).
2.—Ealing Chrysanthemum Show (2 days).
2.—Portsmouth Chrysanthemum Show (3 days).
2.—Croydon Chrysanthemum Show (2 days).
3.—Steyning Chrysanthemum Show.
4.—Crystal Palace Chrysanthemum Show (2 days).
4.—Bolton Chrysanthemum Show (2 days).
8.—National Chrysanthemum Society at Royal Aquarium (3 days).
8.—Kingston and Surbiton Chrysanthemum Show (2 days).
8.—Enfield Chrysanthemum Show (2 days).
8.—Sevenoaks and West Kent Chrysanthemum Show (2 days).
8.—Batley Chrysanthemum Show (2 days).
9.—Bath Chrysanthemum Show (2 days).
9.—Birmingham Chrysanthemum Show (2 days).
9.—South Shields Chrysanthemum Show (2 days).
9.—Cardiff Chrysanthemum Show (2 days).
9.—Bournemouth Chrysanthemum Show (2 days).
9.—Hornsey Chrysanthemum Show (2 days).
10.—Chelmsford Chrysanthemum Show.
11.—Leicester Chrysanthemum Show (2 days).
11.—Sheffield Chrysanthemum Show (2 days).
11.—Eccles and Patricroft Chrysanthemum Show (2 days).
11.—Wellingborough Chrysanthemum Show (2 days).
11.—Dundee Chrysanthemum Show.
11.—Bradford and District Chrysanthemum Show (2 days).
15.—Royal Horticultural Society: Committee Meetings at Drill Hall.
15.—Liverpool Chrysanthemum Show (2 days).
15.—Plymouth Chrysanthemum Show (2 days).
16.—Hull Chrysanthemum Show (2 days).
16.—Rugby Chrysanthemum Show (2 days).
17.—Edinburgh Chrysanthemum Show (3 days).
18.—Chorley Chrysanthemum Society (2 days).
18.—Stockport Chrysanthemum Show (2 days).
22.—Dalkey Chrysanthemum Show.
24.—National Chrysanthemum Society: Meeting of Floral Committee.

DECEMBER.

7.—National Chrysanthemum Society: Meeting of Floral Committee.
13.—Royal Horticultural Society: Committee Meetings at Drill Hall.

ST. JACOBS OIL

Cures Neuralgia, Rheumatism, Sciatica, Gout, Sprains, and Bruises. It acts like magic. It penetrates to the seat of the disease. It is for outward application only.

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From the finest Prize Collections at the Exhibitions of the National Auricula Society. Full directions for sowing. Catalogues of Choice Flower Seeds on application.

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On Garden Walks, Carriage Drives, Roads, Stable Yards, &c

One application will keep the Walks clear of Weeds for at least 18 months.

Prices:—In 1 and 2 gallon tins, **2s.** per gal. (Tins included); in 5 gallon drums, **1s. 6d.** per gal.; 10, 15 and 20 gallons, **1s. 4d.** per gal. Special quotations for large quantities. Carriage paid on 10 gals. and upwards.

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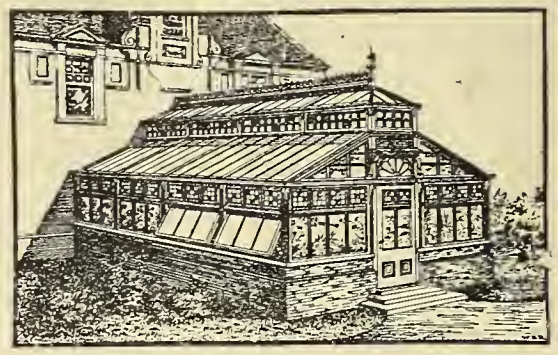
RICHARDSON'S



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THE GARDENING WORLD

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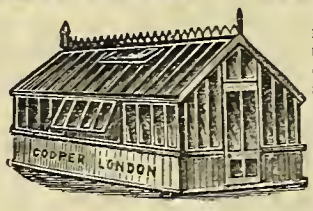
GREENHOUSES.



These Greenhouses are made especially for Amateurs at a cheap rate, so that everybody can have one that any handyman or gardener can put together in a few hours, as the framework is made so complete. All the framework is of good, sound well-seasoned red deal. The bottom part filled in with good, sound match boards, tongued, grooved, and beaded, and well seasoned. Ventilation given according to size of each House. The glass is good 16-oz. English, cut and packed (no charge for packing cases). The House is painted one coat of good oil colour, lock for door, all necessary iron-work for ventilation, stages on each side for plants. All parts carefully marked, securely packed and put on rail, or delivered, erected and glazed complete, within 20 miles of London Bridge, at the following respective Prices:—

(Proportionable Prices for other size, and or erecting in any part of the country.)

Long	Wide	High		On Rail.	Delivered & Erected Complete.
7 ft.	5 ft.	7 ft.	4 ft. to eaves	£2 16 0	£4 5 0
8 ft.	5 ft.	7 ft.	4 ft. to eaves	3 10 0	5 0 0
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10 ft.	7 ft.	7 ft. 6	4 ft. 6 to eaves	5 0 0	6 15 0
12 ft.	8 ft.	8 ft.	5 ft. to eaves	6 0 0	8 [illegible] 0
15 ft.	10 ft.	8 ft. 6	6 ft. to eaves	8 10 0	12 0 0
20 ft.	10 ft.	9 ft.	5 ft. 6 to eaves	12 0 0	16 0 0
25 ft.	10 ft.	9 ft.	5 ft. 6 to eaves	17 0 0	22 0 0
50 ft.	10 ft.	9 ft.	5 ft. 6 to eaves	30 0 0	40 0 0
100 ft.	10 ft.	7 ft.	5 ft. 6 10 eaves	50 0 0	70 0 0

¾-Span-roofs, this quality, can be had at same price.

Estimates given for any size on application. Deduct 10 per cent. if required for brickwork.

STRONG GARDEN LIGHTS.

Painted and glazed, 3 by 4 ft., 6s. 6d.; 6 by 4 ft., 9s. each.

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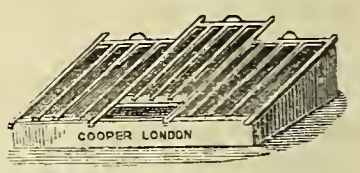
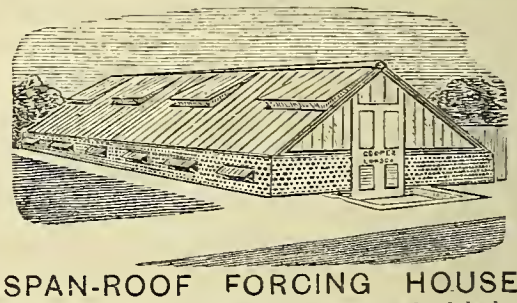
Complete from 18/-

See List for full particulars.





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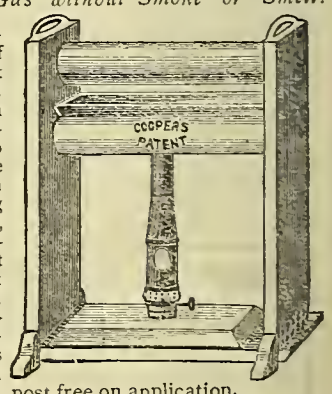
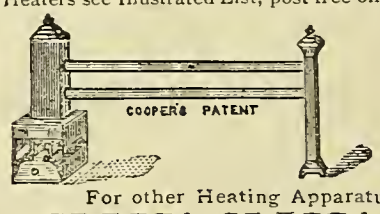


These Heaters are constructed as a means of Heating by Hot Air without the use of hot water or fire. Its peculiar construction economises the heat generated, so that there is no waste of heat or fuel. There being perfect combustion in this Stove, and nothing whatever injurious to plants, but actually everything conducive to their health, it should be observed that plants may be had in full bloom throughout the severest winter. From 20s. complete. For full particulars and prices of other sized Heaters see Illustrated List, post free on application.



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See List, Post Free.

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Putty prepared especially for greenhouse work, 7s. 6d. per cwt. Every description of prepared Horticultural Timber; for prices see List, post free.

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THE BEST BOOK ON GRAPES AND THEIR CULTURE.

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STRAWBERRIES.

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Beg to intimate that they can supply all the leading kinds of the above, either in pots, or prepared runners.

Their list for this season, just published, may be had post free on application, it contains the following striking Novelties :

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THE FINEST GROWN, all Classes, 10/6 per doz.

Also 3,000 Unbloomed Seedlings, warranted of the highest parentage, unrivalled whether for bedding or forcing for Spring flowering.

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Charming Climbers,

For Conservatories, Balconies, Pillars, Windows, Greenhouses, &c.

Cohæa Scandens, Chilian Glory Flower, Eccremocarpus scaber, Ipomæas, Cardispermum, 3, 1s. 3d.; Lophospermum, Tropæolum canariensis, Lohi, Thunbergias, various, 4, 1s. 3d; delightful novelties. Hose-in-Hose, or Duplex Mimulus, Phlox D. Cuspidata and Fimbriata, 4, 1s. 3d.; Eucalyptus, 3, 1s. 3d.; Solanum capsicastrum, Mimulas, Gaillardias, Nicotiana affinis, Pansy, Musk, Tomatos, 12, 1s. 3d.; immense double Sunflower, 3, 1s.; all free. Christmas Winter White Brocoli, 1s. 3d. per 100; London Coleworts Cabbage, 6d. per 100; Thousand-headed Kale, 6d. per 100; thousands of Pot Roses (only the best) from 6d.; Cheney's Improved Garnishing Kale, cooks beautifully green, and as a winter decorative plant, even for the most exposed situations, is unequalled, 1s. 3d. per score.

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Prices—*For houses with a capacity of* { 1000 cub. ft., No. 3 Roll, 1/- each; 2000 „ „ 4 „ 1/9 „ } *Post Free.*

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RICHARD DEAN'S GIANT POLYANTHUSES.—Crimson, purple, flaked, edged, yellow, white, and mixed. Each, 1s. per packet.

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PERFECTION FERTILIZER.

The very best and cheapest Manure for Chrysanthemums. Try it. In Tins, 1/-; 7 lbs. 1/6; 14 lbs. 2/10; 28 lbs. 5/6; 56 lbs. 10/6; Cwt. 19/6.

A few extra fine Primulas at 2/- per dozen. Guaranteed the very best strain.

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Hyacinths, Tulips, Crocus, Narcissus, Lilium, Gladiolus, Pæonies, Iris, etc.

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FOR EARLIEST FORCING:

ROMAN HYACINTHS,
NARCISSUS DOUBLE ROMAN,
NARCISSUS DUBIUS (Paper White).

Goods Carriage Paid to the door in the United Kingdom.

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Superb Complete Collections for In and Outdoor at 9s., 12s., £1 1s., £2 2s., £3 3s., and £5 5s. In ordering, please state for which purpose required.

Our Outdoor Guinea Box contains over 1,000 bulbs.

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Bulbs for Early Forcing.

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WELL RIPENED AND HEAVY BULBS OF

ROMAN HYACINTHS,
Early White, from 5 inches to 5¾ inches in circumference,

PAPER-WHITE NARCISSUS,
From 5 inches to 6 inches in circumference,

DOUBLE ROMAN NARCISSUS,
From 5 inches to 6½ inches in circumference.

LILIUM CANDIDUM, Pure White.
Extra Strong.

LILIUM HARRISII, Fine Bulbs.
Early orders solicited.

VICTORIA & PARADISE NURSERIES,
UPPER HOLLOWAY, LONDON, N.

For Index to Contents see page 793.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, Aug 16.—Clay Cross Flower Show.
WEDNESDAY, Aug. 17.—Shrewsbury Flower Show (2 days). Cardiff Flower Show (2 days).
THURSDAY, Aug. 18.—Aberdeen Flower Show (3 days).
FRIDAY, Aug. 19.—Exeter Flower Show. Orchid Sale at Messrs. Protheroe & Morris' Rooms.
SATURDAY, Aug. 20.—National Co-operative Flower Show at the Crystal Palace.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, AUGUST 13th, 1892.

THE ROSE IN AUTUMN.—Practically the Rose exhibition season is over. Like to that of Dahlias and Chrysanthemums it is all too short an one, and especially like to the latter flower we get so many of Rose shows crowded into some three or four weeks that it is almost a relief when they are all over. But we could do very well with a few autumn Rose shows. Why, with such a flower as the Rose is, so long enduring, and so abundantly blooming, as is often the case in the autumn, it is not possible to make up a few exhibitions it is hard to understand. Certainly Roses are as beautiful in September as at any time of the year, only they are not so large. Still we should encourage their free production in the autumn so far as possible, because it is the aftermath or second crop of flowers, when they are often so very valuable.

We find opinions to differ very much as to the passing Rose season. Some growers complain, some do the reverse. Probably we never had a season that suited everyone; but at least we can say of the passing one that it has produced for us some of the most beautiful, if not the finest, flowers ever seen. We have not had any very sensational novelties introduced, indeed it must now be a wonder that excels the best of the established sorts. We would not say that absolute perfection in Rose blooms has been reached, but we have got pretty near to it. Still, perfection as a term of excellence signifies in some way a defined standard of excellence, and we are far from wishing to see all Roses brought to one special standard, because diverse forms if allied to quality are as pleasing as are diverse shades of colour. There ought to be specially a good autumn bloom on Roses this season, because fine growths have resulted from the abundant rains of the

past few weeks, to which the more recent warmth has added strength and maturity.

HAMPTON COURT PARK.—Visitors to the beautiful gardens at Hampton Court Palace have often looked with a deep longing upon the magnificent glades formed by the noble avenue of Lime trees in the adjoining close Park. Few, however, have been privileged to enter that reserved enclosure or enjoy the sight which its grand expanse affords. It is very finely placed, for its south side forms the Middlesex bank of the silvery and winding Thames from Kingston Bridge to Hampton Court Gardens, a distance of some two and a half miles, the entire distance on to Hampton Court Bridge, inclusive of the Gardens, being about three miles.

From Kingston Bridge also there runs on the northern side a broad road almost as straight as the string of a bow, and within these two thoroughfares, the river and the road, is a truly magnificent Park of some 1,000 acres, most superbly wooded, but from which the public are excluded, because this grand area is held sacred to the breeding of racehorses! It was not at all a matter of surprise that the people of the adjoining district, did not long since, agitate strongly for the opening of this Park to them, as it is, like its adjoining neighbour Bushey Park, public property. We hope that ere long that agitation will be renewed, for a nobler, grander, public park than this enclosure would form could hardly be found in Europe.

It is not a mere local matter. The Park is almost next door to London and with its suburbs giving a population of some six millions, to whom these noble open spaces constitute the essence of existence. There are in this enclosed area some of the finest avenues of Lime trees to be found in the Kingdom, a splendid sheet of ornamental water, and features that would soon in competent hands tranform it into a magnificent public park.

THE PUBLIC AND THE PARKS.—What a very interesting return would be that obtained from the heads of all our public parks and gardens which have become places of common resort for the masses, and especially on the occasion of popular holidays, as to their demeanour, general conduct and regard for plants, trees, or other objects in these gardens. The last Bank Holiday seems to have thrown in almost every direction vast numbers of people into these places of resort, and we should much like to learn whether harm of any appreciable kind was done, whether there was nothing of the sort, and how far the general conduct of the people justifies the excellent action of authorities everywhere in at once rendering these open spaces beautiful and then placing them unreservedly at the disposal of the masses for recreation and enjoyment.

We may naturally look for less consideration for garden features in towns, from town people than from country people, because to the former the getting out into the open is a much greater treat, indeed to myriads it is the one chance for getting a few hours in fresh air, of enjoyment on the green grass and beneath the shade of trees or surrounded by flowers. So far as our limited range of enquiry has gone, reports are very favourable and gratifying.

In the case of private gardens of extensive areas, the same good results seem to follow. Naturally with these there is some timidity and excess of caution, but in how few cases has that timidity been justified? Whilst it is a delightful feature in our social life that so many owners of beautiful parks and gardens should throw them open to the public at times for their enjoyment, it is none the less pleasing to find that the masses know how to appreciate that good nature, and by their excellent conduct exhibit the highest reciprocity.

THE HOLLYHOCK.—Whilst the Dahlia has fully held to its ancient high position as an exhibition flower, its old compeer the Hollyhock has sadly come to grief. Perhaps it was the misfortune of the Hollyhock that it ever became the spoilt child of florists, who made from out of its somewhat rugged, uneven, semi-double flowers, such very dense rounded, full double ones as to make them anxious to exhibit their productions at flower shows. Then came somewhat enervating cross-breeding, somewhat weakening hard propagating, some unfortunate cultural coddling, all of which the plant indifferently appreciated, and then, when eventually a destructive visitation, in the form of a fungus, came upon the flower it fell like grass before the mower, and all the fine double varieties of twenty years since have disappeared.

Unhappily it does not seem as if in any way there was much prospect of again resuscitating Hollyhocks, even of the roughest class, to any appreciable extent. It is true that in some localities seedling plants for a time are not materially affected by the fungus. In other districts not a plant can be induced to exist anyhow. We have in this Hollyhock pest a capital opportunity to test the value of the much lauded Bouillie Bordelaise as a fungoid destructive agent. It would be a boon could we through its agency get rid of the Hollyhock fungus, and thus enable us once more to raise in full confidence a new strain that should serve to beautify and adorn our gardens with a favourite flower.

Should the Hollyhock not again be seen on show tables, it may be no material loss to horticulture. So attractive, so fine are some half-a-dozen spikes of Hollyhock flowers, when growing in a garden border, if seen from a distance, that we are not over concerned as to the extreme doubleness of the flowers, our real concern is to be able to have them there at all, and that end is yet worth striving and hoping for.

Mr. W. H. Lees, late gardener to the Duchess of Montrose, Sefton Lodge, Newmarket, has been engaged as gardener to F. A. Bevan, Esq., Trent Park, New Barnet.

Gardeners' Royal Benevolent Institution.—We have much pleasure in making the announcement that Lord Brassey has kindly consented to preside at the annual festival of this Institution, which was unavoidably postponed owing to the death of Lady Goldsmid. The date of the festival will shortly be announced. We understand also that Mr. Arthur J. Veitch has recently been elected to a seat on the committee of management in the place of Mr. John Fraser, of Lea Bridge, who has resigned after many years of devoted service to the Institution.

Presentation to Mr. W. Swan.—On Saturday, August 6th, a handsome timepiece was presented to Mr. W. Swan, gardener at Castle Hill, Englefield Green, by the men employed under him, as a token of respect and esteem on his retiring from the charge of the gardens. The kindly feeling always existing between Mr. Swan and his staff prompted them quite spontaneously to make this presentation. Mr. Swan has been engaged as gardener to J. B. Bryce, Esq., Bystock, Exmouth, Devon, to which place he proceeds direct.

United Horticultural Provident and Benefit Society—At the usual monthly meeting of this Society, held on the 8th inst., at the Caledonian Hotel, Mr. W. Woods presiding, two new members were added to the roll, and the secretary reported that there were three members on the sick list. The treasurer announced with pleasure and gratitude that Mr. and Mrs. H. J. Veitch had presented the Society with the sum of £100 on the occasion of their silver wedding; and it was subsequently decided to invest the amount and apply the interest to the augmentation of the Convalescent Fund.

Lord Coleridge on the Allotment Gardens at Nottingham.—Lord Chief Justice Coleridge writes to the Sheriff of Nottingham, in relation to a visit he paid to the allotments in that town: "I don't know when I have been more interested. It is a sight to give satisfaction to every Nottingham man, and to create a feeling of just pride in a result which, though perhaps originating in the wise liberality of the Corporation and of Lord Carnavon, must have come to nothing without the independent energy and sturdy self-sacrifice of the men themselves. I wish the municipal bodies and the great landowners of England could see what has been done here, and estimate for themselves the value to the country of such men as I was fortunate enough to become acquainted with last night."

Scottish Horticultural Association.—At a meeting of the Scottish Horticultural Association, held on the 2nd inst. at 5, St. Andrew Square, Edinburgh—Mr. Robert Morrison, vice-president, in the chair—Mr. George Goodfellow, Kinfauns Castle, Perth, read a paper on "The Cultivation of the Apricot," which lead to an interesting discussion. Mr. Goodfellow afterwards received a vote of thanks. The exhibits on the table included a collection of Strawberries grown by Mr W. Carmichael; a white seedling Begonia from Mr. Henderson, Clermiston; and a very fine stand of Chrysanthemum blooms from Mr. McMillan, Trinity Cottage, some being from 6 in. to 9 in. in diameter, and one measuring a foot from tip to tip of the outer row of petals.

The Fuchsia was the title of the paper read at the afternoon meeting of the Royal Horticultural Society, its author being Mr. George Fry, of Lewisham, one of our oldest and most successful raisers. The Society offered prizes in two classes for plants grown in pots, but for some reason or other, mainly perhaps want of publicity, not a single plant was forthcoming. It is a curious fact, however, that while in many districts admirable specimens of Fuchsias are favourite subjects at the local exhibitions, no decent specimens have been exhibited at any of the Royal Horticultural Society's shows or meetings in London since Mr. Cannell gave up exhibiting them some twenty years ago.

The Frozen Chrysanthemums from New Zealand.—The frozen blooms of seedling Chrysanthemums, recently reported in our columns as being on the road from New Zealand, have arrived in the Thames in good condition, and arrangements have been made for keeping them in a refrigerating chamber until the 7th of September, when they will be exhibited at the early autumn exhibition of the National Chrysanthemum Society at the Royal Aquarium. There are eight flowers and each has been frozen in a separate tin. Considerable interest attaches to the experiment, and we are glad to announce their arrival in sound condition.

Fruit Culture in the Bahamas.—The Bahamas, says the *Society of Arts Journal*, offer very great facilities for fruit growing. Pineapples are at present the principal crop, but the particular description of land required for their culture is very limited. Of late years the growth has been much improved by the use of fertilisers, with a considerable increase of quantity. The crop yields large profits. At twopence each, an acre of Pineapples returns £40 to £45; and although precarious from its perishable nature, while such results are possible, it is likely that Pineapple-growing will continue to be an attractive pursuit. In Oranges a good business, it is said, might be done, if the accounts of Florida enterprise in this fruit are a fair criterion. At present the Oranges of the Bahamas are roughly handled, being generally shipped in bulk in the holds of vessels, often without compartments. The fruit is held to be equal to any in the world, and as at present it receives little or no attention, the result of careful cultivation could not fail to be remunerative. The facilities for production are fully equal to those in Florida, and the Bahamas are entirely free from all risk of frost, which so often blights the Florida crop. Tomatos are grown to a moderate extent, but the production, it is said, might be largely increased.

THE SILVER WEDDING OF MR. & MRS. H. J. VEITCH.

On Saturday last, August 6th, Mr. and Mrs. Harry J. Veitch celebrated the 25th anniversary of their wedding, and the happy event was made memorable by the tokens of esteem and goodwill which in various forms were literally showered upon them in the course of the day. As a thank-offering for the many blessings that have been vouchsafed to them during their twenty-five years of happy wedded life, Mr. and Mrs. Veitch sent cheques for £500 each to the Gardeners' Royal Benevolent Institution and the Gardeners' Orphan Fund, and one for £100 to the United Horticultural Provident and Benefit Society. The employees of the firm of Messrs. James Veitch & Sons were also not forgotten, every one receiving a suitable souvenir of the auspicious occasion, accompanied by an expression of the feelings of goodwill and friendship which Mr. and Mrs. Veitch entertain for all members of the staff of the Royal Exotic Nursery, and with many of whom it has been Mr. Veitch's pleasure to work harmoniously during so many years.

When it became known, but a few weeks ago, that the silver wedding celebration was so near at hand, a large number of the gardeners of the United Kingdom, and many other of Mr. Veitch's friends, determined that the event should not be allowed to pass away without some recognition on their part of the innumerable acts of kindness which Mr. Veitch has conferred upon members of the craft, old and young, and the extremely generous manner in which he has supported the gardening charities. Of the steps taken to attain the end in view, nothing need be said here, suffice it to record the fact, and it is a most gratifying one to all concerned, that the appeal privately made in support of the movement met with a spontaneous response in all directions, the tangible result being that on Saturday morning, in addition to many other beautiful presents from private friends, Mr. and Mrs. Veitch were the receipients of a solid silver dessert service of seven pieces, and of elegant design; a case of one dozen silver dessert knives and forks; and a case of one dozen silver fish knives and forks from the gardeners of the United Kingdom, who will also add to this gift shortly a portrait of Mr. Veitch (to be painted), which will be presented to Mrs. Veitch. The employees of the firm gave a solid silver tea and coffee service of Queen Anne pattern, with a solid silver kettle and tray, and an illuminated address. The Committee of the Gardeners' Royal Benevolent Institution, of which Mr. Veitch is the treasurer, sent a beautiful cloisonné enamel clock and ornaments. The business friends of Mr. Veitch gave a large solid silver centre piece or epergne of very elegant design, accompanied by a solid silver toilet set for Mrs. Veitch. From Mr. Veitch's horticultural friends in Belgium came a handsome bronze figure representing "Orestes," a large sheaf of Orchids for Mrs. Veitch, and an illuminated address. From France, the horticultural friends sent a beautiful bronze bust of Diana, with an illuminated address; and a large sheaf of flowers came also from the family of M. Van Houtte.

Mr. and Mrs. Veitch also received a large Bible bound in Russian leather and lined with silk with the following inscription beautifully illuminated:—"Presented to Mr. and Mrs. Veitch on the occasion of the celebration of their silver wedding, by members of the Bible Classes, Temperance Society, and Clubs in connection with the Lackland Hall, Chelsea, in recognition of their Christian kindness and sympathy with the work of the Gospel carried on there." The Lackland Hall Youths' Slate Club sent an umbrella; and the managers and staff of the Park Chapel Schools a silver inkstand with inscription; and those who know Mr. and Mrs. Veitch will not need to be told how deeply they felt, or how warmly they appreciated the goodwill which prompted their friends to remember them on the occasion of the celebration of their silver wedding in so gratifying a manner.

Geranium argenteum. — The silvery leaved Crane's Bill is amongst the dwarfest of its kind, and is therefore best suited for rockwork. The leaves are deeply lobed, much cut, and hoary or silvery as the specific name implies. The flowers are relatively of large size, and pink netted with purple veins, and produced on slightly leafy stems, about 6 in. to 8 in. high. In these respects the species may be compared to G. sanguineum lancastriense, but is quite distinct.

FLORICULTURE.

The Carnation and Picotee Union.

The eighth annual festival took place in Mr. Dodwell's garden, Stanley Road, Oxford, on August 2nd; and there was as usual a show of Carnations and Picotees of great extent and beauty. A large company of friends came from many parts of the country; many a veteran, as well as many a youth who has begun to worship at the shrine of Flora, was there. Mr. Dodwell's Carnation garden, which has no equal in the United Kingdom, was aglow with flowers in every part of it. Our old friend seemed to have renewed his youth in the fact of his friends gathering about him; and his children were there, and their children also, for does not the year of grace, 1892, represent the jubilee of his happy married life? and advantage was taken of the occurrence by a few friends to present to Mr. and Mrs. Dodwell some mark of respect and esteem as well as congratulations upon so auspicious an event.

The weather was fine on the whole, though dull and threatening. Two spacious tents were filled with flowers, and a third accommodated the large party who sat down to enjoy Mr. Dodwell's hospitality after the awards were made.

Those who make a point of being at Oxford at one of these early August gatherings regard it less as a competitive exhibition, and more as a social *reunion* and would not refrain from taking a part in it if possible. There is exciting competition: a keen struggle for the mastery; there is the ambition which stirs nerve and pulse to excel; and happy is he who comes out from such a race carrying upon his brows the victor's crown. All these are there; but there is fraternal intercourse, cordial handshakings, the communion of friend with friend; men meet here who do not meet at any other time in the year, and never would meet at all perchance, were it not for the annual pilgrimage to Oxford, and so there is gain. Men are led to temporally forget the strife of parties, the war of tongues, the turmoil and bustle of town and city life, the pressure of business and the anxieties which press upon every son of Adam, and because this is so let us hope these Oxford gatherings may be continued so long as Heaven permits them

Eight stands of 12 Carnations competed, and Mr. M. Rowan, Clapham, gained the 1st prize with superb blooms of Gordon Lewis, P.F.; Thalia, R.F.; Fred, S.B.; George Melville, P.F.; William Skirving, P.P.B.; Robert Houlgrave, S.B.; Jessica, R.F.; Sportsman, S.F.; Robert Lord, S.B.; Oscar Wilfred, P.F.; E. Rowan, P.P.B.; and John Brunton, R.F. Mr. W. Read, gardener to E. S. Dodwell, Esq., Stanley Road, came second, also with a fine lot of blooms, having Master Fred, C.B.; John Cliff, C.B.; Florence Nightingale, P.F.; Sarah Payne, P.F.; Robert Houlgrave, S.B.; Rifleman, C.B.; and some good seedlings. Mr. C. Phillips, Reading, was third, and five other prizes were awarded. That is an excellent feature at the Oxford Carnation Shows; instead of multiplying classes in which one man can take a number—in the light of London experience we might say an inordinate share of prize money—Mr. Dodwell has few classes and seven prizes in most of them. There were seven collections of six blooms, and here Mr. F. Hooper, Widcombe Hill, Bath, was first with good flowers, though it must be said the flowers generally in this class were rather weak. The Picotees were superb, and the 12 blooms which gained the 1st prize for Mr. W. Read, left little to be desired. He had Norman Carr, M.Ro.; Little Phil, H.Ro.; Mrs. Coleridge, M.Ro.; Nellie, L.Ro.; Annot Lyle, L.P.; Favourite, L.Ro.; Imogen, H.Ro.; Mrs. Sharp, H.Ro.; Payne's Amelia, M.P.; and fine seedlings. 2nd, Mr. M. Rowan, with Little Phil, H.Ro.; Amy Robsart, H.P.; Favourite, L.Ro.; J. B. Bryant, H.Red.; Clara Penson, L.P.; Nellie, L.Ro., a beautiful variety which Mr. Rowan grows to perfection; Mr. Payne, L.Ro.; Calypso, H.P.; Edith D'Ombrain, H.Ro.; Mary, L.P.; Mrs. Dodwell, H.Ro.; and Miss Gorton, L.Red. Mr. Geo. Chaundy, Oxford, was 3rd, and Messrs. Thomson & Co., 4th. With six blooms, Mr. Wm. Bacon, Derby, was 1st with excellent flowers of Her Majesty, L.P.; Norman Carr, M.Ro.; Little Phil, H.Ro.; Nellie, L.Ro.; and Miriam, H.P. Mr. R. Sydenham, Birmingham, was 2nd; Mr. J. Rebbeck, Southampton 3rd; and Mr. J. J. Keen, Southampton, 4th.

The selfs, yellow grounds and fancies were superb, also, numerous and very fine; some of them really startling in their beauty. Here Mr. Read was again 1st. with wonderful blossoms, having Germania, Van Dyck, a kind of bluish-slate, with flakes of rosy-carmine, Madame Van Houtte, Schlieben, Theodore, pale lavender blue very fine and distinct; Stadtrath Bail, pale yellow, beautifully striped with several colours; Gentle Jackie, a very delicate pink self and seedlings. 2nd Messrs Thomson & Co., with Partrene Liccea, a bright rose self; Brockhaus, Mrs. J. Chamberlain, Germania, Van Dyck, Fire fly; Mrs. Fred., Negress, Klopstock, etc. 3rd. Mr. M. Rowan. Mr. W. Bacon. took the 1st prize for the best six blooms; Mr. F. Nutt was 2nd; and Mr. Rebbeck 3rd.

There were two classes of yellow ground Carnations, one for Kilmurry's, six blooms of each being shown. The best six of Kilmurrys came from Mr. W. Read, who had Patricia, Queen of Hearts, Tournament, Gretchen, and two seedlings; Mr. Rebbeck was 2nd; and Mr. W. Bacon 3rd. With six yellow grounds, Messrs. Thomson & Co. were 1st, with Terra Cotta, Victory, Mrs. R. Sydenham, Rachel, Madame Van Houtte, and A. W. Jones; 2nd, Mr. W. Read; 3rd, Mr. F. Hooper.

Space does not admit of giving the names of the flowers which won in the classes for single blooms. The Premier Carnation was Dodwell's 722, R.F. The Premier Picotee, Little Phil, both shown by Mr. E. S. Dodwell; the premier fancy, Van Dyck, shown also by Mr. Dodwell, who also had the premier yellow-ground.

Certificates of Merit were accorded to Mrs. Burnett, H., Ro. E.; Claudian, S.F., a very fine flower of the best quality; Mrs. Joseph Chamberlain, a beautiful soft pink self; Negress, a rosy-maroon self; Miriam, H.P.E., Picotee, fine petal and very bright; Princess May, a soft pale pink self, in the way of Gladys; and Duke of Portland, a fancy white ground, flaked with pink.—*R.D.*

The Midland Carnation and Picotee Society.

On Saturday last the second annual show of this society was held at the Botanical Gardens, Edgbaston. Both in number of exhibits and quality of blooms the show presented a marked improvement on that of last year, and, indeed, in the eyes of many competent judges, the exhibition was regarded as one of the best seen in the country. Altogether there were thirty-eight classes in competition, and, in addition, several stands of Begonias, Dahlias, Sweet Peas, Herbaceous Plants, &c., sent for exhibition purposes only, so that the show was both extensive and charming enough in variety, especially remembering that the exhibits were shown in the large pavilion of the Botanical Society, which in itself, with its wealth of bloom and graceful Ferns and Palms, presented quite a picture of horticultural beauty. Seven boxes were shown in the class for twelve dissimilar Carnations, and the first prize went to Mr. Sydenham, his blooms being all very bright and fresh, and particularly a very fine Master Fred. There were eleven boxes in the class for six Carnations, the best new variety being a crimson bizarre Richard Bearley, shown in the winning stand by Mr. A. R. Brown. Mr. Charles Turner, of Slough, was 1st for twelve Picotees, and had no less than four Premiers out of six, one especially fine one being the light rose-edged Favourite. Mr. Lakin, of Oxford, took second honours for the twelve Picotees, his blooms being very little inferior to those of Mr. Turner. Twelve stands were shown in the class for six Picotees, the winner being Mr. A. W. Jones, of Handsworth, whose exhibits were a wonderfully good lot. The yellow-ground Carnations, too, produced a lively competition, and though chief honours went to Mr. Turner there were not a few good judges who thought most highly of Mr. Dodwell's blooms. The latter had a fine specimen of Richard Tryan, a new yellow ground fancy, raised by Mr. Benary, of Erfurt. Mr. George Chaundy was the winner of the six yellow ground Picotees, his seedling Annie Ross being a finely developed flower. Mr. Turner was again to the front in the class for twelve self Carnations, and he took the premier prize for the best self in the show with a magnificent Germania. The single bloom classes showed some very fine flowers, Mr. Sydenham, Mr. Lakin, and Mr. Turner being amongst the chief winners. Mr. Turner won another premier prize with his purple flake Charles Henwood; whilst Mr.

Lakin carried off a similar honour for the best yellow ground Picotee, Mrs. R. Sydenham, a bloom said to show the greatest improvement yet seen in that class of flower. The yellow is very rich and pure, with a broad rose edge altogether free from spots.

PRIZE LIST.

TWELVE CARNATIONS, dissimilar: 1st, Mr. Robt. Sydenham, Bristol Road, Birmingham; 2nd, Mr. E. S. Dodwell, Oxford; 3rd, Messrs. Thomson & Co., Sparkhill; 4th, Mr. Edward Clinton, Clapham, London; 5th, Mr. Jos. Lakin, Cowley, Oxford; 6th, Mr. R. Makepiece, Leicester; 7th, Mr. John Walker, Thane, Oxon. SIX CARNATIONS, dissimilar: 1st, Mr. A. R. Brown, Handsworth; 2nd, Mr. F. Hooper, Bath; 3rd, Mr. George Chaundy, Oxford: 4th, Mr. C. F. Thurstan, Wolverhampton; 5th, Mr. H. T. Foxen, Leicester; 6th, Mr. J. Edwards, Manchester; 7th, Mr. J. P. Sharp, King's Heath.

TWELVE PICOTEES, dissimilar: 1st, Mr. Charles Turner; 2nd, Mr. Jos. Lakin; 3rd, Mr. E. S. Dodwell; 4th, Mr. R. Sydenham. SIX PICOTEES, dissimilar: 1st, Mr. A. W. Jones, Handsworth; 2nd, Mr. A. R. Brown; 3rd, Mr. J. Edwards, Manchester; 4th, Mr. H. Hooper; 5th, Mr. H. Pether, Oxford; 6th, Mr. H. Foxen; 7th, Mr. F. Denning, Moseley.

TWELVE YELLOW GROUND or fancy Carnations or Picotees, dissimilar: 1st, Mr. C. Turner; 2nd. Mr. E. S. Dodwell; 3rd, Messrs. Thomson & Co.; 4th, Mr. J. Walker, Thane; 5th, Mr. Anstiss, Brill, Bucks. SIX YELLOW GROUND or fancy Carnations or Picotees: 1st, Mr. G. Chaundy; 2nd, Mr. A. W. Jones; 3rd, Mr. J. Lakin; 4th, Mr. Hooper; 5th, Mr. R. Sydenham; 6th, Mr. A. R. Brown; 7th, Mr. A. Spurling, Blackheath.

TWELVE SELFS, dissimilar: 1st, Mr. C. Turner; 2nd, Mr. E. S. Dodwell; 3rd, Mr. R. Sydenham; 4th, Messrs. Thomson & Co.; 5th, Mr. G. Chaundy; 6th, Mr. T. Anstiss. SIX SELFS: 1st, Mr. Hooper; 2nd, Mr. A. W. Jones; 3rd, Mr. A. R. Brown; 4th, Mr. A. Spurling; 5th, Mr. J. Edwards; 6th, Mr. W. Bacon, Derby. SIX CARNATIONS AND PICOTEES, dissimilar: 1st, Mr. J. J. Clarke, Leicester; 2nd, Mr. A. West, Leicester; 3rd, Mr. E. B. Handley, Edgbaston; 4th, Mr. E. M. Sharp, Edgbaston; 5th, Mr. E. Causer, Barton-under-Needwood.

SINGLE BLOOMS.—Carnations (scarlet bizarres): 1st, Mr. Clinton; 2nd, Mr. R. Sydenham; 3rd, Mr. Chaundy; 4th, Mr. J. J. Clark. Crimson bizarres: 1st, Mr. Sydenham; 2nd, Mr. Dodwell; 3rd, Messrs. Thomson & Co.; 4th, Mr. Clinton. Pink and purple bizarres: 1st, Mr. Thurstans; 2nd, Mr. R. Sydenham; 3rd, Mr. C. Turner; 4th, Mr. A. R. Brown. Scarlet flakes: 1st, Mr. J. Lakin; 2nd, Mr. Pether; 3rd, Mr. Anstiss; 4th, Mr. Brown. Rose flakes: 1st, Mr. R. Sydenham; 2nd, Mr. G. Chaundy; 3rd, Mr. Clinton; 4th, Mr. Dodwell. Purple flakes: 1st, Mr. C. Turner; 2nd, Mr. Clinton; 3rd, Mr. R. Sydenham; 4th, Mr. Brown. Picotees (heavy red edge): 1st, Mr. Chaundy; 2nd, M. A. W. Jones; 3rd, Mr, Anstiss; 4th, Mr. Dodwell. Heavy purple edge: 1st, Mr. Jones; 2nd, Mr. Dodwell; 3rd, Mr. Lakin; 4th, Mr. Brown. Heavy rose edge: 1st, Mr. C. Turner; 2nd, Mr. Dodwell; 3rd, Mr. Jones; 4th, R. Sydenham. Heavy scarlet edge: 1st, Mr. J. P. Sharp; 2nd, Mr. E. M. Sharp; 3rd, Mr. R. Sydenham; 4th, Messrs. Thomson & Co. Medium red or purple edge: 1st, Mr. C. Turner; 2nd, Mr. Robert Sydenham; 3rd, Mr. A. R Brown; 4th, Mr. A. W. Jones. Medium rose or scarlet edge Picotee: 1st, Mr. R. Sydenham; 2nd, Mr. A. W. Jones: 3rd, Mr. Samuel Beale; 4th, Mr. A. R. Brown. Light red edge Picotee: 1st, Mr. A. W. Jones; 2nd, Mr. E. Clinton; 3rd, Mr C. Turner; 4th, Mr. A. R. Brown. Light purple edge Picotee: 1st, Mr. Clinton; 2nd, Mr. J. Lakin; 3rd, Mr. A. W. Jones; 4th, Mr. R. Sydenham. Light rose or scarlet edge Picotee: 1st, Mr. Dodwell; 2nd, Mr. A. W. Jones; 3rd, Mr. Charles Turner; 4th, Mr. Clinton. Selfs: 1st and 2nd, Mr. Charles Turner; 3rd and 5th, Mr. George Chaundy; 4th, Mr. J. Lakin; 6th, Messrs. Thomson & Co.; 7th, Mr. A. Spurling. Fancy or yellow ground; 1st, Mr. J. Lakin; 2nd and 3rd, Mr. C. Turner; 4th and 5th, Mr. Dodwell; 6th, Mr. Spurling; 7th, Messrs. Thomson & Co.

BORDER CARNATIONS, BOUQUETS, SPRAYS, AND PLANTS IN POTS.—Twelve varieties of Carnations or Picotees, dissimilar (five stems of each): 1st, Mr. S. Rogers, Whittlesey, Peterborough; 2nd Mr. Hooper; 3rd Mr. J. Walker; 4th Mr. W. H. Divers, Ketton Hall Gardens, Stamford; 5, Mr. S. Beal, Leicester.—Six ditto (three stems): 1st, Rev C. P. Brickwell, Broadway; 2nd Messrs Hewitt & Co.,; 3rd, Mr. R. Makepiece; 4, Mr. T. Anstiss.—Bouquet of Carnations or Picotees: 1st, Messrs. Thomson & Co.; 2nd, Messrs. Hewtt & Co.; 3rd, Mr. S. Beal,; 4th, Mr. G. Newell, Edgbaston; 5th, Mr. A. West, Leicester.—Spray of Carnation or Picotee blooms: 1st, Miss F. Mayell, Acock's Green; 2nd, Messrs. Thomson & Co.: 3rd, Messrs Hewitt & Co.; 4th, Miss Lakin; 5th, Mr. W. H. Divers,—Six pots of Carnations or Picotees, dissimilar, may include any varieties: 1st, Mr. R. Sydenham; 2nd, Messrs. Thomson & Co.; 3rd, Mr. F. Denning.

A large number of honorary exhibits were also staged, and Silver Medals were awarded to:—Mr. Henry Eckford, Wem, for Sweet Peas; Mr. B. R. Davis, Yeovil, for Begonia blooms; Mr. Wm. Sydenham, Tamworth, for fancy Pansies; Mr. J. Forbes, Hawick, for large collection of cut flowers; Messrs. Dicksons, Limited, Chester, for Roses and herbaceous blooms; Messrs. Hewitt & Co., Solihull, for group of plants, &c.; Messrs. Dobbie & Co., Rothesay, for Violas, Sweet Peas, &c.; Mr. A. Bailey, Jr., Sunderland, for Pansies and other cut blooms. And Bronze Medals to Mr. F. Perkins, Leamington, for floral arrangements; Mr. J. Anstiss, Brill, for Dahlias; Messrs. Thomson & Co., Sparkhill, for group of Carnations, &c.; and a special Certificate to Messrs. Hewitt & Co. for a collection of cut herbaceous blooms.

First-class Certificates were awarded to Mr. S. Beale, Leicester, for rose edged Picotee Mrs. S. Beale. Mr. J. Lakin, Oxford, for heavy red edged Picotee, Ne plus ultra. Mr. J. P. Sharp, King's Heath, for heavy scarlet edged Picotee, Scarlet Queen. Mr. J. Lakin, for light purple edged Picotee, Miss Lakin. Mr. C. Turner, Slough, for rose edged Picotee, Lady Emily Van de Weyer, and for fancy yellow ground Picotee, Edith M. Wynne. Mr. J. Lamb, Burton Joyce, Notts, for fancy Picotee, Duchess of Portland. Mr. C. Turner, for self Carnation, Rose Wynne; and for self Carnation, Rose Unique. Messrs. Thomson & Co., Sparkhill Nurseries, for self Carnations, Negress and Mrs. Joseph Chamberlain.

DISAPPOINTED FRUIT GROWERS.

NOTWITHSTANDING the abundance of fruit blossom we had this season on hardy fruits generally, I learn from the numerous published reports and from friends that in many districts there will be short crops, especially of Pears, Apples, and Plums. Where the fruit appeared to set freely enough it seemed to disappear rapidly after it was formed. The, cold untoward spring with such late frosts as we seldom experience no doubt has had much to do with fruit dropping; but I am of opinion that the sunless, damp, and ungenial autumn of last year (so very general in the north) had even more to do with the scarcity than the cold spring.

With Apples it is difficult to get rid of the idea that the destructive work of the pestiferous grub, which has fed greedily of late years on Apple foliage, has had much to account for. Without good foliage to develop flower buds and mature them, there can be little hope for a supply of fruit in the following year. Another evil very generally met with is the extra vigour of some trees which keeps the fruit buds from ripening. Where there are many trees fruitless from extra luxuriance in the past, the present time is suitable for root pruning piecemeal; a later attack could be made in August which would stop grossness and give the trees time to prepare for fruiting next season.—*Stirling.*

The Orchards of Clydesdale.—The *Glasgow Herald* states that the great promise of a large yield of strawberries was frustrated by the backward weather which set in about the end of June, which caused the strawberries to shrink and not reach their size nor ripeness. Early in the season, when the prospect of an abundant crop was entertained, growers were anxious to make private contracts with preserve manufacturers at £20 per ton, but a bargain could not be struck as the outlook seemed to point to a lower price. The manufacturers, however, are now glad to pay £32 per ton; and they are greatly hampered to get them at that price, and prices are expected to go still higher. The quantity of Strawberries sent from Braidwood Railway Station during last season was 877 tons, and in one day as many as 29 tons were despatched; but this year the quantity sent by the railway up to date is not nearly so large as in previous years. Red berries are a scarce crop this year, and are realising £20 per ton. Sulphur Gooseberries are a good crop and have been bought at £12 per ton.

ESCHALLOTS.

ESCHALLOTS, or, as they are generally called, Shallots, do not appear to be so popular as they were years ago. I do not know why, I am sure, but so it strikes me. Now, Shallots come in very handy for many purposes to the cook. They are ripe and full-flavoured before the Onion is, they are not so fastidious as to soil, and they do not want so much attention paid to them. The old form was to plant them on the shortest day and lift them on the longest. But that will hardly do for their perfect development. I should recommend planting them early in November and lifting them early in August.

There seems to be three sorts now in cultivation. There is the old variety, small, pale in the skin, and rather a light cropper. The Russian, red in the skin, large but unshapely, and a bad one to keep. The third is the one which is bound to come to the front. It is generally shown under the name of Exhibition Shallots. It is of great size, more like a Potato or underground Onion in that respect; it is solid, has a splendid purple colour, and is an enormous cropper. Two years ago I saw them growing in the neighbourhood of Kelso, in Scotland. Last year I saw two splendid dishes of them in Devonshire, and last week I "spotted" them at the Cottagers' Show at Earl's Court. In each case where they competed they were first, and a long way ahead of the others, and I should think that at the present time there is nothing to touch them as a show variety.—*Devoniensis.*

CARNATIONS AT THE MONTAGUE NURSERY.

CONSIDERING the short time that has elapsed since Mr. F. Gifford took the Montague Nursery, Tottenham, in hand, he has got together a varied assortment of plants, of which the Carnations are the most noticeable at the present time. Besides some of the leading and well known varieties in commerce and which are suitable for border purposes, he has also raised some beautiful and interesting seedlings. Amongst yellow ground Picotees we noted Annie Douglas, with large flowers striped red, Colonial Beauty, striped rose-purple, and Professor Goodhart, golden-amber edged salmon. Beautiful self Carnations are Amy Herbert, rose, May Queen, delicate pink, Dr. Parke, pink and very late, and Herbert Railton, scarlet shaded with rose. There are several dark varieties of great promise including Brete Harte, crimson, Cantab, brilliant crimson scarlet and fragrant as a Clove, and Montague, a clear fine scarlet. White varieties are represented by Mrs. F. Watts, a very dwarf sort with smooth petals, Mrs. F. Gifford, a new variety with large, well formed flowers but slightly toothed petals, and an unnamed variety with well formed flowers and almost entire petals. Yellow varieties are represented by Germania, and Leander, a strong growing and free flowering yellow about 2½ ft. high and some others. The yellow ground varieties are evidently favourites with Mr. Gifford, and besides those above meutioned we also noted Dr. Chalmers, orange buff, striped red, and Elsie, a pale yellow variety striped with rose.

THE ROYAL BOTANIC GARDENS AND ARBORETUM, EDINBURGH.

A LARGE scheme of improvements is at present being carried out at the Royal Botanic Gardens and Arboretum, Edinburgh, which will have the effect of increasing their efficiency as teaching institutions. Dating from 1670, the Botanic Garden has always been an Edinburgh institution in which the public have taken much interest. It had its beginning in the year just named, when Dr. Andrew Balfour and Dr. Robert Sibbald rented a portion, 40 feet square, of the Royal gardens at Holyrood House for the making of a Botanic Garden, or Physic Garden. Subsequently, the Trinity Hospital garden was acquired for the same purpose, and, to skip intervening history, it may be stated that ground was purchased at Inverleith for a new garden in 1822.

An enlargement of the gardens took place in 1858 and again in 1865, and in 1877 the Town Council purchased Inverleith House and grounds and handed them over to the Crown to be formed into an Arboretum—the Crown undertaking the obligation to maintain them as a scietific educational institution. Botanic Gardens and Arboretum together now extend to sixty acres; and a more beautiful spot there is not within the municipality of the city. The Government, acting on the advice of a Treasury Committee that reported in 1890, sanctioned an important change in the administration of the gardens, under which progressive improvement became possible, and also voted the sum of £8,000 for extensive alterations on the Palm houses and greenhouses, so as to bring them into harmony with modern requirements.

Up to 1890 the Botanic Garden was under the divided jurisdiction of the Treasury and the Board of Works. There was money voted for the establishment, but the divided jurisdiction made it difficult to get it applied for work other than what was absolutely necessary to keep the gardens up as a going concern. In 1889, largely owing to the representations made by Professor Bayley Balfour, the Regius Professor of Botany, the whole administration was transferred to the Board of Works, and from that date, with a sympathetic permanent secretary of that Department in the person of Mr. H. W. Primrose, the gardens got a new lease of life and vigour. The whole funds, amounting to over £3,000 a year, which Parliament voted, became available for garden purposes; and a scheme of improvements was then formulated and commenced. One of the first things achieved was the reconstruction of the herbaceous gardens. Instead of being scattered about the place, these plants were brought together into a compact and central space, and arranged in their natural order in small beds, with strips of grass between, so that consultation of the specimens is now rendered an easy and a profitable task. One of the works on which Professor Balfour is engaged this year is the welding of the gardens and Arboretum into a homogeneous unity. Bit by bit, as we have hinted, was added to the gardens from time to time; the Arboretum was acquired, but no attempt was made to treat these splendid properties from the landscape gardener's point of view, so as to give them, now that the public use them so extensively, a more pleasing external form. This is being done. A work at present in progress is the removal of the high wall between the Botanic Gardens and the Arboretum. The effect at the part where the wall has been demolished is admirable. It is at that point in the grounds just below Inverleith House; and looking up from the gardens the eye is carried onward through a fine tree-shaded glade to splendid prospects of the town beyond. A sense of spaciousness is also secured to the gardens, which the boundary wall, with its three narrow doorways into the Arboretum beyond, previously destroyed. By way of welding the two into one, a broad walk, commencing at the Arboretum gate, will be carried along the foot of the hill, where the public, as a matter of fact, had already made a footpath to the gardens. This walk has nearly all been made. A broad border on each side has been planted with trees and shrubs, and will constitute a shelter to the trees, which will by and by be planted for educational purposes It is also intended to form a walk along each side of the boundary of the Arboretum, and when that is done, a path which at present exists along the face of the eastern slope will be sown down with grass. The construction of these walks will necessitate some alteration in the existing arrangements of the shrubberies, but the present stock will be utilised, so far as this is considered desirable, in connection with the new arrangements.

An important reconstruction of the conservatories in the gardens will immediately take place. At present plants and trees are grown under glass in the Palm house, a building 100 by 60 ft., to which there is a smaller annexe in the range of houses, 142 yards long, situate between the lecture-room and the Palm house, and in the conservatories opposite the herbarium, which was originally erected by the Royal Caledonian Horticultural Society. To begin with, the whole heating arrangements are to be remodelled. At present there are in the gardens no fewer than twenty boilers in eleven stoke-holes. This disposition of the boilers entails an enormous amount of superfluous work, and is wasteful of fuel. On the north side of the conservatories is a disused engine house of substantial construction, with an ornate chimney stack, and this building is in process of being converted into a central source of heating for the whole of the reconstructed conservatories and for the Palm houses. There will be four low-pressure boilers placed underground, and a modern system of heating by hot-water pipes will be introduced by Messrs. Mackenzie & Moncur. The long range of conservatories consists, it may be remembered, of a large domed central hall and wings. It has a southern exposure, but is of old construction. The central domed hall will remain, so will portions of the wings, to serve the purposes of a corridor; but in the way of new buildings there will be erected four conservatories, set at right angles to the present range—two on each side of the central hall, and running a considerable way into the ground at present occupied by specimen shrubs and trees. These trees and shrubs will all be removed so as to open up the area to the influence of the sun's rays, which, in winter, are almost excluded from it. Each conservatory in the range as reconstructed will shut off from s neighbour by partition and door; and in them will be arranged the following classes of plants, which are not provided for in a satisfactory manner at present, viz.:—Orchids (cool and tropical); Ferns, foreign economical plants, and stove plants. The central hall will be reserved as a sort of show house, in which rare and beautiful plants will be exhibited when in their best condition. Just overlooking the herbaceous gardens, on the terrace, to the south of the reconstructed conservatories, there will be formed a broad walk, which, with iron chairs, and backed by flower beds, will be, from a public point of view, one of the nicest spots in the gardens.

The Palm house will also undergo a thorough remodelling. Architecturally, it is a capital piece of work; but from a cultural standpoint it has too many dark places, on account of the distribution of windows and wall space. Henceforth that portion of it which is first entered from the gardens will be devoted to the cultivation of Palms requiring only a cool temperature, for tree Ferns, and for temperate plants generally; and as at Kew, the tubs in which the Palms have been grown will henceforth be done away with, and the Palms and plants set in earth beds on the ground level specially constructed for the purpose. This in itself will be an immense advantage. In order to admit as much light as possible, there will be no side stagings. The wall spaces, however, and the pillars carrying the roof will be festooned with creeping plants, which should have a fine effect. The inner portion of the Palm house, where the spiral stairs are placed, will be separated from the outer portion by a glass partition, and will be devoted to the cultivation of Palms of delicate constitution and requiring tropical conditions for their growth. This portion of the building will be enlarged by the construction of an annexe of semi-circular form, which will not only give more space, but light to the rest of the building. The other conservatories in the rear of the Palm house, will gradually be reconstructed, and the whole of this portion of the grounds will by-and-bye be made available to the public. As a depot for soil and implements it is proposed to utilise a corner at the south-west of the gardens beyond the Palm house which is little used by the public at present, and which is well screened from sight by trees and shrubs. The range of conservatories opposite the herbarium, and near to the rock gardens, will be demolished. In consequence of its dilapidated condition it has been shut to the public for some years; and to put it in repair would cost a large sum. Besides, it could not very well be worked from the central heating house. Its site will be utilised by an extension of the rock garden, which is one of the finest features of the establishment. It is suggested that by-and-bye, in the neighbourhood of the other conservatories, there should be one specially set apart for the growth of tropical aquatics—a class of plants for which there is at present no provision in the gardens, though they are grown both at Kew and at Glasnevin. In connection with the culture of outdoor aquatic plants, alterations have recently been made on the pond by lowering its level 3 inches, so as to keep the water from the tanks along the margin overflowing from one into the other. The water from the new boilers is to be led into the pond, and as there will then be a superfluity of it a proposal has been made, but not yet sanctioned, that a small artificial stream should be constructed from the pond to the lower extremity of the grounds, along the banks of which bog and moisture loving plants might be cultivated.

In connection with the management of the excellent herbarium which exists at the gardens, the Treasury having recently sanctioned the appointment of a curator, who is now on the civil list, so that this department, so important from a teaching point of view, will now be well attended to It has also been suggested that considerable advantage would result from the interchange between Kew and Edinburgh of duplicate specimens; and a system of communication between the two institutions is recommended for the purpose.

Even more important is the announcement which we can now make, that arrangements have been settled whereby the Arboretum will be utilised for the purpose for which it was bought by the town and handed over to the Government: as a teaching institution. At the meeting last year of the Royal Scottish Arboricultural Society, Professor Bayley Balfour propounded a scheme designed to meet a practical objection which had never before been overcome—viz., how young foresters were to be supported in Edinburgh during their pupilage. By the arrangements which have been made, a number of young men in training as gardeners and foresters will be employed in the gardens during the day for a certain number of hours. For this they will receive sufficient to support them during their pupilage of two or three years, as the case may be, and they will receive instruction free in the afternoon or evening in such subjects as chemistry, physics, meteorology, geology, surveying and mensuration, entomology, botany, forestry, and horticulture—the subjects being arranged so that no more than two lectures would be given in one week. The nurserymen of the city are also to co-operate. Young men from these establishments will be admitted free also to the classes, and in this way a practical school for the training of gardeners and foresters in their professions will be inaugurated before many months are over, and will add to the usefulness of the gardens. All Scotland will thereby be benefited. The money has been voted for the payment of the lecturers. In view of such teaching the lecture halls and laboratories have recently been all lighted and heated, at a cost of £500. It only remains to add that the public, in ever-increasing numbers, are taking advantage of the gardens both for the purposes of study and for quiet recreation. They promise to become to Edinburgh what Kew is to London. As many as 15,000 people have visited them in one day, and it is satisfactory to hear that, with such large crowds, the plants and flowers and trees are as well preserved as they were in the days when the visitor had to ring the bell to get through the gate. Pilfering of flowers has not entirely ceased, but thefts are rare, except by people who seem to know the value of what they carry off.—*Scotsman.*

THE VEGETABLE GARDEN.

Flying Dutchman Tomato.

At several places in the West of England I have come across the "Flying Dutchman" Tomato, and everywhere it is well spoken of, wherever it has been tried. It was sent out last season by Messrs. Robert Veitch & Son, of Exeter. It is not an exhibition variety, but it seems to be the very acme of perfection for general work, and is more particularly an amateur's Tomato. In colour it is a light scarlet The fruit is of medium size, round, with just the faintest sign of corrugation. But its most peculiar feature is that as soon as the plant has attained a height of 12 in. to 15 in. it throws out a spray of half-a-dozen flowers. These set, the plant seems to wait until the fruit is fairly formed. Then up it goes another 10 in. or 12 in. and throws out another branch of fruit, the fruit-bearing panicles holding the fruit in suspension in the form of a bursting skyrocket when it breaks out into falling stars in its descent. It certainly is peculiar in this this respect. For a small house it is the very thing wanted, and as the fruit is heavy, solid and well flavoured it is well worthy of a place in the already too-long list of Tomatos. I saw it staged at Crediton Flower Show a fortnight ago, and the exhibitor told me he had a plant with a hundred fruits upon it.—*Devoniensis.*

FUCHSIAS AT CHISWICK.

The collection of Fuchsias sent on trial some years ago to the gardens of the Royal Horticultural Society at Chiswick are still there, and may be seen in the Paxton House. The number of varieties is considerable, so that they must be kept of a relatively small size in order that they may find accommodation in the house. All the taller specimens are grown on the centre bed, and the smaller ones on the side stages, and when we saw them the other week they were in full array. Single and double varieties are indiscriminately mixed together, and generally speaking this is the best way of utilising them, as the flowers of the double varieties are larger as a rule, fewer in number, and heavier. Single varieties are undoubtedly the most effective owing to the profusion of flowers in many cases, and the gracefully arching or drooping habit of the branches under the weight of bloom. There are of course exceptions amongst the doubles where the flowers are of moderate size and freely produced.

Single Varieties.

For effectiveness and general distinctness we should name Mrs. Bright, Alba Coccinea, Abdel Kader, Countess of Aberdeen, and Speciosa. The last named has scarlet sepals and pink sepals and tube on drooping branches laden with blossom. The Countess of Aberdeen is pure white in winter, but the calyx is slightly tinted with pink under the strong sunlight of summer. The habit of the plant is very dense, and rather stiff on that account, but it flowers more or less all the year round. The petals of Abdel Kader are rich purple and the sepals soft red, and the flowers closely aggregated at the end of the shoots. The flowers of Mrs. Bright are somewhat larger than those of Speciosa, with a paler calyx. A curious and pretty mixture is exhibited by Alba Coccinea, which has purple petals, white sepals, and a red tube; the unopened buds are globose, pointed, white with a scarlet tube, resembling ear drops or pendants, and the flowers are abundantly produced on slender, pendulous branches.

Not much inferior to the above is Rose of Denmark, with rosy petals, and pink petals, which in the aggregate are delicate and pretty. The purple corolla and red sepals of President Thiers are very effective as they are produced in abundance on drooping branches. Very similar is that named President having deep blue petals fading to rosy-purple. Very pretty is Flocon de Neige with wide spreading, white petals, and a pale red calyx, giving the plant a bold appearance even in a small state. A very striking variety is that named Glory which has large purple flowers, a red calyx, and the leaves deeply tinted with bronze on both surfaces.

Wave of Life is still a good old-fashioned sort, with pale yellow foliage, ultimately becoming green, and deep purple flowers changing to blue. Madame Aubin has fine flowers but a bad habit. The petals are reddish-purple and orange at the base, with pink sepals and tube. The bronzy foliage of Glory makes its appearance again in a paler hue in De Mirbel. The small flowers of Letty Lye are rose with a carmine edge to the petals, while the sepals and tube are white. It is another illustration of the fact that the smaller the flowers the greater is the number of them produced on a plant. In a small state at least Erecta Novelty is rather pretty and effective on account of the number of flowers produced on the strong erect shoots, but we are afraid the habit of the plant would be anything but graceful if grown on to large size. The petals are a soft rosy-lilac, while the sepals are blush with green tips. The white sepals and tube of Lord Heytesbury contrast well with the purple and scarlet edged corolla. Small plants at least are very distinct and pretty. Another old-fashioned but extremely floriferous sort is Guiding Star with small blue-purple corollas, and white sepals and tube. Tall pyramidal specimens are very effective. On the contrary small specimens of Dr. Topinard are very striking with their large flowers, widely spreading white petals with branching rose veins at their base, and red sepals. Lord Wolsely has unusually large deep violet flowers splashed with pale purple.

Double Varieties.

One of the most floriferous and effective doubles we noted was Gustave Doré, having slender, pendulous branches, with white petals and a pale red calyx, all of moderate size. On the contrary the flowers of Mrs. E. G. Hill are large with numerous loosely plaited petals and a red calyx, giving the whole a bold appearance. The pale red calyx of Artaban constitute a fine contrast with the large, pure white corolla. The petals of Berliner Kind are numerous, plaited and white, while the short pale red sepals are slightly reflexed. A beautiful Fuchsia likewise is F. Ulysse Trelat with blush sepals suffused with deeper veins. The pale mauve lilac corolla of President Grevy is very distinct, but we have some misgivings relative to the habit of the plant, a fault which clings, unfortunately, to a good many of the large flowered doubles. The flowers of Deutscher Kaiser are very freely produced towards the ends of the branches, and have purple corollas with a pale red calyx. One of the boldest and most telling of the old double Fuchsias is Marksman, the flowers of which are notable for their great size and deep violet and purple hue. The petals are more or less plaited or twisted, and the red sepals are remarkably short. Under good cultural treatment the plant may be described as floriferous, notwithstanding the huge size and heaviness of the individual blooms. Phenomenal may be compared to the last in the huge size of its violet and purple corolla, but the habit of the plant to all appearance is bad. The red calyx lies down on the petals compressing them, a very unusual circumstance. Quite another kind is Lamennais with ponderous white flowers somewhat folded or crumpled in the centre.

The above is by no means exhaustive of the list of varieties grown at Chiswick, but they include all the more distinct both of the single and double kinds, and the more notable as far as general effectiveness and merit are concerned. To see Fuchsias in their best form they should be accorded plenty of space and grown to good size, so that their individual beauty may be seen to advantage.

IRIS KÆMPFERI.

The season for Irises is now almost over, even including such late flowering subjects as I. lævigata, better known in gardens as I. Kæmpferi and the English Irises (I. xiphioides). Considering the dry nature of the season for some time past, the numerous garden varieties of I. Kæmpferi have done well in the nursery of Mr. T. S. Ware, Hale Farm, Tottenham. The first week of August still saw a considerable number of varieties in bloom. The Japan Iris delights in a plentiful supply of moisture, and here they are accordingly grown in specially prepared beds, consisting of rich soil partly mixed with peat and mulched with manure. The soil was kept watered almost every day; hence, no doubt, the persistency with which the plants kept flowering.

The semi-double varieties are evidently amongst the most durable, including A. Bolyn with bluish-purple flowers of large size, and a golden-yellow blotch at the base of all the segments. Louise is another semi-double, with bright, dark purple flowers, very similar in colour to that of Viola Cliveden Purple. Flora has single or semi-double flowers of an indigo blue, with a large orange-yellow blotch at the base of each segment; the smaller divisions occupying the centre are purple. A very curious case of doubling occurs in Cleopatra. The supernumerary segments usually rise in the centre of the bloom, but in Cleopatra they evidently consist of the stamens metamorphosed into tufts of small petals arising behind the petaloid stigmas. They therefore form three diverging tufts which give the flowers a singular appearance. The ordinary and true segments are of large size, and purple with a golden yellow blotch at the base surrounded with a blue zone.

Two white varieties also seem unusually late. Venus has the largest flowers, freely produced, and pure white, with the exception of the ever present yellow blotch at the base of the segments. The flowers of Jersey Belle are more moderate in size but very compact with a golden yellow blotch at the base of each of the six segments, which are nearly all of the same size and horizontal. The latter feature is characteristic of I. Kæmpferi, which thus differs from most species in cultivation. Jersey Belle flowers very freely and recommends itself on that account to the attention of cultivators. Those who have the convenience of a stream or pond in their grounds should take advantage of the same in securing a supply of moisture for this Iris. It does well on the banks, where its roots in penetrating the soil dip into an abundant supply of moisture during the summer months.

CARNATIONS AND HOLLYHOCKS AT TOTTENHAM.

Carnations and Picotees.

The dry weather that prevailed during the first week of August told very severely everywhere upon the durability of Carnations as far as the flowers were concerned, but at the same time was favourable to the process of layering, which was being vigorously prosecuted at Mr. T. S. Ware's Hale Farm Nursery, Tottenham, last week. Although the season was far advanced there were still quantities of flowers, especially on some of the varieties, which thus showed their distinctly late character and their utility for prolonging the season.

Most of the varieties are grown in quantity, including the terra-cotta Mrs. Reynolds Hole. A new variety is Mrs. Rieffel, with yellow flowers and a buff centre. Being early it was almost over. Alice Ayres, white with carmine stripe, is still holding its own bravely as a border variety. Pride of Penshurst and Germania, two of the best yellows, both do well here. A yellow ground named Terra Cotta is of the shade indicated, and marked with purple, rose, and blue towards the edge. A finer variety of this type is Sir Beauchamp Seymour, the ground colour of which is almost of a salmon colour striped with red towards the edges. It is a good grower, about 12 in. to 18 in. high, and flowers freely.

White varieties are well represented, including Mrs. Frank Watts, a refined variety of medium size and dwarf habit. Something in the same way is White Dame, a pure white with almost entire petals; but the flowers are larger than those of the last and somewhat scented. The plant is however, very dwarf, and develops plenty of young shoots. Gloire de Nancy is generally looked upon as a White Clove, as it has large fragrant flowers and broad glaucous leaves. The flowers of Comte de Paris are flesh coloured, becoming paler as they get old, but they are only of medium size and late in coming into bloom. The variety is, however, of good constitution and seems to be gaining in popularity.

A new, soft pinkish rose, and free flowering, slightly fragrant variety is Ketton Rose; it does well and produces plenty of grass, as the young, leafy shoots are termed. Rose Celestial, a beautiful rose variety, is something in the way of the popular Mary Morris. A good sort is Lord Bryon, with brilliant scarlet flowers of moderate size but very conspicuous; the leaves are narrow but the shoots plentiful. A clove-scented and bright salmon-rose variety is Princess Alice. The leaves are also like those of a Clove, and the plant grows vigorously. Paul Engelhart is a crimson Clove, but much dwarfer in habit. Border Picotees are also fairly numerous here, including Wm. Scott, slightly striped and heavily edged with carmine on a white ground. Seedling Carnations and Picotees are numerous, and some of them very promising, particularly a large flowered and flesh coloured variety with good foliage. A white variety with entire petals was also fine. None of them have yet been named, but some of them will certainly be heard of again.

Hollyhocks.

As a safeguard against the ravages of the disease, Hollyhocks are here raised from seeds and simply sown in batches of a colour. It is wonderful how true to colour they come, and as the bulk of them are not only double, but of good form, it demonstrates the feasibility of depending upon seedlings, either for ordinary garden decoration or for exhibition purposes. The stems vary from 5 ft. to 9 ft., or more, and testify to the vigour of plants raised from seed. The varieties, of which a quantity of each is grown, are sent out under colours without any regard to special names. These include Straw, White, Crimson-scarlet, Buff, Pale Apricot, Amber, Rose Salmon-Apricot, Purple-lake, and White, with purple base. They are confined to single stems and certainly have a stately appearance. The centre is in most cases quite full and well supported by broad guards; an exception might be mentioned in the Rose varieties where the centre is sometimes not well filled, but this is more than counteracted by the sort named Purple-lake, the flowers of which are fine in form and colour.

Begonias.

Seedlings in some quantity are planted out in the open ground at Tottenham, but Mr. Ware's finest display of this useful class of plants is at Bexley. We noted, however, a houseful of plants such as are

sent out for bedding purposes, in one of the houses. All are grown in 32-size pots, and are of a suitable size for various purposes. None of them are named but simply assorted into colours such as Yellow, Scarlet, White, Rose, Buff, Orange, Magenta, etc. The shape of the flowers is all that could be desired for bedding purposes, being in many cases quite orbicular and well thrown above the foliage on good foot-stalks.

TODEAS IN THE OPEN GROUND.

When visiting Messrs. W. & J. Birkenhead's Fern Nursery, Sale, near Manchester, a short time ago, I was rather surprised to see several plants of Todea superba, and also one or two of T. pellucida, growing in the open ground, and in perfect condition, without any artificial protection whatever. Mr. Birkenhead informed me that the plants had been injured by some means—I forget now exactly what; but I believe they had been out either on hire or for decoration, and had been returned in a very emaciated and sickly condition. Thinking that they were too far gone for recovery, the proprietors had them turned out of the pots and planted on a spare piece of ground close to where the hardy British Ferns are grown, and close under the shade of some young trees, no pains whatever being taken with them, but they were stuck in the ground as one would put an ordinary plant which was expected to die but still faint hopes cherished of its recovery.

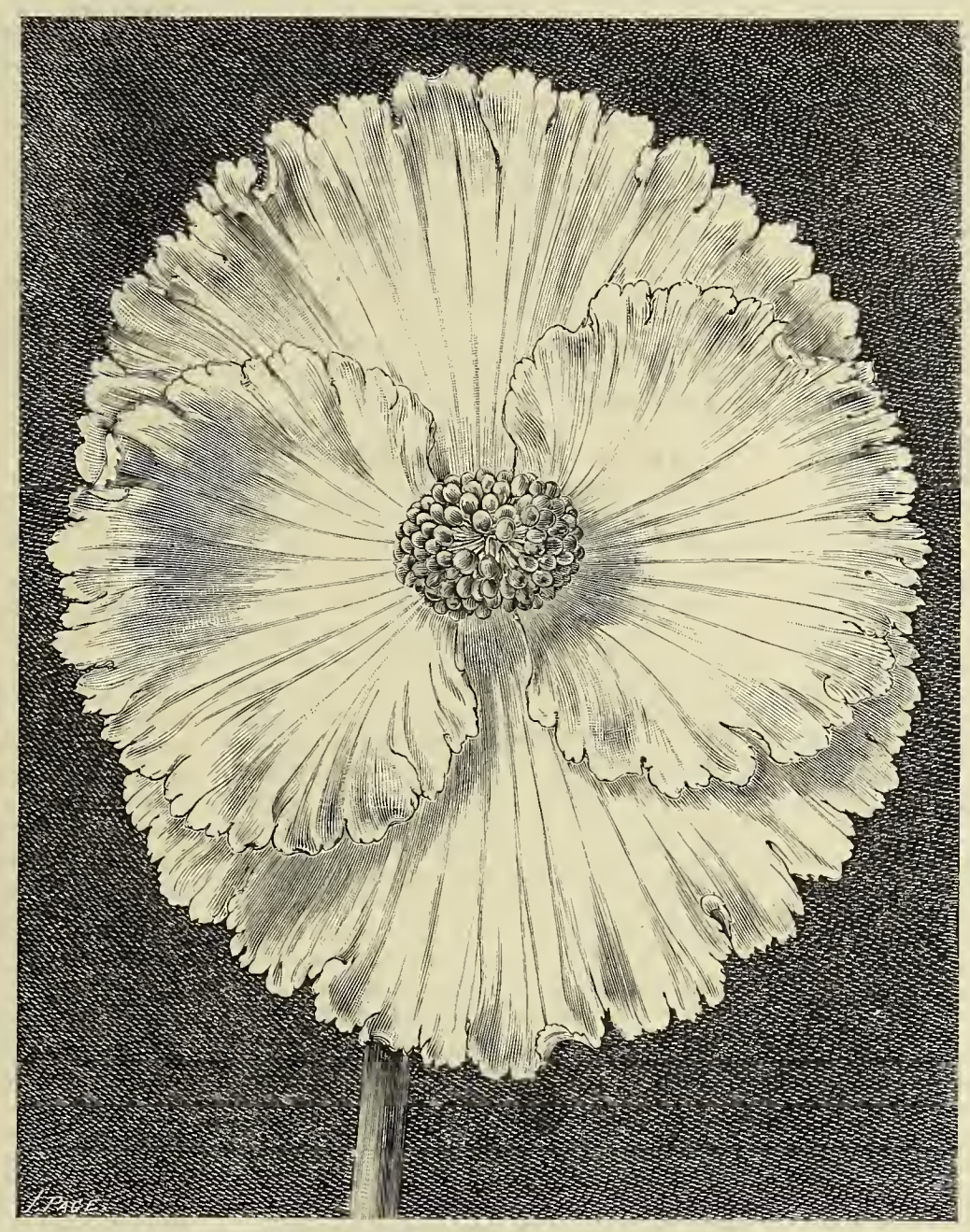
They were planted, an in a sense forgotten. Contrary to all expectations the plants revived and commenced to grow, at first very steadily and then vigorously, until ultimately fronds almost as fine as any specimens under glass were developed. These fronds were not only large and full but were of the deepest green and truly handsome in appearance. The plants were not syringed, nor even watered; the provisions of nature seemed to supply all their requirements. The ground was moist, and as rain had been falling plentifully for some time past, the fronds had been kept pretty moist and thus artificial attention was not needed.

I mention this fact merely to show to your readers that Filmy Ferns do not necessarily need the protection of glass as is supposed by many, but they will thrive ofttimes under what seems to be very adverse conditions, as in the instance just cited. These Ferns are also capable of withstanding several degrees of frost with impunity, and I myself have seen not only these but others of the Filmy Ferns safely pass through from ten to twelve degress of frost. It used to be a popular notion that Filmy Ferns needed a very special treatment in order to ensure their successful culture, and glass cases were accordingly constructed and the plants put in them and arranged just as curiosities are arranged in our museums. The case was never opened except to water and syringe the plants, and—no wonder either—many of the plants never looked well. Those days of superstition and folly are now buried in oblivion, thanks to the progress of horticultural science; and none but the most foolish would ever think of reviving them, and now even "Filmies" are treated in a rational manner.

A few plants of Todea superba and T. pellucida, and also a few of the Hymenophyllums and Trichomanes dotted about in suitable and specially constructed positions in our hardy ferneries would greatly add to the attractiveness of these places. With a very little scheming, suitable arrangements for their reception could be made, and where a running stream or a basin happens to be near, a miniature waterfall might with ease be constructed and the Ferns planted where they would come in contact with the spray therefrom. A veritable little Paradise might thus be formed, and the lines which Sir Walter Scott wrote concerning the Lady Fern might appropriately be applied to these:—

"Where the copse-wood is the greenest,
Where the fountain glitters, glitters sheenest,
Where the morning dew lies longest,—
There the Lady Fern grows strongest."

C. H. B.



Begonia, Laing's Fringed White.

BEGONIA FRINGED WHITE.

Improvement continues to be made in the shape of the flowers both in the single and double varieties of tuberous Begonias. Fringed White is single, as may be seen by reference to our illustration; and the flowers about as circular as a compass could make them. Their most striking feature is the doubly crenate or toothed margin, and, being pure white, the name given is very appropriate. The golden yellow stamens form a small tuft in the centre. The stems of the plant are stout, stiff, erect and about 15 in. high. The flower stalks are also stiff and erect, so that no staking is required. The obliquely heart-shaped leaves are large and more or less lobed, and long pointed, although some of them are orbicular, and lobed with red edges. All these characters point to B. Veitchi or some of its close allies as the parents of this fine improvement. A race of fringed varieties would be very pretty, provided the other qualities of the plant and flowers should come up to the standard of that under notice. The illustration was prepared from a flower sent us by Messrs. J. Laing & Sons, Forest Hill, who raised the variety.

PARSLEY.

I do not know what position amongst vegetables Parsley enjoys in the North; but I was surprised to see in a collection of vegetables from Scotland shown at the recent cottagers' exhibition at Earl's Court, Parsley in pots as one of a collection of six varieties. Here in the South such a product never would be tolerated as a vegetable, and is chiefly employed to furnish decoration for all ordinary vegetables, especially in collections. It does seem as if a very wide margin had been allowed by the judges in this particular instance. The introduction of Parsley was all the more remarkable because only six kinds of vegetables were required.

Admitted that the other five vegetables in the collection were excellent, still the introduction of the Parsley as a sixth would have made many judges disqualify the collection. I do not suppose that in any other competition in any similar exhibition in the South of the Kingdom Parsley, even in pots, would be regarded as a bonâ fide vegetable, because we invariably require proper edible vegetables to be shown in collections, and Parsley is hardly such, except in soups, stuffings, or in other trifling ways. I should be very sorry to see products of this kind regularly admitted into vegetable collections especially in the case of six sorts or kinds only, as it should not be at all difficult for any competitor, cottager or otherwise, to show so many at this season of the year.

As to Parsley for decorative purposes as grown in pots there is nothing whatever to be said against it. I noticed that Messrs. Dobbie & Co., of Rothesay, had some very pretty plants in pots on their stand of vegetables and flowers at the same show, and gave a very pleasing effect. The northern Parsley seems to differ somewhat from our London market treble curled in having finer leafage, and almost like the pretty but inconstant moss curled or fern-leaf Parsley. Doubtless it is a variety that finds much favour in the North, and may be hardier than is our southern strains, although we have little to complain of during ordinary winters.—*A. D.*

ZINGIBER D'ARCEYI.

The oblong-lanceolate leaves of this Gingerwort are of a light, shining green, and variegated with broad but irregular bands of creamy white along the margin. The stems attain heights from 12 in. to 24 in. Like many other plants of this class it is well fitted for room decoration, and the variegation gives it a lively appearance. In all probability the creamy-white variegation would loose some of its brightness if the stems and foliage were developed in the relatively cool and dry atmosphere of a room, but they should be brought to their best in the stove and then transferred to the dwelling room, where they will keep in good condition as long as is desirable at a time.

THE HERBACEOUS BORDER.

Choice Plants in Flower.

ECHINOPS RITRO.—The finest of all the Globe Thistles is that here named. It varies from 18 in. to 3 ft. in height according to the character of the soil and the nature of the season. The heads are globular and of a deep blue, lasting a considerable time in beauty. The rich dark green leaves are pinnatifid and spiny, while the under-surface is white and cottony. Some authorities say that the leaves are not spiny.

COREOPSIS LANCEOLATA.—Of all the species of Coreopsis in gardens (and they are pretty numerous) that under notice is acknowledged to be the best of the perennial species. The stems vary from 18 in. to 2 ft. in height and bear an abundance of golden yellow heads. The leaves are lanceolate and altogether undivided. It hardly ever fails to do well even in soils of a very opposite character, while it is perfectly hardy. Propagation is easily effected by division in spring, and should a large stock be required for bedding or massing, cuttings of the moderately firm short shoots might be used, and the old stools divided into as many pieces as bear a bud and a few roots, care being taken to water them till thoroughly established.

LYTHRUM ALATUM.—The stems of this neat growing species are square, slightly winged at the angles, and 2 ft. high. The leaves are small, and ovate, in fact not larger than those of a Myrtle. The flowers are large, purple, and borne singly in the axils of the leaves all along the stems.

HYPERICUM PYRAMIDATUM.—Rarely do we see this North American species in gardens although introduced so early as 1764. The stems are herbaceous notwithstanding the fact that they attain a height of 3 ft. or 4 ft., and are furnished with relatively large, oblong-lanceolate, stem-clasping leaves of a dark green hue tending to be glaucous. The flowers are large, clear yellow, and produced a few together at the ends of the main stem and its few side branches. Although neither the flowers nor foliage can lay claim to the refinement of many others in cultivation, both of the herbaceous and shrubby types, yet it constitutes a bold and characteristic type for the second or third line of the border.

EPILOBIUM ROSMARINIFOLIUM.—The dwarf habit of this plant is something to recommend it to the attention of lovers of herbaceous subjects. The leaves are linear of a deep green, not unlike those of the Rosemary, and thickly clothe stems 12 in. to 18 in. high. The flowers are large and rosy-purple with a dark centre.

GERANIUM WALLICHIANUM.—One of the best recommendations of this species is its continuous flowering nature. The stems are procumbent or trailing and continue to elongate all through the summer, producing flowers at the same time. The latter are rose coloured with purple veins, while many individuals are of a decidedly-blue tint. It seems further liable to vary, for there is a variety in cultivation with a white centre, and which is certainly pretty. Owing to its procumbent habit it is more suitable for planting on mounds or on the ledges of rockwork than in the herbaceous border proper.

PLATYCODON GRANDIFLORUM MARIESII.—The typical form of this Bellflower grows generally about 12 in. or 18 in. high, but the variety here noted is characterised by its dwarfness, being seldom over 6 in. high, with erect, widely bell-shaped deep blue flowers. The rootstock does not increase very fast, but the plant may however be propagated from seeds.

CAMPANULA GLOMERATA FLORE PLENO.—The doubling of this Campanula consists of three to four corollas inserted one within the other, hose in hose fashion, and of a blue purple hue. Even the outer corolla is somewhat smaller than that of the single form, which some growers would doubtless prefer. The double variety is, however, distinct and to some extent showy, and some would be pleased to add it to their collection.

LYCHNIS FLOS-CUCULI ALBA PLENA.—There are double forms of several species of Lychnis in cultivation, but that under notice has recently been added to the list, and has as yet found its way into a few gardens only. Whether it will ever become common remains to be seen. The flowers are only moderate in size, perfectly double, and pure white with ragged petals.

ROSCOEA PURPUREA.—Some authorities regard this as synonymous with R. sikkimensis, and only having darker and rich purple flowers with exception of the two small lateral ones hidden in the upper segment and which are white. The lip is obovate and the largest organ of the flower. The stems only grow about 9 in. or 12 in high, and are covered with lanceolate leaves. The roots are tuberous and prove perfectly hardy in the southern portion of England at least. Altogether it is a distinct and desirable subject, and should be planted in light turfy loam

VERATRUM NIGRUM.—The flowers of this Lilywort are of a blackish-purple, and although they cannot be considered showy they are strikingly distinct, and very telling amongst other herbaceous subjects. The stems grow 2 ft. to 3 ft. high or even more under good cultivation, and the larger they are the finer is the effect. The leaves of robust growing plants are very handsome, being about a foot long and 6 in. to 8 in. wide.

GARDENING MISCELLANY.

VALLOTA PURPUREA CARNEA.

THERE are now some good varieties of this old fashioned subject in cultivation, although we rarely meet with any but the typical form which most growers are still content to cultivate. That under notice has flesh coloured or nearly white flowers, funnel-shaped, and freely produced even from small bulbs, some of the latter throwing two spikes each. We noted it recently in the nursery of Messrs. J. Veitch & Sons, Chelsea, where some other varieties could also be noted, including a salmon-pink one. Other varieties in cultivation, if they still exist, are V. p. eximia, and V. p. magnifica with a white throat, besides V. p. major, and V. p. minor with the throat more or less netted with white. Those that we mention above are more notably distinct than the last four named kinds.

PINK ERNEST LADHAMS.

THE flowers of this variety are of great size, perfectly double, and full. The petals are white with a large crimson blotch at the base, and shallowly toothed at the apex. We noted it in pots in the nursery of Messrs J. Veitch & Sons, Chelsea, but were informed that it was suitable for border culture. Its appearance would, however, suggest that it might be successfully grown in that way; having as it does the characteristic appearance of some of the old-fashioned garden Pinks, but larger in flower, and of a different colour.

INDIGOFERA GERARDIANA.

IN gardens this is doubtless best known under the name of I. floribunda, which would certainly be a good name for it considering the quantity of flowers it produces. The latter are purplish-red, and produced in many-flowered racemes. During the months of July and August it is at its best, and only those who have seen a large plant of it can have any idea of the immense quantity of flowers it will bear. A great space of wall is covered with it in the nursery of Messrs. J. Veitch & Sons, Chelsea, showing its adaptability for this purpose when grown out in the open, young plants are liable to get somewhat injured in severe winters, but with the protection of a wall it seems perfectly at home and happy.

DIANTHUS MONSPESSULANUS.

To the ordinary observer this Pink would in all probability present very few attractions compared with the fine single, but more especially the double forms of D. plumarius, the Garden Pink. To those, however, who are fond of Nature's wildings, it possesses many recommendations to their attention in the size of the flowers and the profusion with which they are produced on stems 12 in. to 15 in. high. The petals are pale lilac-purple, with a slightly darker coloured and bearded blotch at the base; the ends are ragged, however, in the same way as the unimproved varieties of D. plumarius. The foliage is of a dull green, and therefore considerably different from that of the Garden Pink, and the individual leaves longer. If a subject was wanted for improvement it would seem that D. monspessulanus might be taken in hand. If it were possible to successfully hybridise it with D. plumarius, we might soon be in possession of a variable race of plants capable of much improvement. Hitherto, however, there has been very little hybridisation amongst the species of Dianthus considering the number that are known to exist both in gardens and in a wild state. Neither has it been proved apparently whether it is capable of being crossed with any other species or not.

THYMUS COMOSUS.

THERE is a considerable amount of likeness amongst many of the species of Thyme occurring in gardens, though several of the common sorts are admitted to be merely forms of one species. That under notice is a native of Transylvania and is very distinct, while at the same time it may be compared to a greatly magnified Thymus Serpyllum Chamædrys. The leaves are ovate or elliptical, thinly pilose and two or three times as large as those of the last-named. The inflorescence is also similar in both cases, but here again very much larger, with the flowers arranged in a terminal head and several smaller ones lower down the stem in the axils of the leaves. The flowers vary from rose to pink and possibly other shades of colour, and the stems are procumbent at the base with the flowering portion erect. The rockery is the best place for it, as its beauty would be lost in the ordinary herbaceous border. It may be seen on the rockery at Kew.

DAVALLIA TENUIFOLIA VEITCHI.

THE typical form of this Fern is a slender and elegant plant, but the variety Veitchi is characterised by greater vigour and more tenuity of all its parts. The fronds are 2 ft. to 3 ft. long, and droop elegantly all round when the plant is suspended in a basket, as it is in the nursery of Messrs. J. Veitch & Sons, Chelsea. Half the beauty of the plant would be lost if grown in pots and stood amongst other plants of any kind. Those who like basket plants would do well to give this one a trial, as it is so different from the Davallias usually grown in baskets.

PASSIFLORA IMPERATRICE EUGENIE.

THE general appearance of this garden form of Passionflower would lead one to suspect that it is a hybrid between P. cærulea and P. quadrangularis or P. macrocarpa, the first-named being probably the seed parent, judging from the character of the leaves which are very broad and three-lobed. The flowers are of large size, with ovate pink sepals, and petals one-third longer, nearly white externally, and rosy-pink internally. The corona is very large, and forms the most conspicuous element of the flower, and recalls P. quadrangularis or P. macrocarpa very strongly. The outer series of rays is 1 in. to 1¼ in. long, purple in the lower portion, violet upwards, and white at the junction of the two colours. Inside of this is another two rows of very short purple rays, followed by other two rows, the rays of the outer of which are blackish-purple, and the inner almost black, and shorter. We noted some flowering plants of it in the houses at Falkland Park, South Norwood Hill.

SOCIETIES.

Royal Horticultural, *Aug. 9th.*—As usually happens about this time of the year, the meeting on Tuesday was a small one. Orchids were as well represented as anything. Bell flowers, Sweet Peas, Carnations, Stocks, Streptocarpus, and other subjects in small groups were the most prominent features of the display, which was by no means a large one. A Silver Banksian Medal was awarded to Messrs. F. Sander & Co., St. Albans, for a group of Orchids, consisting largely of Cattleyas and Cypripediums, and a mauve and purple-flowered Calanthe named C. Sanderiana Vanda Sanderiana was also good. A fine plant of Lælia crispa superba, Statter's variety, and some other Lælias were exhibited by Thomas Statter, Esq. (gardener, Mr. Johnson), Stand Hall, Whitefield, near Manchester. A bigeneric hybrid named Lælia-Cattleya Ingrami was shown by C. L. M. Ingram, Esq. (gardener, Mr. T. W. Bond), Elstead House, Godalming, and received a First-class Certificate. Some plants of Oncidium macranthum nanum, with flowers of large size; Anguloa Turneri and Zygopetalum Wailesianum were exhibited by Messrs. Charlesworth, Shuttleworth & Co., Heaton, Bradford, and Park Road, Clapham. Flowers of Phaius Humboltii var Henryii were shown by A. H. Smee, Esq. (gardener, Mr. G. W. Cummins), the Grange.

Carshalton. Cypripedium leucohilum with a white lip, and a supposed natural hybrid was shown by Messrs. H. Low & Co., Upper Clapton, as well as some tall-flowering plants of Vanda cœrulea. Cypripedium Godefroyæ leucochilum was shown by Mr. P. McArthur, 4, Maida Vale.

A Silver Banksian Medal was awarded to Mr. G. Wythes, Syon House Gardens, Brentford, for a large and showy group of varieties of Campanula pyramidalis, edged with varieties of Campanula carpatica. A First-class Certificate was awarded a variety named C. pyramidalis compacta. A large and showy boxful of plants of hybrid Streptocarpus was staged by Messrs. J. Veitch & Sons, Chelsea, who had also fine exhibits of hybrid greenhouse Rhododendrons, Robinia Pseud-Acacia semperflorens, Valotta purpurea amabilis, and some Orchids, for which a Silver Banksian Medal was awarded. A similar award was made to Messrs. H. Cannell & Sons, Swanley, Kent, for a collection of double Begonia blooms, set up in bunches on a groundwork of Ferns. They also had some Stapelias in bloom and Cactus Dahlias. A large collection of Carnation and Picotee flowers set up with their own foliage was exhibited by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham. They were much admired by visitors, and a Silver Banksian Medal was awarded the group.

Several Awards of Merit were accorded Mr. C. Turner, Slough, for cut blooms of new Carnations and Picotees. A collection of Stocks and Zinnias was brought up by Mr. Leach, Albury Park Gardens. Cut flowers of a fine collection of Sweet Peas was brought up from the gardens of the Royal Horticultural Society at Chiswick, representing many of the leading varieties now in cultivation. Some Carnations were shown by Mr. Fred. Bull, Wormingsford, Colchester; as well as by Mr. W. H. Divers, Ketton Hall, Stamford; and Mr. R. Greenfield, Leamington. A Chrysanthemum named Rose Wells was shown by Mr. W. Wells, Earlswood. Some fine Antirrhinums, and an Everlasting Pea named Lathyrus delicata were shown by Mr. R. Dean, Ealing. A box of Roses was shown by Messrs. Paul & Sons, Cheshunt. A plant of Aloe Gortoniana was shown by Mr. P. McArthur, 4, Maida Vale. A tuberous Begonia named Ethel Louise was shown by H. Warburton, Esq., Claverhouse, Ascot. Sarracenia Cookei, and S. Farnhami, the latter a fine new variety, were shown by W. E. Farnham, Esq., Loughborough, (Mr. Cook gardener). A beautiful yellow Carnation named The Moucher (a name, by-the-bye, which was generally condemned) was shown by Mr. Spurling, Blackheath. Some very good spikes of Lily of the Valley were shown by Mr. T. Jannock, Lily Nursery, Dersingham, for which he received A Cultural Commendation.

At a meeting of the Fruit Committee a Silver Banksian Medal was awarded to Messrs. D. Burton & Son, Bexley Heath, Kent, for four boxes of Nectarines and as many of Peaches; the Nectarines being the most highly-coloured. Melons were exhibited by Mr. G. Wythes; by T. Statter, Esq.; by Mr. J. Barkham, The Gardens, Longford House, Haven Street, near Ryde; and by W. M. Bullivant, Esq., (gardener, Mr. T. Crosswell,) Homewood, Eden Park, Beckenham. Some Tomatos named Eclipse were shown by Messrs J. R. Pearson & Sons, Chilwell, Notts. A large collection of Figs was brought up from the Society's Gardens at Chiswick, and half-a-dozen of them received First Class Certificates. A collection of edible Gourds and Vegetable Marrows was also brought up from the same gardens. A seedling Tomato was shown by W. A. South, Esq. (gardener, C. Payne,) 40, New Bond Street, Neasden; and a dish of Tomatos and some Runner Beans were also shown by Mr. W. C. Leach. Thirteen varieties of Peas were shown by Messrs. W. W. Johnson & Son, seed growers and merchants, Boston. Three large baskets of Peas were shown by Messrs. Sutton & Sons, Reading. One named Sutton's Exhibition had been grown under ordinary field treatment and without stakes, yet the pods contained nine to eleven seeds each. The other two varieties were Sutton's Perfection and Windsor Castle, both growing about 3 ft. high and bearing very large pods.

Shoreham Flower Show.—A very successful exhibition was recently held, by the kind permission of Sir Henry James, Bart., M.P., in the grounds of Shoreham Place, Kent. Although the majority of the classes were confined to cottagers a few were set apart for gentlemen's gardeners. In the class for an arranged group of plants, effect to be the leading feature, Mr. Abbot, gardener to Sir W. Hart-Dyke, Lullingstone Castle, secured the 1st prize, with a very pretty group; 2nd, Mr. R. Edwards, Beechy Lees, whose front was decidedly good, but the absence of a good plant at the back lost him first position; third, Mr. Winmill, Shoreham. For a collection of fruit, Mr. R. Edwards, gardener to Barclay Field, Esq., was 1st with a good lot. For a collection of vegetables, Mr. Abbot was again 1st, with excellent Tomatos, Peas, Cauliflowers, Carrots, Dwarf Beans, Potatos, and Onions as his best; 2nd, Mr. R. Edwards; 3rd, Mr. Winmill.

The cottagers, as is generally the case, showed vegetables almost as good as the gardeners, and where everything was so good it would serve no useful purpose to particularise these exhibits. Table decorations shown, not for competition, by Mr. F. Seale, Sevenoaks, was much admired, as also was their box of herbaceous cut flowers. Altogether the promoters, with Mr. Hancock as their secretary, must have been well satisfied with the result of their efforts.

Great Saughall Horticultural.—This is one of the many local societies which in a quiet unobtrusive way are doing good work in their respective districts by encouraging the improvement of cottage gardening. The society's operations extend over some dozen different townships in Cheshire; and its president is H. D. Trelawney, Esq., a gentleman who takes a lively interest in the society's work, and in his park at Shotwick, some four miles from Chester, this year's show was held on the 3rd inst. The society is also fortunate in having in Mr. W. A. Taylor, Claughton, Birkenhead, an energetic and most courteous secretary, who for some six years past has materially helped to raise the society to its present high standard of public utility.

The schedule included 51 classes for cottagers, who are defined as residents in the district not being gardeners or gardeners' assistants, whose rent or rateable value does not exceed £10 per annum; a similar number for amateurs who do not employ a regular gardener; and 20 classes open to all but nurserymen; besides special classes for the best kept gardens, bouquets, butter and a variety of other subjects coming under the general heading of cottage domestic economy. The record of this society, under its present excellent management, has been one of improvement from year to year, and the show of last week, taking its dimensions as a test, was another distinct stride forward. The exhibits, numbering 692, were somewhat in advance of last year, new classes were thrown open, providing fresh incentive for competition, and on the whole it may be truly said that the high standard of quality characteristic of the show was everywhere maintained. In some departments, considering the bad season, the exhibits were pronounced to be superior to any previous display. The exhibits were contained in two tents, and a glance at the prize-list showed that the old successful cultivators were once more well to the fore. In few places are such strong efforts put forward by amateurs and cottagers to bring horticulture and gardening to a state of perfection, and the envied reputation which the district bears in this respect is no doubt in great measure attributable to the encouragement offered to all classes by the horticultural society. In addition to the local exhibits, Messrs. Dicksons, Limited, of Chester, contributed a fine display of cut herbaceous plants and Roses, and a group of stove and greenhouse plants; and Messrs. Dickson, Brown and Tait, of Manchester, also sent a display of cut Roses. The day was gloriously fine, with the exception of a few showers of rain towards evening, and at 6 p.m. the prizes were distributed by the Hon. Mrs. Trelawney.

THE NATIVE PLUMS OF AMERICA.

The Council of the Cornell University Agricultural Experiment Station have recently published a comprehensive and interesting report on the cultivated native Plums and Cherries of the United States, from the pen of Mr. H. L. Bailey, the Professor of Horticulture, who thus sums up the present situation with regard to Plums:—

1. The native Plum industry dates from the dissemination of the Wild Goose some forty years ago It is only within the last decade, however, that this industry has assumed great importance.

2. Five species and one botanical variety of native Plums are now in cultivation for their fruits. One hundred and forty named varieties are here described, very many of which are wild varieties transferred to cultivation.

3. Nearly all the commercial varieties belong to three species, Prunus Americana, P. hortulana, and P. angustifolia. These species grow wild in regions east of the Rocky Mountains.

4. Prunus Americana grows the farthest north of any of the native Plums, and its varieties are the hardiest of any. The species also grows as far south as northern Mexico. The range of adaptability of its varieties may therefore be assumed to be very great. The species is naturally variable, and is therefore attractive to the horticulturist.

5. The fruit of Prunus Americana is firm and meaty, usually somewhat compressed or flattened, often marked by a distinct suture, dull in colour which ranges through various shades of red and purple to an ill-defined and blotched orange. The skin is thick and tough, often acerb, and covered with a pruinose bloom. The stone is large and more or less flattened and winged, and is sometimes nearly or quite free, and the surface is either slightly pitted or perfectly smooth.

6. Forty-five varieties are referred to Prunus Americana in the lists. The most popular of these are Cheney, Deep Creek, De Soto, Forest Garden, Itaska, Louisa, Purple Yosemite, Quaker, Rollingstone, Weaver, Wolf. The Americana varieties succeed best, on the whole, in the northern states of the Mississippi valley, as in Wisconsin, Iowa, and Minnesota. Some of them, however, are succesfully grown in Texas, and on the Atlantic slope so far south as 37° or 38°

7. Prunus hortulana grows wild in the Mississippi valley from northern Illinois to Arkansas, extending eastward into Kentucky and Tennessee and possibly farther, and in the south-west spreading over a large area of Texas. It is naturally variable, and has given many important cultivated varieties. It has never been recognised as a distinct species until this year. There are two or three distinct types represented in the species, one of which—the Miner group—appears to possess some radical points of difference from the typical representatives of the species.

8. The fruit of Prunus hortulana is firm and juicy, spherical or spherical-oblong, never flattened, and in colour ranges through several shades of bright red to clear pure yellow. The skin is thin, often marked with small dots, and is usually covered with a thin bloom. The stone always clings; it is comparatively small, rough, turgid, sometimes prolonged at the ends, but is never prominentiy wing margined.

9. The Wild Goose is the best known of the native Plums, although its quality is not high. The popularity is due to its productiveness, earliness, beauty, good shipping qualities, and to the circumstance that it was early introduced to cultivation. This variety is grown from Iowa, Michigan, and New York to Georgia and Texas.

10. The Wild Goose group of Plums, as a whole, is well suited to the middle latitudes. The most prominent members of the group are Golden Beauty, Indian Chief, Missouri Apricot, Moreman, Wayland, and Wild Goose.

11. The Miner group differs from the Wild Goose or true Hortulana group by dull and comparatively thick leaves which are conspicuously veiny below and irregularly coarsely toothed and more or less obovate in outline, and by a rather late and very firm fruit and a flat and nearly or quite smooth stone. The varieties are all much alike. In a wild state, this form of native Plum probably grows from Illinois to Tennessee and Arkansas.

12. Ten varieties are referred to the Miner group, of which the most prominent is the Miner. This variety was the first native Plum to receive a name from horticulturists. Its history runs back to 1814. Seventy years ago it was known as Old Hickory and General Jackson. Next to the Wild Goose, the Miner is the best known of the native Plums. It is hardy in northern Illinois, and is popular in the central and some of the southern States.

13. The Chickasaw Plums are characterised by

slender, spreading and zigzag growth, comparatively small lanceolate or oblong-lanceolate conduplicate (or trough-like) leaves which are shining and closely and finely serrate, and by an early red or yellow soft stringy fleshed fruit which is more or less dotted, and a clinging broad roughish stone. In a wild state, the Chickasaw Plum is usually thorny and the thorn persists in a few cultivated varieties. The species grows wild from southern Delaware to Florida and westward to Kansas and Texas.

14. The most important varieties of Chickasaw Plums are Caddo Chief, Jennie Lucas, Lone Star Newman, Pottawattamie, Robinson, and Yellow Transparent. The Newman is the most generally known and this hardy in central New York. The Chickasaws are best adapted to the central and southern States. Many of them are not hardy in Michigan and New York.

15. The Marianna and De Caradeuc constitute a distinct class or group of Plums, and the Hattie is evidently allied to them. They are to be associated with the myrobalan Plum. De Caradeuc is probably myrobalan, and Marianna appears to be a hybrid. The history of the myrobalan is obscure, but it is clearly of Old World origin. It is largely used as a stock, and there are varieties grown for fruit.

16. The Marianna has assumed great importance because of its use as a stock for many Plums and allied fruits. Its merits are the ease with which it grows from cuttings, and the facility with which it unites with other species.

17. The beach Plum or Prunus maritima, of the Atlantic Coast, is in cultivation both for ornament and for fruit. As a fruit plant it is represented only in Bassett's Americana, a fruit of little value.

18. The Pacific Wild Plum, Prunus subcordata, was introduced to cultivation in 1889 as a possible fruit plant, but its merits are not yet determined.

19. Hybrids appear to occur between the Wild Goose and the Peach. J. W. Kerr, of Maryland, has produced such a hybrid, and the so-called Blackman Plum appears to be another.

20. Some varieties of native Plums, notably Wild Goose and Miner, are not fertile with themselves, and this fact has undoubtedly retarded the progress of native Plum culture. This infertility is due to comparative impotency of pollen upon flowers of the same variety rather than to any structural imperfection in the flowers themselves.

21. This infertility is avoided by mixed planting, by means of which foreign pollen is supplied to the impotent varieties. Care should be taken to associate varieties which bloom at the same time, and with this precaution the ordinary mixed or alternate planting, at usual distances, appears to be successful.

22. The best stocks for native Plums are probably seedlings of the same species, although they grow well, as a rule, upon related species and even upon the Peach in some instances. Perhaps the most popular stock at present is the Marianna, because of its habit of growing readily from cuttings, and so far it appears to have given satisfaction. The Chickasaw and Hortulana types succeed well upon the Peach. Chickasaw stocks sprout so badly that they are in disfavour. In the north, Americana stocks are popular for all the varieties which succeed there.

23. As to the best varieties, there is great difference of opinion. In the northernmost States the Americana class is most reliable, although some of the Hortulanas succeed. For the south the Chickasaws are numerous and popular. The Hortulanas occupy an intermediate position. The merits of particular varieties must be gleaned from the tables given in the body of the report.

24. The native Plums are in most regions comparatively free from insect abuses. Although there are no curculio-proof Plums, the curculio does less damage to the native varieties than to the common or Domestica types.

25. Among diseases, a mysterious blight and the peach-rosette are prominent in the south. A fruit-scab and fruit-spot also occur. The septoria, or shot-hole fungus—which causes the serious shedding of leaves in the Domestica Plums—does little damage upon the natives. The black-knot, brown fruit-rot, and plum-pockets are other diseases which the grower will be likely to meet.

26. As a whole, the native plum industry has made astonishing progress and it has already assumed large proportions. It is certain to occupy a large place in future American horticulture.

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calender.

THE CATTLEYA HOUSE.—The growths on the most forward plants of C. Trianæ are fast maturing, and should be placed where they can get as much light and air as possible or they will not flower satisfactorily. Care should be taken when syringing not to allow the water to lodge in the young growths or the result might be disastrous. The same remark also applies to C. Bowringiana which makes thick fleshy growths, at the same time they should be copiously watered at the root, until the growths are fully made up. The shading of this house should not be allowed to remain down a minute longer than is absolutely necessary, for with an absence of anything like bright summer weather the growths are likely to be somewhat drawn and weak, and as a natural consequence the spikes also will not be atisfactory. Any plants of C. gigas that have not been repotted should be seen to at once or they will have little chance of becoming established before the autumn is upon us. They will require but very little water after being repotted, as they seem to do best (at least with us) when kept rather on the dry side.

MILTONIA SPECTABILIS and M. Morrelliana are just now coming into flower in the Cattleya house. In a former Calender I remarked that they seem to flourish best when grown in baskets suspended close to the glass, and if any doubt existed in our minds as to the best way to grow and flower this lovely species, it is now entirely dispelled, for of those grown in pots and standing on the stage we have only two plants flowering, whilst on those grown in baskets and suspended about six feet above them we have nearly forty spikes, one plant in a 6-in. basket having six spikes. I merely mention this because it is not generally found growing well. Of course when in the best of health it has a somewhat yellow and sickly appearance, which is entirely natural to this species.

PLEIONES.—These are making up their growths very fast and will soon require removing to more suitable quarters to insure a good rest, nothing is better than a vinery to rest these beautiful dwarf-growing Orchids in, but in removing them from the Orchid house proper, they must still be tended with care for if allowed to shrivel the flowers will lack that size and colour which has procured this Crocus-like Orchid a foremost position with amateur growers. The first to flower is P. maculata, which is followed by P. Lagenaria, these two are the most generally found in collections, but they might with advantage be augmented by adding P. humilis, P. præcox and P. præcox Wallichiana.

TEMPERATURES.—The minimum for the East India House should be 75°; Cattleya House 65°; and the Cool House 50°.—*C.*

Cypripedium Aylingi.

THIS beautiful and light-coloured hybrid will evidently become popular. It is flowering now in the nursery of Messrs. J. Veitch & Sons, Chelsea, and bears two flowers on a spike. The upper sepal is ovate, white, and lined with purple dots. The petals are oblong, of moderate width, declinate, and white, lined with purple dots. The lip is white and the staminode is reticulate with green. As will be seen it has a close affinity with C. niveum, which was indeed the female parent, while the pollen parent was C. ciliolare. The latter has given the progeny the greater size which it possesses compared with C. niveum; and the prevailing light colour as well as the shape of the different parts is to some considerable extent due to the latter.

Epidendrum dichromum amabile.

AMONGST Epidendrums with medium-sized flowers, few are prettier than the subject of this note. The pseudo-bulbs are ovoid, almost like those of an Odontoglossum or Oncidium, but less compressed and have a few large pale-coloured scales at the base instead of leaves; they are terminated, however, by two lanceolate, leathery leaves. The inflorescence is a terminal drooping or arching raceme. The narrow oblong sepals are tinted with pink and the petals are oval and several shades darker, being in fact a light rose. The three lobed lip is dark purple with a golden-yellow blotch at the base of all the three lobes, while the column is white. There is a coloured figure of it in the *Orchid Album, pl.* 452.

Peristeria Lindeni.

THE genus was founded on P. elata in 1831, and others have been introduced from time to time till the number now reaches nine. Apparently none of them are likely to become so popular as P. elata, although some of them are certainly very striking, including that under notice. The leaves are long and lanceolate, reaching high above the flowers, which are borne in a short pendulous raceme of about seven to ten blooms. The latter are perfectly globular, and that, taken with their curious colour, gives them a striking appearance. The ground colour of the sepals and petals is light green suffused with dull purple and spotted all over with deep purple. The margin of the lip is purple, and the under-surface is striated with that hue on a pale ground. There is a coloured illustration of it in the *Lindenia pl.* 328.

Lælio-cattleya Digbyana-Mossiæ.

THIS bigeneric hybrid is now about ten years old, but must have lived the greater part of that time without its cumbrous name, seeing that it was exhibited for the first time by its raisers, Messrs. J. Veitch & Son, in May, 1889, when it received a First-class Certificate. The sepals and petals are soft rosy lilac and a similar band surrounds the outer margin of the lip, which is notable for its fringes; the throat of the lip is orange yellow, and this is surrounded by a zone of creamy white; a purple stripe also runs down the middle of the lip. Hitherto only one or two flowers have been produced on a pseudo-bulb. There is a coloured illustration of it in the *Orchid Album, pl.* 449.

Dendrobium atroviolaceum.

THE New Guinea Orchids are getting more common in collections. That under notice is most noticeable from the rich and unusual colour of its lip, especially the lateral lobes which are of a deep violet, as expressed by the specific name, and they are also spotted with the same hue on a green ground externally; the middle lobe is striped or lined with violet. On the contrary, the lanceolate sepals and obovate petals are all pale yellow, spotted with black. Like all the other Dendrobes from the same region it requires the temperature of the East Indian house. We noted it in the nursery of Messrs. J. Veitch & Sons, Chelsea.

Dendrobium lineale.

A PLANT of this species commenced to bloom about fourteen days before the Temple Show, and then had four long racemes of bloom; two of the latter were still in good condition when we saw the plant the other week in the nursery of Messrs. J. Veitch & Sons, Chelsea. The flowers individually are not particularly showy, but are more noticeable in the aggregate, and their durability must tell in their favour. The sepals are oblong, the petals linear, and all are white and more or less twisted. The lip is pale purple and striped with darker lines. The stems it is true are rather tall, but when stood in the back ground amongst other Orchids, they require all their length to allow the drooping racemes of flowers to be seen.

Cypripedium Godefroyæ leucochilum.

THE ordinary and typical form of this Cypripedium is well known to be finely spotted all over with purple on a white ground. The variety under notice has a pure white lip, hence the application of the varietal name. The upper sepal and the petals are richly spotted with dark purple or crimson-purple on a white ground. The colours are not suffused or blended with one another as sometimes happens, but the spotting stands out clear and distinct. Altogether it may be considered a choice and desirable form of the species. It turned up in the collection of Mr. P. McArthur, London Nursery, 4, Maida Vale.

WHAT TO DO IN THE GARDEN.

Gardenias.—The plants being grown on for flowering should be thoroughly syringed twice a day to keep down vermin. At night the sashes may be left off altogether, so long as the weather remains mild. This will keep the plants in a resting condition and serve to thoroughly ripen the wood and plump up the buds that will develop into bloom later on.

Linum Trigynum and L. tetragynum.—Both of these are liable to the attacks of red spider, especially the former, and to obviate this the plants

should be heavily syringed twice a day, taking care to thoroughly wet the under-surface. Shade from bright sunshine, during the middle of the day, if there is bright sunshine, and the atmosphere will thus be prevented from getting too parched and dry.

Hymenocallis ovata.—This is better known as Pancratium fragrans. As the buds are about to expand the plants may be taken into a cooler house with an airy, dry atmosphere, and the flowers will last all the longer in fine condition.

Gloxinias.—Although Gloxinias are perennial, tubers only one year old generally give the most satisfactory results. The seedlings of this year should therefore be examined from time to time as they come into bloom, and marked so that the worthless kinds may be thrown away after flowering. While in bloom the house may be kept cooler and more airy, whilst avoiding cold draughts.

Lomaria gibba.—Seedlings grow with great vigour if properly attended to; they should therefore be attended to in the matter of potting when they require it and before they get pot bound, otherwise they are liable to loose their fronds wholesale if neglected in the matter of watering.

Browalia elata.—Some of the batch of seedlings grown on in pots for the decoration of the conservatory, if pinched back some time before they come into bloom, will throw out side shoots and come into bloom much later than those not so treated.

Eupatorium Weinmannianum.—If very dwarf plants of this are required for flowering in the conservatory in spring, cuttings from the tips of the shoots of larger plants may be taken off now and inserted in light but rich soil in 32 sized pots in which they may be flowered. After being inserted they may be placed in a cold frame and kept close till they form roots.

China Asters.—Those in the open ground are now fast coming into bloom, so that if any are required for conservatory work, the best formed plants and those well set with good blooms may be lifted and potted up. If the ground is at all dry, it should receive a good soaking of water some hours previously to the operation of lifting. After they are potted transfer them to a cold frame for a few days where they may be kept close and shaded if necessary during bright sunshine till the roots have taken to the fresh soil.

Vine Borders.—Now is the time to renew the borders where such is necessary. Where both inside and outside borders exist, only one of them should be renewed at present, deferring the other till next year at this time. Before commencing to take out the old soil have the fresh compost in readiness, consisting of good turfy loam, old mortar and a good sprinkling of half inch bones. Burnt clay or ballast is a good thing for mixing with the soil to improve its mechanical condition. Shade the house while the operation is being effected and for some days afterwards, and until the new soil has replaced the old. the roots should be covered by a damp mat.

Peaches.—The trees on outside walls should be frequently gone over so as to gather the fruits before they become dead ripe. Put some tissue paper over the shelves of the fruit room and here lay the fruits as they are gathered. They will keep for a week or ten days when so treated especially if care has been taken in handling them. Trees in pots under glass and from which the fruits have been gathered, may be repotted if in want of it. The operation will tend to check luxuriant growth, which on young trees is often greater than is desirable for fruit bearing.

Figs in pots.—Care will have to be exercised in the damping down of Fig houses after this time, more especially should damp and dull weather prevail, otherwise the fruit will be liable to damp off. The damping down should be limited to the pathways and other surfaces where moisture may be distributed. In the event of bad weather fire heat will have to be employed, so that ventilation may be given to maintain a dry, airy atmosphere. The treatment need only be continued while the plants continue to bear.

Fruits on walls.—Currants, Gooseberries, Morello Cherries and other soft fruits of that kind on north walls must now be protected with netting, if not already done, to keep the birds from destroying them. Previous to this the summer growths may be pruned back to 6 in. in length to allow the nets to lie moderately close to the wall but yet at a sufficient distance to keep the birds from getting at the fruit.

Strawberries.—A piece of ground for the new plantation should now be got in readiness by trenching it two feet deep and incorporating with it plenty of manure. The ground should afterwards be trodden firm, especially if in any way of a light character, and furrows drawn out at 2½ ft. apart where the strawberry runners are to be planted. The latter having been layered in pots at the proper time should now be in good condition and making nice stocky crowns.

QUESTIONS AND ANSWERS.

**** Correspondents are requested, in order to avoid delay, to address all communications to "THE EDITOR" or "THE PUBLISHER," and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa, London."*

NAMES OF PLANTS.—*A. W. R.*: Monarda didyma; 2, Eryngium amethystinum; 3, Sedum spurium splendens; 4, Veronica incana; 5, Lathyrus sylvestris platyphyllos. *A. Ferguson*: 1, Alonsoa incisa; 2, Celsia arcturus; 3, Catalpa bignonioides. *F. L.*: 1, Liquidambar Styraciflua; 2, Acer dasycarpum; 3, Hypericum oblongum; 4, Kitaibelia vitifolia; 5, Tilia petiolaris; 6, Spiræa sorbifolia. *C. B. G.*: Fuchsia alba coccinea. *T. Brand*: 1, Genista ætnensis; 2. Pyrus Aria.

DAHLIA SPORT.—*C. B. G.*: As in other large classes of garden plants whose natures have been much altered by cross-breeding and cultivation, we find varieties of Dahlia are very much given to sporting. For instance, amongst the Pompon Dahlias to which your variety evidently belongs, there are several with crimson and white tipped florets, that sometimes show flower-heads that are wholly crimson or purple, as the case may be, or half the head may be of one colour and the other different. We do not remember a case, however, exactly like the flower-head you send us, having three or four of the outer rows of florets clear yellow and all the centre pure white. The behaviour has not yet been accounted for otherwise than by the unmixing of characters which have been mixed by crossing. We think you are mistaken in supposing the variety to belong to the large section termed show or fancy Dahlias.

BUDDING ROSES.—*Wm. Fitzjohn*: July and August to the middle of September is the time when the bark rises freely, dependent to some extent upon the state of the weather as to dryness or moisture. The bark rises more freely in showery weather when the plants are making rapid progress. Buds inserted in July and the early part of August at least, will generally start into growth the same season. By budding late in August and the early part of September the buds will take and remain dormant till the following spring. In this condition they are less liable to be injured or killed by frost than if they had made a young and sappy growth before winter. Insert the buds as near the roots as possible in the case of dwarfs, by pulling away some of the soil to get at the base of the stem. After the bud has taken it may be lightly covered with soil which will afford it protection in winter. The stocks may be left at full length, unless they are growing very vigorously, and that will assist in keeping the inserted buds in a resting state. In spring they may be partly headed back to encourage the buds to start, and when this has taken place the stems of the stock may be disbudded gradually and finally cut clean back to the insertion of the buds.

BEGONIAS FOR BEDDING.—*H.*: When you obtained the tubers it would have been good practice to put them in small pots and stand them in a greenhouse or better still in a frame in a sunny position. By keeping the frame close for a time the tubers would have started into growth much more rapidly than they did in the open ground. The conditions favourable to rapid progress in the open ground are a rather warm and showery month of June and warm weather in July and August which may be dry. We have, however, seen them do well in a wet season. The past June was altogether too dry for rapid progress, hence the advisability of starting them in pots even if they should have been late in being planted out. The ground in which you intend to bed them out should be dug up roughly to the action of frost in autumn so that the soil may get pulverised. You could also improve its staple by adding plenty of decayed leaves and road scrapings. Plenty of cow manure would also act in the same way, and this may be dug into the soil in autumn in a rank condition, which will improve the mechanical state of the soil as well as be ready to feed the Begonias by the time they commence to grow in it. Never despair, good culture will overcome all difficulties by persevering with it.

CATERPILLARS ON PEAS.—*Geo. French*: The green caterpillars you speak of as infesting the buds and destroying the leaves and flowers of your Peas are most likely those of the Silver Y. Moth. It is not the only marauder that behaves in that way, but it is one of the most common. When about half grown the caterpillars become grey and soon thereafter deep brown. They are very voracious, and destroy a large quantity both of leaves and flowers before they become full fed. Nor is this all, for the sparrows tear the buds and young Peas to pieces in order to get at the caterpillars. As the flowers and young Pea pods are dropped upon the ground, the sparrows are evidently after the tender young caterpillars. Owing to the way in which they hide between the leaves of the buds, it is difficult to apply any insecticide that would kill the insects, and tedious though it may seem, the best plan seems to be to examine the buds and destroy the pests by hand-picking them. A few grubs do a great amount of harm, and everyone that is removed will save a great deal of mischief.

BARBERRY SEEDS.—*Alex. Hadley*: If the quantity of berries you collect is moderate, you could squeeze them by hand in a pail of water until the berries are thoroughly broken and the juice squeezed out. The water may then be poured off and the seeds allowed to get dry, after which they may be rubbed to crumble the skins and the seeds extracted by winnowing or sifting. In large quantities they may be laid in alternate layers with sand, and allowed to lie till spring, when they may be sown as they will mostly germinate during the coming summer.

COMMUNICATIONS RECEIVED.—W. A. T.—W. C.—M. & Co.—W. D.—R. B.—D. P. L.—J. W. W.—A. H.—C. H. B.—C. T.—F. F.—P. L.—X.—J. C.

TRADE CATALOGUES RECEIVED.

W. CUTBUSH & SONS, Highgate Nurseries, N.—Hyacinths, Tulips, and other Bulbous Roots.

DICKSONS & Co., 1, Waterloo Place, Edinburgh.—Dutch and other Flower Roots.

DICKSON, BROWN, & TAIT, 43, 45, Corporation Street, Manchester.—Autumn Catalogue of Flowering Bulbs.

J. R PEARSON & SONS, Chilwell Nurseries, Nottingham.—Dutch and other Flowering Roots.

LITTLE & BALLANTYNE, Carlisle.—Bulb Catalogue for 1892.

VILMORIN, ANDRIEUX & Co., 4. Quai de la Mégisserie, Paris.—Bulbous Plants, Flower Seeds, and Strawberries.

ANT. ROOZEN & SON, Overveen, near Haarlem.—Dutch and Cape Bulbs, &c.

LONDON SEED TRADE.

August 9th, 1892.

MESSRS. HURST & SON, 152 Houndsditch, and 39, Seed Market, Mark Lane, report a moderate demand for Trifolium Incarnatum at unchanged rates. New English Italian also meets a steady sale. New Rape seed is of good quality, and offered at moderate prices.

COVENT GARDEN MARKET.

August 9th.

FRUIT.—AVERAGE WHOLESALE PRICES

	s. d	s. d.		s. d.	s d
Black Currants ½ sve	4 0	4 3	Melons..... each	1 6	2 0
Red Currants ...½ sve.	2 6	3 0	Pine apples.		
Grapes..... per lb.	1 0	2 0	—St. Michael's, each	2 6	6 0
Peaches... per dozen	2 0	8 0	Strawberries per lb.	0 3	0 9

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d
ArtichokesGlobe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Beans, French, perlb.	0 9		Lettuces ...per dozen	1 6	2 0
Beet..... per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages ... per doz.	1 6	2 6	Onions.....per bunch	0 4	0 6
Carrots ... per bunch	0 6		Parsley ... per bunch	0 6	
Cauliflowers, Eng.dz.	3 0	6 0	Radishes... per dozen	1 6	
Celery.....per bundle	2 6		Smallsalading,punnet	0 4	
Cucumbers .....each	0 4	0 9	Spinach, per strike ...	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	1 0
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d
Asters .....per doz.	4 0	6 0	Ivy Pelargoniums, per doz. pots	4 0	6 0
Balsams .....per doz.	3 0	6 0	Lilium Harrisii, doz.	12 0	24 0
Begonias ...per doz.	6 0	12 0	Lilium lancifolium...	12 0	24 0
Cyperus .....per doz.	4 0	12 0	Lilium Auratum.....	18 0	36 0
Dracæna term., doz.	24 0	36 0	Lobelia, ...per doz.	2 6	4 0
Dracæna viridis, doz.	9 0	18 0	Marguerites, per doz.	6 0	12 0
Evergreens, invar. doz	6 0	24 0	Mignonette, per doz.	4 0	6 0
Ferns, invar., per doz.	4 0	18 0	Palms in variety, each	2 6	10 0
Ferns, small, per 100	6 0	10 0	Palms, Specimen ...	15 0	63 0
Foliage Plants, doz.	12 0	60 0	Pelargoniums, per doz.	6 0	12 0
Fuchsia, ...per doz.	3 0	6 0	—scarlet .....per doz.	2 0	4 0
Heliotrope, per doz.	4 0	6 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d		s. d.	s. d
Arum Lilies, 12 blms.	2 0	4 0	Mignonette... 12 bun.	1 0	3 0
Asters.....doz. bun.	3 0	6 0	Pelargoniums, 12 sps.	0 6	0 9
— French .....bun.	0 6	1 3	— scarlet.....12 bchs.	3 0	4 0
Bouvardias, per bun.	0 6	1 0	Primula, double, bun.	0 6	0 9
Carnations, 12 blooms	1 0	3 0	Pinks .....doz. buns.	2 0	4 0
Carnations, doz. bun.	4 0	6 0	Pansies, doz. bchs ...	1 0	2 0
Cornflower doz bnchs	1 6	3 0	Pyrethrum doz bnchs	2 0	4 0
Encharis ...per doz.	2 0	4 0	Orchid Bloom in var. per bloom, from	0 2	0 8
Gardenias 12 blooms	1 6	4 0	Roses, doz bunches	2 0	6 0
Gladioli...doz. buns.	6 0	12 0	Roses, yellow, dozen	2 0	4 0
—..... doz. spikes	1 0	2 0	— Red..... doz. blms.	1 0	2 0
Heliotropes, 12 sprays	0 3	0 6	— Saffrano...per doz.	1 0	1 6
Lilium Harrisii, doz. blooms	1 6	3 0	— Tea ..... per dozen	0 6	2 0
Liliums var., dz. blms.	1 0	3 0	Stephanotis, dz. sps.	2 0	4 0
Maidenhair Fern, 12 bs.	4 0	6 0	Stocks .....doz. bun.	3 0	6 0
Marguerites, 12 bun.	2 0	4 0	Sweet Peas, dz. bns.	2 0	4 0
Myosotis or Forget-me-not, doz. bnchs.	2 0	4 0	Sweet Sultan, dz. bn.	2 0	4 0
			Tuberoses, per doz	0 3½	0 6

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FLOWER SHOWS, &c., 1892.

[The Editor will be greatly obliged if Secretaries of societies will communicate to him the dates of their exhibitions as soon as fixed.]

AUGUST.

16.—Clay Cross Flower Show.
17.—Shrewsbury Flower Show (2 days).
17.—Cardiff Flower Show (2 days).
18.—Aberdeen Flower Show (3 days).
19.—Exeter Flower Show.
20.—National Co-operative Flower Show.
23.—Royal Horticultural Society: Begonia Conference, etc., at Chiswick (2 days).
23.—West Malvern and Mathon Flower Show.
24.—Kingswood, Gloucester, Flower Show.
25.—Droitwich Flower Show.
25.—Kenilworth Flower Show.
25.—Leighton Buzzard Flower Show.
27.—Morley and District Paxton Society's Show.
29.—Cresswell Flower Show.
29.—Sheffield Flower Show (2 days).
30.—Brighton and Sussex "New" Horticultural Society's Show (2 days).
30.—Harrogate Horse and Horticultural Show.
31.—Bath Floral Fête (2 days).
31.—Bishop Stortford Flower Show.

SEPTEMBER.

1.—Oxford Flower Show.
1.—Stirling Flower Show (2 days).
2.—National Dahlia Show at the Crystal Palace (2 days).
6.—Royal Horticultural Society: Committee Meetings at Drill Hall.
7.—National Chrysanthemum Society's Show at Royal Aquarium (2 days).
7.—Royal Caledonian Horticultural Society (2 days)
9.—Autumn Flower Show at Earl's Court (2 days).
10.—Leicester Early Chrysanthemum and Dahlia Show.
20.—Royal Horticultural Society: Committee Meetings at Drill Hall.
28.—National Chrysanthemum Society: Meeting of Floral Committee.

OCTOBER.

4.—Royal Horticultural Society: Committee Meetings at Drill Hall.
5.—Fruit Show at Earl's Court (3 days).
12.—National Chrysanthemum Society's Show at the Royal Aquarium (3 days).
18.—Royal Horticultural Society: Committee Meetings at Drill Hall.
25.—Fruit Show at Earl's Court (3 days).
26.—National Chrysanthemum Society: Meeting of Floral Committee.
27.—Alverstoke and Gosport Chrysanthemum Show (2 days).

NOVEMBER.

1.—Royal Horticultural Society: Committee Meetings at Drill Hall.
1.—Kent County Chrysanthemum Show (2 days).
1.—Brixton Chrysanthemum Show (2 days).
1.—Barnstaple Chrysanthemum Show (2 days).
1.—Brighton and Hove Chrysanthemum Show (2 days).
2.—Ascot Chrysanthemum Show (2 days).
2.—Ealing Chrysanthemum Show (2 days).
2.—Portsmouth Chrysanthemum Show (3 days).
2.—Croydon Chrysanthemum Show (2 days).
3.—Steyning Chrysanthemum Show.
4.—Crystal Palace Chrysanthemum Show (2 days).
4.—Bolton Chrysanthemum Show (2 days).
8.—National Chrysanthemum Society at Royal Aquarium (3 days).
8.—Kingston and Surbiton Chrysanthemum Show (2 days).
8.—Enfield Chrysanthemum Show (2 days).
8.—Sevenoaks and West Kent Chrysanthemum Show (2 days).
8.—Batley Chrysanthemum Show (2 days).
9.—Bath Chrysanthemum Show (2 days).
9.—Birmingham Chrysanthemum Show (2 days).
9.—South Shields Chrysanthemum Show (2 days).
9.—Cardiff Chrysanthemum Show (2 days).
9.—Bournemouth Chrysanthemum Show (2 days).
9.—Hornsey Chrysanthemum Show (2 days).
10.—Chelmsford Chrysanthemum Show.
11.—Leicester Chrysanthemum Show (2 days).
11.—Sheffield Chrysanthemum Show (2 days).
11.—Eccles and Patricroft Chrysanthemum Show (2 days).
11.—Wellingborough Chrysanthemum Show (2 days).
11.—Dundee Chrysanthemum Show.
11.—Bradford and District Chrysanthemum Show (2 days).
15.—Royal Horticultural Society: Committee Meetings at Drill Hall.
15.—Liverpool Chrysanthemum Show (2 days).
15.—Plymouth Chrysanthemum Show (2 days).
16.—Hull Chrysanthemum Show (2 days).
16.—Rugby Chrysanthemum Show (2 days).
17.—Edinburgh Chrysanthemum Show (3 days).
18.—Chorley Chrysanthemum Society (2 days).
18.—Stockport Chrysanthemum Show (2 days).
22.—Dalkey Chrysanthemum Show.
24.—National Chrysanthemum Society: Meeting of Floral Committee.

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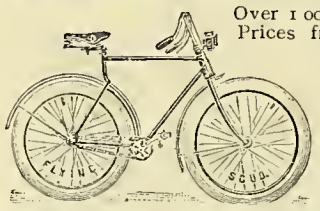

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The Gardening World.

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12 ft.	8 ft.	8 ft.	5 ft. to eaves	6 0 0	8 0 0
15 ft.	10 ft.	8 ft. 6	6 ft. to eaves	8 10 0	12 0 0
20 ft.	10 ft.	9 ft.	5 ft. 6 to eaves	12 0 0	16 0 0
25 ft.	10 ft.	9 ft.	5 ft. 6 to eaves	17 0 0	22 0 0
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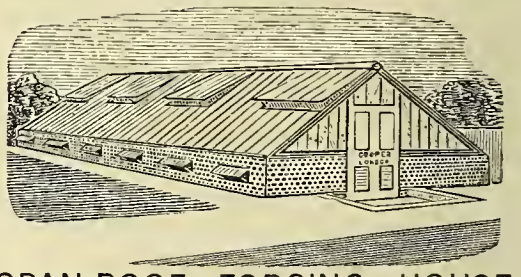

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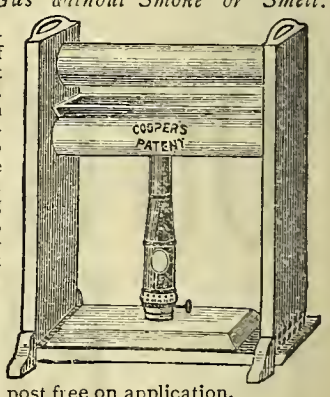

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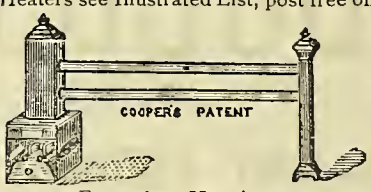

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For Index to Contents see page 810.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Aug. 22.—Trade Sale of Dutch Bulbs at Protheroe & Morris' Rooms.
TUESDAY, Aug 23.—Royal Horticultural Society: Begonia Conference, &c., at Chiswick (2 days).
West Malvern and Mathon Flower Show.
WEDNESDAY, Aug. 24.—Kingswood, Gloucester, Flower Show.
Newcastle-upon-Tyne Flower Show (3 days).
THURSDAY, Aug. 25.—Droitwich Flower Show.
Kenilworth Flower Show.
Leighton Buzzard Flower Show.
Trade Sale of Dutch Bulbs at Protheroe & Morris' Rooms.
FRIDAY, Aug. 26.—Great Fruit Show at Earl's Court (2 days).
Sandy Flower Show.
Orchid Sale at Messrs. Protheroe & Morris' Rooms.
SATURDAY, Aug. 27.—Morley and District Paxton Society's Show.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, AUGUST 20th, 1892.

NEXT WEEK'S EVENTS.—Should any of our gardening friends from the country desire to spend at once a profitable as well as an enjoyable week in London, they can hardly fix upon a better time than the coming week affords. To begin with, on Tuesday next there is the show of Begonias, Apricots, and Plums, at Chiswick, with Conferences on that and the following day. Apart from the fact that grand displays of the Begonia in all its varied forms may be looked for, there are some prizes also offered to amateur growers, which it is hoped will have a satisfactory result.

Prizes also for Plums and Apricots in seven classes should help to interest the gardeners too, and thus bring many from a distance to try their fortune in these competitions. The Conferences are limited to Begonias on Tuesday, and Fruits on Wednesday, and these should attract large audiences. The gardens at Chiswick are also at their best just now; and it is anticipated that there will be a good gathering of horticulturists from the Continent.

Then on Friday the ball opens at the Earl's Court International Exhibition, with what we hope may prove to be a grand Fruit Show. The schedule of classes and prizes, both extensive and liberal, has been widely circulated and should find a splendid response. Really we expect to find the exhibition the Fruit Show of the season. Then on the same day, or the exhibition will be continued

over the Saturday, there will be what we hope to see a genuine success, a great Gardeners' Dinner at Earl's Court, and at a price so moderate as to come easily within the reach of all. The dinner, at which that veteran horticulturist, Mr. W. Thomson, of Clovenfords, will preside, should be essentially an interesting social function, for all may feel pleasure in attending a gathering that will be, it is hoped intimately associated with the gardening fraternity. Of course there are numerous other attractions at Earl's Court, so that the opportunity for visitors from the country to spend a lively week in London is one that can hardly be other than largely availed of.

THE VEITCH FIRM.—Any acts in celebration of the interesting event, which, as mentioned last week, just recently occurred to Mr. Harry Veitch and his esteemed wife, than those which are recorded, and more honourable on both sides could hardly have been conceived. Feeling deeply grateful for the happiness and prosperity which has followed upon 25 years of wedded life, Mr. and Mrs. Veitch munificently exhibited it by their generous gifts to our Horticultural Charities. On the other hand the numerous friends of Mr. Veitch and associates of the firm found most fitting expression of their congratulations and kindly sentiments in various liberal methods also.

We cannot doubt but that universally there must be a deep sense of gratification amongst horticulturists that we have in our trade a house or firm which shows at once such high benevolence, and secures such high and wide spread recognition. The honours done to Mr. Veitch are honours given to horticulture.

We are proud of the firm, of its prosperity, of its popularity, and of its high status. We are proud to know that we have in horticulture many firms, or houses, that would do credit to any trade or occupation in the kingdom. They are legion. They conduct trade honourably; they aspire to do the best in the best way, and with the best of products. If in no inconsiderable way the house of Veitch leads in this trade connection it is because it has attained to that high position by business enterprise, high integrity, and earnest perseverance in securing all that is good for the benefit of its patrons.

Something perhaps is due also to geographical position, for the head of the London trade necessarily becomes a great leader in the national trade of horticulture. Happily so much of what is said of the famous Chelsea firm may be said most truly also of many other houses; and thankful we are that gardening can produce such distinguished traders.

FUCHSIAS.—We made last week a passing reference to the paper prepared by that veteran florist Mr. G. Fry, and read before the fellows of the Royal Horticultural Society at its recent meeting. The Fuchsia was the subject, and very fully was it dealt with; yet, oddly enough, in enumerating the various persons who had been associated with the raising of new varieties, one who has made so prominent a mark as Mr. James Lye was ignored. Now, from either an ordinary decorative or exhibition aspect, few raisers have done so much for the Fuchsia as has that esteemed Wiltshire gardener.

As a first-class grower of specimens, for he has produced some of the finest ever seen, Mr. Lye found that the range of varieties that would travel well to and from shows was limited. Many were very fine and beautiful when in bloom, yet the flowers would, all the same, fall plentifully during transit, and the plants would wear at the end of the journey a most disappointing appearance. Their glory had indeed departed. To raise, therefore, a class of Fuchsias, which had a good habit of growth were free bloomers, and would carry their flowers well through a journey became Mr. Lye's object, and all who have grown his beautiful Fuchsias must admit that well has he carried it out. Our reference to the charming collection of Fuchsias now blooming at Chiswick showed that very many of these were of Mr. Lye's creation. The absence of plants at the recent meeting was much to be deplored, especially that some very fair prizes were offered to amateurs to bring them.

It would have been far wiser to have offered some one or two trade growers a few pounds to pay the expenses incidental to bringing to the meeting good representative collections, and we hope, as far as possible, that course will next year be taken, if papers are still to be read, and illustrative products are required. We should very much like to see a revival of experimental Fuchsia culture in pots. Certainly the Fuchsia has become a popular summer bedding plant.

MIGNONETTE. — There is perhaps no flower that gives to us in an unpretentious way such strong yet delicious fragrance as does Mignonette. Masses of this plant in full bloom may not be, so far as colour is concerned, attractive, and yet few flowers are held in higher esteem, few are in gardens more grateful, and if colour be wanting, at least on a bed of Mignonette there is no lack of life and motion, for the insects which feed so greedily on the honey concentrated in the flowers give an air of vivacity to the mass that perhaps no other plant can produce.

It would seem as if there were some people, who should know better, who yet have little knowledge of the fine varieties that are in existence. A gardener, whose rural life may perhaps excuse ignorance, placed before the Floral Committee of the Royal Horticultural Society at its recent meeting a bunch of the giant red Pyramidal Mignonette as a new variety. It was but identical with what has been grown for many years in the market trade, and may be seen in big masses in some of our seed grounds quite as full in every respect as was the sample referred to. It is one of the finest of pot varieties and blooms profusely. Those who like a spreading white flowered form get what they desire in Parson's giant white, a grand variety for spreading and blooming. It also may be made to produce large specimen plants. Mr. Molyneux grows of it every year very fine standards in pots from seedlings from spring sowing. These when properly treated are very attractive plants.

The yellow flowered variety Golden Queen whilst not robust growing, is when of a good strain, a very pleasing variety. The three named are probably the best, but our seedsmen are ever on the alert to secure either distinct new varieties or else such selections as shall eventuate in improvement and distinctness. Happily the Mignonette is everybody's flower. It comes readily enough from seed, and whether in pots or in the open ground can be had as fine in the cottage garden as anywhere else.

The Hampton Court Vine.—The great Vine at Hampton Court, which is the largest in England, and is about 125 years old, has done very well this year. It bears nearly 1,200 bunches of ripe Grapes. The bunches are of a good size, though not so large as those of many a younger Vine.

A large Holly.—A correspondent of *The Surveyor* gives the dimensions of the stem of a Holly standing near to Mr. Colman's mansion at Gatton Park, Surrey, as exceeding 77 in. in girth at 3 ft. from the ground. The soil is gravel over a substratum of chalk. Do any of our readers know of larger stems than this?

A Cheap Filter.—Mr. J. Carter Bell, the county analyst of Cheshire, draws attention in a recent report to a simple form of filter which deserves, says *The Surveyor*, for its cheapness and its efficacy, to be widely known. The suggestion arose out of analyses of Cheshire water, which, Mr. Bell asserts, was in some cases "not equal in purity to the effluent from the Salford sewage." After this it need not be matter for wonderment that disease and death closely track the footsteps of the water-drinker. Mr. Bell's filter is simply a flower-pot, some sand, and some magnetic oxide of iron or polarite, which can be bought for about 1d. per pound. Cheap and simple as this filter is, Mr. Bell has proved, by experiments on the foul waters of the Irwell, Irk and Medlock, that the purification it effects is something like 90 per cent.

New Worcester Hops.—The first pocket of this year's Worcester Hops passed the public scales on Friday, the 12th inst. They were grown by Mr. H. T. Taylor, of Showle Court, Ledbury, and purchased by Messrs. Edward Webb & Sons, Hop and Seed Merchants, Wordsley, Stourbridge, who sold them to Mr. Benjamin Elwell, of the Delph Brewery, Brierley Hill, at £10 per cwt.

Employees' Pic-Nic.—The employees of Messrs. Laird & Sinclair, Dundee, had their annual pic-nic on the 10th inst. The place chosen was the Den of Airlie, and between fifty and sixty left Dundee in brakes. After a pleasant drive the party arrived about mid-day. Dinner was served, and then the younger members of the party engaged in a variety of games, while the others strolled about the beautiful walks. A start was made for home about six o'clock, and Dundee was safely reached after spending a most enjoyable day. Mr. David Smith proposed a hearty vote of thanks to Messrs. Laird & Sinclair, who had contributed handsomely to the expenses of the excursion. Mr. J. W. Laird, in replying, said it afforded the firm much pleasure to assist in making the holiday a pleasant one.

Exhibition and Conference on Begonias, British Ferns, Apricots, and Plums.—On Tuesday and Wednesday next, August 23rd and 24th, the gardens of the Royal Horticultural Society at Chiswick will be enlivened by a great exhibition of Begonias, Apricots and Plums, in addition to which growers of British Ferns will contribute specimens of our native Cryptogams by way of showing what beautiful forms and varieties may be obtained by patient cultivation and careful hybridisation. All the committees will meet in the gardens at 11 a.m. precisely, on Tuesday, August 23rd, and there is no doubt but that two of them—viz., the floral and fruit will have a busy time of it. Every amateur grower of Begonias, Apricots, Plums, and British Ferns should endeavour to take part in this exhibition and should at once, if it has not already been done, communicate the nature of their exhibit to the garden superintendent, Mr. Barron, so that due provision for space &c., may be made in good time. In accordance with the policy inaugurated a few years ago, the society will hold a conference in the great vinery on each of the abovementioned days at 2 p.m. The subject of the first day's conference will be Begonias. Mr. Harry J. Veitch, F.L.S., has consented to take the chair and open the conference, after which papers will be read by Messrs W. Watson, J. Laing, and H. Cannell, on the "Cultivated species of Begonia," "Tuberous Begonias," and "Winter flowering Tuberous Begonias" respectively. On the second day, August 24th, the conference on Apricots and Plums will be presided over by Dr. R. Hogg, F.L.S., and Messrs. T. Francis Rivers, and J. Smith, will read papers on "Dessert Plums" and "Cooking and Market Plums" respectively, while Mons. F. Jamain, of Paris, will contribute a paper on "Apricots." Besides the exhibition of flowers and fruit which will be brought together on this occasion, it may be stated that the gardens themselves look extremely beautiful at present and will well repay a visit, not only from gardeners but also from ladies and gentlemen interested in the promotion of horticulture.

FAIR PATRON.—"Those Morning Glories you sold me are no use." Seedsman—"What's the matter, ma'am?" "They never open." "Those seeds, mum, was imported direct from China, mum, and it bein' day over there when it's night here, I suppose, mum, they do their bloomin' after you get to sleep.'. —*New York Weekly.*

WHITEWAY HOUSE, DEVONSHIRE.

ALTHOUGH the lovely county of Devon abounds in well-kept seats and policies, some are more interesting than others. As one which year by year increases in interest and beauty, I would instance the beautiful place of the Dowager Countess of Morley, near Chudleigh. There is not much glass it is true, but what there is is made good use of, and very considerable judgment is shown in putting only suitable subjects where the accommodation is limited. Wall fruit is so well managed that there is really little need for help from indoors. Peaches and Nectarines are particularly well grown, specimens of the Diamond Peach, laden with well coloured fine fruit, being particularly noteworthy. The thinning has been done with great care, the result being that the crop is evenly distributed upon the tree.

Apples are plentiful here, and so are the later Cherries, and Nuts, and Figs. Gooseberries and Currants are a heavy crop, and I notice that Mr. Nanscawen, the very able gardener, believes in pruning Gooseberries. The heart of the bush is well thinned out, the effect being that the bush sends out long, healthy shoots bowed down with handsome fruit. In the orchard lawn one or two of the old Apple trees are festooned here and there with Clematis Jackmanii, which has a wonderfully pretty effect; and hidden away among the branches are two or three nice bits of Mistleto, very happy apparently.

Although not at present visible, clumps of good Narcissi in the grass stud the orchard, and in the spring make it very bright. I noticed a fine variegated Thorn, about 6ft. high, several Acacias, clumps of Eulalia japonica and E. zebrina, Phormium tenax, fine and strong, right out in the open; Gunnera scabra, strong in foliage but, probably owing to the drought, rather small in the fruit cone or scape. Desfontainea spinosa, that most curious holly-like member of the Gentian family, in flower with its long waxy red bells; Bambusa Metake, not less than 25ft. high, strong, healthy, and apparently as happy as the proverbial sand-boy.

Up among the Rhododendrons were some strong plants in flower of the Telekia speciossisima, with its golden-yellow flowers; Lilium giganteum, 10 ft. high, one of the grandest of Lilies, etc. Here and there were clumps of Alstrœmerias (what a pity these lovely herbaceous plants are not more grown!), Dahlias in great variety, and many other similarly ornamental plants.

In the conservatory facing the door was a plant that took my breath away. It was a panful of Disa grandiflora in robust health, bearing 45 spikes and 108 blooms of the most perfect shape and colour. It was a grand "bit" of Disa, and no mistake. Cheek by jowl with it were some very promising Indian Orchids that had not yet flowered and some other fine healthy bits of Cattleyas, Odontoglossums, Oncidiums, and other species. Gloriosa superba, that old-fashioned climbing Lily, not often seen now, Bougainvillea, with its gay bracts, Begonias, both single and double, of an excellent strain, and some very good Gloxinias, went to make up a capital houseful of stuff. Clambering along the outside walls was that capricious but lovely climber, Tropæolum speciosum, which will, so it is said, only grow where it has a mind to. It certainly has come to stay at Whiteway, for it seemed as much at home as anything on the place.

Time fails me to speak of the "wild garden" which is becoming a rich collection of British and foreign Alpines and all sorts of things that one would expect to find in such a collection. Here is the rare Trientalis europæa and the Primula scotica from the bleak north, and the still more rare Lobelia urens from its wild habitat in Somerset, Gentians, Asters, and Campanulas from the Pyrenees, and many another stranger from foreign lands. British Ferns have taken up their abode in this lovely glen, and everything in it is the very picture of health and contentment. There are some noble specimens of Coniferæ around the mansion, and among the trees outside is a fine specimen of Fraxinus ornatus (the flowering Ash).

This assemblage of good things is not a thing of yesterday, but is the work of many years and considerable expenditure no doubt. But it is encouraging to those who love gardening as a profession to see a place where the owner has a pride in maintaining all that is beautiful in her surroundings, and it is equally pleasing to see the management of such an establishment placed in such competent hands as it is. This is not my first visit to Whiteway and I hope it may not be my last, for, apart from its romantic and picturesque situation on the slopes of Haldon Hill, there is at all times much to see and much to learn there.

Mr. Nanscawen's house—a nice substantial and tastefully designed building of limestone—is covered with Ampelopsis Veitchii, which is even now assuming that rich crimson hue that it does in a warm climate, I was told that it coloured ever so much better when planted in soil with plenty of lime in it, and all the more so when it had the advantage of rambling over a lime stone wall.—*Devoniensis.*

PELARGONIUMS.

BUT the other day I was explaining to an enquirer the distinctions which existed between Geraniums and Pelargoniums, and pointed out that Pelargoniums were no more Geraniums than they were anything else. The old mistaken nomenclature which classed all Pelargoniums as Geraniums arose from ignorance of the distinctions which exist between the species, and thus we had got to call all Pelargoniums Geraniums, or if there was any exception it was in favour of the large flowered varieties only. Now I turn to the advertising columns of a gardening paper, and there most exasperatingly I find not less than four enquiries after "Geranium" cuttings, meaning thereby zonal varieties, all from nurserymen, and one adds, oddly enough, just as though he were a bit uncertain as to his nomenclature, also "Pelargonium" cuttings. Does this confounding of one genus with the other arise in any way from the similarity of common names, the Geranium being the Crane's Bill and Pelargoninm the Stork's Bill?

I was also invited to state from which of the species of Pelargonium the present race of Ivy-leaved varieties originated. I have looked over a list of over 150 species or varieties of species, and do not find one that is named Hederæfolium, or should have concluded, if that were found, that it formed the original species. Can any reader state which is the original? As to the large flowered forms, I suppose they come from combinations of species, the zonate forms from P. Zonale, and also in some degree, as I see Mr. Greive assumes, from P. Fothergilli, both forms perhaps having been intercrossed. Pelargonium Manglesi is probably a variegated form of some original species. However, of the myriads of species introduced from time to time or known to exist, we have for ordinary garden purposes very much narrowed the range of choice, using very few originals at all, and employing almost exclusively perhaps not more than half-a-dozen, which may be said even in their hybrid forms to exhibit distinctive character.

These are the large-flowered, the fancy, the Ivy-leaved, the zonale, the creeping Manglesi form, and the silver variegated sorts. Most of the golden and silver tricolors, bronzes, golden plain leafs, etc., it is presumed have sported from or raised from the ordinary zonal section. It would be interesting were anyone in a terse simple fashion just to trace out the original parentage of the sections I have thus adverted to. Also see whether there really exists any intimate connection in any way with the Pelargoniums and Geranium families.

One thing is certain, our gardens or perhaps all who have gardens owe a deep debt first to the original introducers of many of the Pelargoniums, and second to those hybridists who took them in hand, and from out of crude materials have evolved such beautiful varieties as we now possess. What glorious beauty, what unrivalled floral colouring, do not these forms give to us both in greenhouses and in gardens.

Here is a theme for a paper for the Royal Horticultural Society about May next, illustrated by examples of every known original species now in cultivation, and also, so far as possible, good representatives of all the best garden sections. There is no reason indeed why the Pelargonium should not be made the subject of a Chiswick conference, except perhaps that May is too early in the year for such gatherings.—*A. D.*

The Potato Blight has attacked some of the Weald of Kent plantations, and fears are entertained that if cold weather should again set in the disease will spread to a serious extent.

FACTS AND FICTION.

A DOZEN little children the other day created quite a stir in one of the New York Square gardens by erecting a May-pole and decking it with long streamers of tissue paper, one of which was held by each urchin, and a merry dance ensued, which attracted crowds of curious passers-by. Though one cannot help wishing that the wreaths they wore had been of woodland flowers instead of soiled tissue paper, and that the surroundings had been more inspiring, it is safe to conclude that the children danced not a whit the less merrily, and that their singing was as sweet to the ear as though they were not hemmed in by the shadow of a great city.

In Australia they have a "Witch plant," which grows without any apparent roots. Its leaf resembles that of the Plantain. On the eastern shore of Maryland they cure biliousness by boring three holes in a carefully selected tree, walking three times round it, and saying "go away, bilious."

A new industry has been discovered which promises to be a permanent one—that of extracting oil from Grape seeds.

Peach stones are now largely used for fuel, for which purpose they are excellent.

Mrs. Harrison, wife of the present President of the United States, has a passion for Orchids, and the White House is always profusely decorated with them.

Mrs. Cleveland's tastes run in a more simple direction, her favourite being the Pansy.

A splendid material for awnings, tents, etc., is Chinese grass-cloth, made from the fibre of the common Nettle. It is also suitable for machinery belting, for which it has twice the strength of leather.

A few months ago a Philadelphia lady bought a rustic table, made of unbarked boughs. Now, the tree has sprouted all over, and is in full bloom, making a lovely table. It is hoped it will prove to be a fruit tree. (Doubters are respectfully referred to the title of this paper.)

The Compass plant is found on the western prairies, where it is invaluable to wayfarers. The leaves at the base of its stem are placed vertically, presenting their edges north and south. Both surfaces display an equal receptivity for light, hence their vertical position, which enables travellers in the dark to ascertain the point of the compass by feeling the leaves.

Austin Corbin has imported 20,000 Hawthorns to plant as a hedge round his great game park in New Hampshire. He has buffalo and other large game, and it is expected the Hawthorn will be admirably suitable for the purpose, as well as a thing of beauty.

A novel industry has lately been inaugurated at a florist's in Broadway, New York. You can send flowers from there to any address in America or Europe, by selecting your flowers, and leaving a card with your name written on it to be attached. In, say, Vienna, the bouquet will be delivered within two hours, with a similar card attached. The florist has an agent in the various cities, to whom he cables particulars of the order, such as number of each kind of flower, etc. In American cities the delivery can be accomplished in a few minutes. Simple, but original and enterprising. Why not in London?

The perfume of Violets is said to make Madame Patti hoarse.

Lady.—"And how is your master getting on, gardener, with that part of your territory he has undertaken to keep in order?" Gardener.—"Well, mum, I can't say as 'ow 'e's done much mischief *as yet.*"

Apropos of the recent Republication nomination may be mentioned the ominous fact that on the eve of Mr. Blaine's defeat, a large Maple at his home in Maine fell and split asunder from no apparent cause.

Sixty years ago in Indiana, two brothers planted Apple trees on the same day on their father's farm. One of the men died several years ago, the other recently. There is nothing uncommon in this, but the peculiarity lies in the fact that on the day of each brother's demise his Apple tree split and fell to pieces.

John H. Parnell, brother of the dead Irish patriot, and heir to his landed property, has very large Peach orchards in Georgia and Alabama, and is said to be the wealthiest Peach grower in America.—*C. Macquarie, Chicago.*

MY HOLIDAY ON THE CONTINENT.

I AM spending a brief holiday on the Continent in visiting some of the chief nurseries there, and I am making notes as I go along which may be of some interest to your readers. My starting point was Ghent, in the world-known nursery of Van Houtte, which has now been formed into a company, though under the direction still of Mr. Van Houtte's son. I was met there by the foreman of the nursery, who in conversation told me that he had been in the employ of the Van Houtte's now for forty-eight years, and he certainly did not look more than fifty-eight or sixty.

At the entrance of the nursery is a nice pond, at the side of which was a very large Hydrangea panniculata grandiflora in full bloom and a very healthy well-grown Banana tree was planted close by, while numerous blooms of the white Water Lily, the sweet-scented variety, covered the pond itself. The firm possess sixty glass houses and three thousand frames. In the first house I visited the Tillandsia argentea was growing, and apparently without roots, though the foreman informed me that it required water from time to time. I was much struck with the growth of the Alocasia Puccinia with its immense leaves. In this house there were three kinds of Pavonia growing, and the Centrosolenia bullata, the Phyllogathis rotundifolia, and the Vriesias in full bloom were well worthy of notice.

We turned our steps to the young Palm houses where I found many thousands of plants, all looking very healthy, in pots sunk in flax refuse. I understand that this refuse is very cheap in Ghent and that it ferments very freely. I was much amused at the length of the spouts (some 4½ ft. long) of the water cans used for the Palms which are pretty thick together and difficult to get at with an ordinary can. Messrs. Van Houtte can boast a show of very fine Begonias, some of the finest I have ever seen. Some of the flowers measured 6½ in. across. Their show of Gloxinias in six houses was also fine, though the flowers of many were not of the largest, but the plants were seeding.

The display outside was far from a cheerful one, everything being parched up for lack of rain. Besides, as at home, they have suffered from cold nights. Only twice since March has any rain fallen, and then only slight showers, and there have been no thunderstorms. I am told that one hundred and twenty-five tons of water per day are used in the nurseries. Labour is cheap, much cheaper than with us. A labouring man gets twelve shillings a week, in summer commencing at six in the morning and working till seven with two hours off, and in winter he is paid for his work at about the same rate per hour. I did not quit the establishment without seeing the collection of Bertolonias of which there are a large variety. Personally I think I like best the variety with the leaf spotted as with pearls, though I understand that the spots become fewer after the spring. I was shown a very fine hybrid obtained from a plant sent out as a Bertolonia orientalis guttata crossed with a Sonerilla, Monsieur Hiba. The silver lines on the leaves of this hybrid are very delicate.

Passing on to Brussels I was glad to get to dinner—what a splendid slice of squash melon you get as a *hors d'œuvre!* We hardly ever get these Melons in England. On the side table too were some very fine Celery and green Almond Nuts which are also very rarely seen with us. The *petits pois*, are always little, and though very good do not compare with our Marrowfats, but a *Pigeon Hongrois* they gave me compared singularly with an English partridge. I wonder whether it could have been a partridge after all, though the date was only the 6th of August!

QUEDLINBURG.

Quedlinburg was my next place to visit. It is somewhat difficult of access, but I was fortunate enough to catch an express for Leipzic, stopping at Hullerstadt which is the easiest route to go by. For miles before Quedlinburg is reached the country is almost entirely sown with Beetroot, from which the sugar of Germany is made, and as I got nearer I found that most of the land was reserved for seed. Quedlinburg lies in a basin at the foot of the Hartz Mountains, though they seemed to me like hills of the skipping and playing order, and it is from here and from Erfurt that the chief of the seeds of the world come, especially may I mention Asters, Stocks, Wallflowers, Balsams, Zinnias and annual Phloxes. The grass seeds are grown in and about Darmstadt.

My first visit was paid to Mr. F. Roemer who, by-the-bye, issues a catalogue in English, and whose Pansies are, I believe, among the best. Mr. Roemer himself was kind enough to take me round his garden. Young boys of from ten to twelve were gathering the seeds in canvas bags. The first bed that I observed, was one of Mignonette Imperialis planted 15 in. apart. Then the Pansy beds of which the new Canary Bird was a feature but the blooms at this time of the year are very small and Quedlinburg like Ghent has suffered very much from drought. I noticed a very fine bed of Salpiglossis grandiflora, flowers of all hues.

We turned out of the walled garden into the fields and walked through an avenue of Mountain Ash in full berry. Here the land seemed to be cut up into allotments of from one to six acres, belonging to different people. In some Barley was growing, then came a crop of Potatos, and then a crop of flowers; this time Verbenas belonging to Mr. Roemer. The Scarlet Defiance was specially fine, and some of the flower heads were so large and round as to resemble almost huge Carnations. A further walk through the fields brought us to another allotment belonging to Mr. Roemer, at a distance of about half a mile from the walled garden, cropped with various flowers.

Here a bed of Lobelia, Crystal Palace, particularly took may fancy, for the colour was greatly enhanced by numbers of white butterflies dancing among and over the bloom. Then a bed of small-flowered Petunias and beds of Senecios of all colours, plants which I think should be much more cultivated in the gardens at home than they are. Back again to the walled garden, where thousands of Stocks were staged against the wall, all singles bearing seeds, which, by careful selection of the plants, produce eighty per cent. of double-flowering plants next year. A very fine collection of Petunias was located under a glass covering, and they were being fecundated with a hair brush. The Zinnias were a sight in themselves, and the Lilliput variety throwing a quantity of flowers especially pleased me. There is a small amount of glass in the garden where some Gloxinias were growing which compared favourably with any I have seen. I measured the breadth of one flower, and from rim to rim it was 4 in. The wages paid here are much the same as they are in Ghent, and by far the greater part of the population of Quedlinburg is engaged in garden work.

The largest establishment at Quedlinburg, and in fact in the world, is that of the Brothers Dippe, and in speaking of what I saw with them, it is almost impossible to go into detail. My good friend, Mr. Peter Veitch, of Exeter, had given me a letter of introduction to Mr. Carl Dippe, who received me most kindly, and was good enough to place a carriage at my disposition to drive to the various parts of interest. It was here that I first saw a shifting tent for pricking out. It is a square tent of some 14 ft., easily handled, and under this the men work, and they and the young plants are both shaded from the sun. The amount of land under cultivation by the Dippes is over 6,200 acres. Their seed warehouses are like hugh barracks. They cultivate sixteen acres of Pansies alone, through which I walked. Every kind, of course, was there, but a semi-double white one, which has not yet been sent out, chiefly struck me. 130 acres are devoted to Asters, and large or small pieces of land to other flowers according to the demand. The Swan River Daisies, blue, rose, and white, were in full bloom, and have a very charming effect. Messrs. Dippe are not only seed growers, but must be farmers to a large extent, as they have some 4,000 sheep stalled to eat some of the leavings after the seed is gathered. I was shown a plot of some fourteen acres of seed Beet. The plants had all been planted out in the spring, after undergoing a trial of their sugar-growing qualities. Each Beet had had a piece scooped out of it as with a cheese scoop, and this piece had been subjected to a chemical trial or analysis, lasting in each case about twenty minutes. If the trial showed the Beet was up to quality, it was planted out; if not, it was cast on one side. It is claimed by this process that the sugar-producing power of the Beet has been raised from about 8 per cent. to 17 per cent.

My next visit was paid to the establishment of Messrs. Sattler & Bethge, who have a small seed garden, but whose speciality is seeds and plants raised under glass. A large grass plot lies at the entrance of the garden laid out with carpet bedding, and here the Begonia semperflorens "Vernon" was planted to good effect. The glass extends over about ten acres, and in the first house I visited Coleus only were growing. A list was handed to me of some three hundred and sixty named varieties, of which a dozen were of the giant kind. I may specially mention one, Carl Abs, named after a strong man who used to exhibit in Hamburg, the giant leaves and dark red colour of which were particularly handsome. The next house contained Tydæas all looking very healthy and well grown. The next, Begonias of the Rex type, of which 176 varieties are grown. Then several houses of Gloxinias, many of the improved type with exquisite tracery on the segments. Primulas (Chinese) are a speciality of this establishment, and I was shown one house, measuring 160 yards long, which was filled for the fifth time this year with Primula seedlings. There are many other horticultural establishments in Quedlinburg which I had not the time to visit. I was everywhere received with great courtesy, and can mention mine host of "The Bear" as keeping a very comfortable house where the cooking is properly attended to.

ERFURT.

Erfurt, although a town of 72,000 inhabitants, seems to boast of no hotel. At all events the hotel in which I stayed, though mentioned as the first in the town, was very dirty and the cooking execrable. My first visit was paid to the establishment of Mr. Benary, a name celebrated throughout the whole seed world. I was most courteously received and shown everything that I desired to see. The house of business itself is very large, and every attention has been given for rendering the detail work as easy as possible for the employés. The Petunias staged here were particularly fine, all ready for fertilization. To mention one, the Steel-blue veined variety was particularly handsome. A very large show of grand Fuchsias in one of the houses, with a particularly pretty creeper running along it, Rhodochiton volubile. In one of the beds outside Begonia Martiana gracilis was growing very freely.

I expressed a desire to see the Carnations and Picotees after seeing the houses, and was taken to a garden full of annuals where the Carnations were staged, numbering some 15,000 plants. The blooms were nearly over, but the flowers that were left were a very handsome sight. Amongst others that were in good flower were Marie Wilke, Little Ernst Benary, Richard Tryan, Frederick Alexander, Alida, Esmarch, Gustav Freytag, the latter very floriferous, and at the end of each stage there were some two dozen pots of Germania, of which the Messrs. Benary are very proud.

In the annual garden itself was a bed of Papaver glaucum, or Tulip Poppy, a lovely and dazzling sight. As the blooms last well for a whole week I think it is one which should find great favour in our own gardens. Messrs. Benary were good enough to offer to send someone with me during the whole afternoon to see their general grounds, including the Asters, but I had not time to avail myself of the offer.—*J. C. Stogdon.*

(To be Continued.)

EARLY-FLOWERING CHRYSANTHEMUMS.

MR. W. PIERCY, of Forest Hill, the well-known grower of this class of Chrysanthemums has favoured us with blooms of two new sorts of great merit. The first, Gustave Grunnerwald, was from a plant grown in a 32-size pot from a cutting put in on the 5th of April. On August 5th it was 19 in. high from the soil in the pot. The open flowers were 4 in. across, of a pale magenta colour to white. It was grown and flowered entirely in the open air, had only two small pegs to support it, and had no buds taken off. It is, in Mr. Piercy's opinion, one of the most remarkable early sorts ever yet raised. The second flower, George Devered, is an early flowering Japanese variety, 18 in. high from the soil in the pot. The expanded flowers were 4 in. across, of a pale yellow colour mingled very slightly with crimson when young. It was grown and flowered entirely in the open air, and had no buds taken off. Both varieties were raised by Mons. Delaux, of Toulouse.

FLORICULTURE.

Manchester Carnation and Picotee Show. On Saturday the 13th inst. the annual exhibition of the Northerners took place at the Botanic Gardens, Manchester, and resulted in a very good display of blooms, the Picotees especially being very fine. In the class for Twelve Carnations, dissimilar: Mr. T. Lord, Todmorden, was 1st with a fine lot of blooms, including Master Fred, Mercury, James Douglas, Bruce Findlay, C.B., very fine; Wm. Skirving, Sybil, Admiral Curzon (also Premier), J. D. Hextall, Master Stanley, seedling R.F., fine; Dan Godfrey, and Robert Houlgrave; 2nd, Mr. R. Sydenham, Birmingham, with Master Fred, Gordon Lewis, Sarah Payne, Sportsman, Alismonde, Edward Adams, Thalia, Joseph Lakin, William Skirving, Lovely Mary, George Melville, and Admiral Curzon; 3rd, Mr. A. R. Brown, Birmingham, with Edward Adams, Fanny Hudson, R. Thomson, J. D. Hextall, Squire Whitbourn, Sportsman, C. H. Herbert, Alismond, Robert Houlgrave, Sarah Payne, Biddy Malone, and Richard Beasley; 4th, Mr. J. Whitham, Hebdin Bridge; 5th, Messrs. Thomson & Co., Birmingham; 6th, Mr. H. Geggie, Bury, Lancashire.

For Six Carnations, dissimilar: 1st, Mr. Crossley Head, Hebdin Bridge, with J. D. Hextall, Sybil, Dan Godfrey, Mayor of Nottingham, Master Fred, and Robert Houlgrave; 2nd, Mr. C. F. Thurstan, Wolverhampton, with James Merryweather, Ivanhoe, Crista Galli, Wm. Skirving, Sir Garnet Wolseley, and Robert Houlgrave; 3rd, Mr. J. Bleackley, Whitefields; 4th, Mr. J. Edwards, Manchester; 5th, Mr. S. Barlow; 6th, Mr. C. Thornley, Middleton; 7th, Mr. W. Bacon, Derby; 8th, Mr. W. Taylor, Middleton.

For Twelve Picotees, dissimilar, there was an excellent display of first-class blooms; 1st, Messrs. Thomson & Co, Birmingham, with Little Phil, Henry, very fine; Nellie, Campanini, Thomas William, a superb bloom; Mrs. A. Chancellor, also very fine; Dr. Huxley, a seedling, medium rose edged, with great refinement; Mrs. Sharp, John Smith, Constance Heron, Elizabeth, and Brunette; 2nd, Mr. R. Sydenham, with Dr. Epps, Little Phil, Favorite, Lakin's Ne Plus Ultra, a very fine new bright heavy red edge; Amy Robsart, Ann Lord, Norman Carr, Zerlina, Mrs. Gorton, Mrs. Sharp, Mary, and Lady Holmesdale, a fine lot of blooms; 3rd, Mr. T. Lord; 4th, Mr. A. R. Brown; 5th, Mr. A. W. Jones, Birmingham; 6th, Mr. H. Geggie.

For Six Picotees, dissimilar: 1st, Mr. Thurstan, with Zerlina, a splendid bloom, and very pure (also the Premier Picotee), Edith Dombrain, Thomas William, Mrs. Rudd, Morning Star, and Nymph; 2nd, Mr. J. Edwards, with J. B. Bryant, Little Phil, Daisy, Clara Penson, Mrs. Edwards, and Jessie; 3rd, Mr. J. Bleackley; 4th, Mr. W. Bacon; 5th, Mr. C. Head; 6th, Mr. T. Thornley; 7th, Mr. W. Bacon; 8th, Mr. Taylor.

For Twelve Selfs, not more than two blooms of any variety: 1st, Messrs. Thomson & Co., Birmingham, with a very fine stand of blooms, viz.:—Seedling rosy-purple, Germania, Gilbert, Blushing Bride, Adrian, Negress, Gladys, Mrs. Fred, Mrs. J. Chamberlain, a lovely salmon self (2 blooms), and Aurora; 2nd, Mr. A. R. Brown, with Purple Empress, Mrs. Fred, Germania, King of Purples, Mrs. Muir, Ruby, Matador, Scarlet Queen, Vothus; 3rd, Mr. J. Edwards.

Six Self Carnations, not more than two flowers of one sort: 1st, Mr. A. W. Jones, with Germania, two blooms and very fine; Gladys, Emma Lakin, and Mrs. Maclaren; 2nd, Mr. W. Kenyon; 3rd, Mr. W. Bacon; 4th, Mr. J. Bleackley.

For Twelve Fancy and Yellow-ground Varieties, not more than two blooms of one sort: 1st, Messrs. Thomson & Co., with an exceedingly fine lot of blooms of A. W. Jones, 12 blooms, Countess of Jersey, Dodwell's 152, Terra Cotta, Victory, Schleiben, Mrs. Robert Sydenham, the finest of all the yellow-grounds; Monsow, a fine new German variety, Dodwell's 166, Madame Van Houtte, and Benary's F. A. Haage; 2nd, Mr. A. R. Brown with Lord Rendlesham, Mrs. R. Sydenham (2), Victory, Maud, Sparkler, Brockhaus, Schleiben, Duke of Albany, A. W. Jones, and Terra Cotta; 3rd, Mr. B. Simonite, Sheffield. For Six Fancies:—1st, Mr. R. Sydenham, with Janira, Lord Redlesham, Victory, Schleiben, and two others; 2nd, Mr. A. W. Jones.

Single Blooms.—Scarlet Bizarres: Mr. T. Lord 1st, with Robert Houlgrave; 2nd with Master Stanley; and 3rd and 4th with Adml. Curzon; 5th, Mr. A. R. Brown with George. Crimson Bizarres: Mr. T. Lord, 1st and 2nd with Master Fred; 3rd and 5th, Mr. Sydenham, with the same; 4th, Mr. J. Whitham, with J. D. Hextall. Pink and Purple Bizarre: Mr. T. Lord 1st and 3rd with his fine seedling Bruce Findlay, and 4th with Wm. Skirving; 2nd and 5th, Mr. Sydenham with Sarah Payne. Scarlet Flake: Mr. A. R. Brown, 1st, 2nd, 3rd, and 4th, with Sportsman; Mr. T. Lord, 5th, with Tom Lord. Rose Flake: Mr. Ben Simonite, 1st and 2nd, with his fine seedling J. P. Sharp; 3rd, Mr. Lord, with Sybil; 4th, Mr. R. Sydenham, with Thalia; 5th, Mr. J. Bleackley, with Thalia. Purple Flake: 1st, Mr. Brown, with Squire Whitbourn; 2nd and 4th, Mr. Bleackley, with Dr. Foster; 3rd, Mr. Sydenham, with Gordon Lewis; 5th, Messrs. Thomson & Co., with same. Heavy Red-edged Picotee: 1st, Mr. Brown, with John Smith, and 2nd, with Mary Anstiss; 3rd, Messrs. Thomson & Co., with Dr. Epps; 4th, Mr. Jones; and 5th, Mr. Sydenham, with John Smith. Light Red Edge: 1st. Mr. Brown, with Thomas William; 2nd, 3rd, 4th and 5th, Mr. Jones, with same. Heavy Purple Edge: 1st, Mr. Thurstans, with Zerlina; 2nd, Mr. Sydenham, with Muriel; 3rd and 4th, Mr. Jones, with Calypso and Muriel; 5th, Mr. Brown, with Muriel. Light Purple Edge: 1st, Mr. Jones, with Clara Penson: 2nd, Mr. Brown, with Sylvia; 3rd, Mr. Sydenham, with Ann Lord; 4th, Mr. Brown, with Elizabeth; 5th, Mr. Bleackley, with Mary. Heavy Rose or Scarlet Edge: 1st, Mr. Jones, with Campanini; 2nd Mr. Brown, with same, and 3rd, with Little Phil; 4th, Messrs. Thomson, with Campanini; 5th, Mr. Giggie, with seedling. Light Rose or Scarlet Edge: 1st 3rd and 4th, Messrs. Thomson, with Nellie; 2nd, Mr. Bleackley, with Thalia; 5th, Mr. Jones, with Mrs. Payne.

Premiers.—Carnation: Adml. Curzon, shown by Mr. T. Lord. Picotee: Zerlina, shown by Mr. C. F. Thurstan.

Certificates were awarded to Mr. B. Simonite for Carnation J. P. Sharp, R.F., and to Mr. T. Lord for Carnation Bruce Findlay, P. and P.B.

THE ROSERY.

A Novel Method of Propagating Roses. In this instance it is not merely the novelty of the thing that commends itself, but the great success which results that is the greatest commendation. So much has been said from time to time on the propagation of the "Queen of flowers," that one would almost suppose that nothing more could be said. However that may be, new fields are constantly presenting themselves, new inquiries being introduced, and new discoveries made. So in this case a discovery has been made, whether new or not I cannot tell, but certainly novel, and successful.

After the flowering season, that is, after the first blooms are over out of doors, select any perfectly matured growth which may be suitable for making into a cutting. Detach this with a sharp knife, giving a clean cut, and with a good heel; split the cutting from the base upwards through the middle for about half-an-inch and around this tie a ball of sphagnum, in bulb about the size of a pullet's egg. This done, thoroughly moisten the same by dipping it in water, then lay under a shrub or in any other sheltered position where the sun's rays will not come in contact with them and dry them up. In a few weeks' time the cuttings will have rooted, without receiving any further attention, and the roots will appear visible through the sides of the ball of moss. At this stage they may be either potted or planted out of doors according to the requirements of the case.

Another successful method, and one which is to be highly recommended, is as follows:—Prepare the cuttings as just described, but instead of laying them under a bush or elsewhere, as previously suggested, plunge them in a bed of cocoa-nut fibre in a frame or propagating case. Keep this close until the cuttings are rooted, only removing the lights morning and evening for the purpose of removing the accumulated moisture from the glass. Whilst in here they will need no water whatever, as the balls will have been well moistened before being plunged; after a few weeks they will commence to grow. This will be a sign that the roots are moving. Before these penetrate the balls of moss and enter the fibre in which they are plunged remove the cuttings and pot them into 3-in. pots in a suitable compost. Keep them close for a few days and then gradually harden off as the roots lay hold of the soil.

Plants struck according to this method in the autumn will with proper treatment make very useful little pot plants next season. This same practice may be adopted with spring cuttings, and these if well attended to will make very useful plants for flowering under glass late in the season.

I know not whether this method is generally known and practised, but am under the impression that it is not. It certainly does involve a little more trouble in the first instance than the old orthodox method, but the results are, so far as my experience goes, more satisfactory, and on these grounds I mention the facts here and commend them to those who have not previously heard of the method, being of opinion that such experiences are always worth knowing, and what better way of disseminating them than through the horticultural press? Should any reader of these lines decide to try the methods herein described, kindly report results. Knowledge on such subjects is always worth the gathering, and the writer is as anxious to learn as the most enquiring.—*C. H. B.*

THE VEGETABLE GARDEN.

Market Peas.—A considerable number of varieties of Peas that are mostly grown to some extent for market purposes, and some of them largely, may be seen in the Bedfont seed grounds of Mr. R. Dean, Ranelagh Road, Ealing. To be suitable for this work they should be dwarf, as no stakes are used. This in itself, however, seems to retard growth considerably, and the dry nature of the season, together with the stiff nature of the soil at Bedfont, has made the haulm shorter than usual. The rows of Peas are earthed up on one side only in spring, so that the stems lie upon one side of the line only. This secures regularity, and prevents the kinds from getting mixed.

Pride of the Market grows about 12 in. high, and has stout, slightly curved, well filled pods, and naturally requires no staking. A better looking Pea is Fame, no doubt, with pods 3 in. to 3½ in. long, slightly compressed, glaucous, and well filled with six to eight seeds. An excellent cropper is Triumph, with large pods, and suitable for market garden purposes, as it requires no staking. The same may be said of Veitch's Perfection, which is very largely grown in the neighbourhood as a late Pea. Even without staking it produces well-filled pods 3 in. to 3½ in. long. Another useful sort is Heroine, with stout pale green pods of the same length as those of the last named, bearing about eight seeds in each. As all the varieties are grown for seed they were mostly past the stage at which their merits and appearance for exhibition purposes could be judged.

When grown as Peas usually are in private gardens and supplied with stakes, the variety named Giant White Marrow grows 6 ft. or 7 ft. high, but as grown here without stakes and in heavy soil they are about 5 ft. high. The pods are 3 in. to 4 in. long, light green and contain six to eight Peas of sweet and fine quality. In a favourable season they would of course make more growth and produce larger pods. Quite different is Middlesex Hero, which varies from 1 ft. to 3 ft. high, bearing flattened pods 3 in. to 4 in. long, well filled with six to nine seeds. It is therefore well adapted for market purposes and bears well. A blue wrinkled Pea of fine flavour is Shropshire Hero, growing 2 ft. or 3 ft. high, and bearing six or seven seeds in pods about 3 in. long. The latter are compactly filled and would doubtless under more favourable conditions as to soil and moisture produce larger pods. As a whole the above, if we except Giant White Marrow, are well suited for growing in the fields without the aid of stakes. The last-named would make a useful late Pea of excellent quality for private establishments, while the others would be useful for those having gardens of limited extent.

The Drought and Forest Fires in Algeria.—Official statistics show that the damage caused by the recent forest fires in the vicinity of Orleansville and Saida was very considerable. The fears for the vintage crop have also unhappily proved too well founded, it being computed that the damage caused by the drought to the vineyards will entail the complete loss of half the estimated crop.

NEW & RARE PLANTS.

Of the new plants, flowers and fruits exhibited at the last meeting of the Royal Horticultural Society on the 9th inst., the following were accorded certificates in proportion to their merit.

Campanula pyramidalis compacta.—The plant shown under this name was 4 ft. high, and confined to a single stem, but evidently owed its name to the fact that the flowers were very compactly arranged on the stem, in fact completely covering the stem for 3 ft. of its length. Individually the flowers are large, pale blue and much flattened. The plant was shown in a group of varieties of the same species by Mr. G. Wythes, gardener to the Duke of Northumberland, Syon House, Brentford, and received an Award of Merit.

Dahlia Mrs. Keith.—This may be described as a decorative variety with large flower, and long, nearly flat florets of a soft pinkish purple with a yellow base. Decorative Dahlias as now recognised, are those with shorter and less pointed florets than the true Cactus varieties. An Award of Merit was accorded the variety when shown by Messrs. H. Cannell & Sons, Swanley.

Carnation Mr. John Pawle. — Carnation growers and raisers are evidently hard at work improving the yellow varieties, especially with a view to their cultivation in the open border. The flowers are large and full with entire or plain petals, but they are of a slightly paler yellow hue than those of Germania. The petals are also slightly incurved at the margins, and the stems grow about 2 ft. high. The plants from which the flowers shown by Mr. Spurling, Blackheath, were taken had been grown in the open air since early spring. An Award of Merit was accorded the variety.

Carnation Salamandar.—The flowers of this beautiful Carnation are of great size, measuring about 3¼ in. in diameter, and of a soft red with almost entire petals.

Carnation King of Scarlets.—As dressed for exhibition the flowers of this grand variety measure 3 in. to 3½ in. across, and are of a bright scarlet, with entire or plain petals more or less incurved at the margins.

Picotee Duchess of Sutherland.—The flowers of this variety when spread out in the usual exhibition style measure 3 in. to 3¼ in. across. The petals are nearly entire, and white, heavily suffused and striped with rosy pink from the margin inwards. It may be considered a heavy rose-edged Picotee of the fancy type.

Picotee Nellie Bath.—The clear yellow ground of this variety is heavily striped with crimson from the margin inwards, and there are sometimes a few pale markings. Notwithstanding this it is considered one of the darkest-edged of the yellow-ground Picotees.

Picotee Old Corn.—Here again we have a yellow-ground Picotee most curiously and irregularly suffused with pale red, as well as striped and marked with crimson, soft red and white. The old growers are changing front with regard to these yellow-grounds and fancy sorts, to the great gain of the Carnation as a garden plant.

Picotee Mrs. Arthur Barret.—Here the ground is pale yellow, closely striped with red and sometimes white. This as well as the previous five varieties of Carnations and yellow-ground or fancy Picotees were shown by Mr. C. Turner, Slough, and each was accorded an Award of Merit.

Picotee Acme.—In this we have a yellow-ground heavily striped and marked with rosy-purple from the edge inwards. The flowers being of moderate size had evidently been grown in the open border, and were shown in a bunch without any artificial dressing. An Award of Merit was accorded the variety when shown by Messrs. J. R. Pearson & Sons, Chilwell, Notts.

Sarracenia Farnhami.—In this we have a beautiful hybrid between S. Drummondi and S. rubra, the former being the seed parent judging from the form of the pitchers. The latter are green with red veins, and the top of the pitcher as well as the lid are blotched with rose pink and white, and netted with purple. The mouth of the pitcher is also of a dark purple or crimson, so that altogether the plant is of great merit and an acquisition to indoor gardening. A plant of it was shown by W. E. Farnham, Esq., Quorndon House, Loughborough (gardener, Mr. Cooke), and was accorded a First-class Certificate.

NEW FRUITS.

Cherry Emperor Francis.—The fruits of this Cherry are of large size, heart-shaped, suffused and mottled with pale red on a yellow ground, the latter being best seen near the base. It is a late and richly flavoured variety.

Plum Late Transparent Gage.—The fruit of this Gage is of large size, globular, and greenish-yellow, becoming more or less of a purple hue when grown thoroughly exposed to the sun. The stone is small and the flesh firm, juicy, and of good flavour. It is named Late Transparent Gage because it ripens about ten days later than the Transparent Gage. The tree is of dwarf, bushy habit, and bears well. Both this and the Cherry were shown by Messrs. T. Rivers & Son, Sawbridgeworth, Herts, and received First-class Certificates.

Fig Nebian.—The fruit of this variety is roundish-obovate or occasionally elongated, faintly ribbed longitudinally, and quite green or becoming slightly yellowish at maturity. It is of medium size or occasionally above it. The dark red flesh is firm, rich, and sugary.

Fig Grizzly Bourjassotte.—The medium sized fruits of this Fig are turbinate, or so much flattened as to be oblate, smooth or without ridges, and of a dull brown or chocolate in the upper part, and yellowish towards the base. The flesh is blood-red, except immediately under the skin, sugary, and highly flavoured. It is also known as Bourjassotte Grise.

Fig Monaco Bianco.—In shape this Fig is roundish or somewhat flattened, above medium size, and faintly ribbed longitudinally. The skin is green, or yellowish when dead ripe, and the flesh rich red, juicy, and of fairly good flavour. It requires careful treatment in its cultivation to prevent the fruits from cracking as they get matured.

Fig Gouraud Noir.—The fruit of this sort is turbinate or sometimes oblong, and of medium size. The skin is black as the name implies, but is sometimes paler towards the base, and of a bronzy-brown. The flesh is dark red and richly flavoured.

Fig Datte.—The pear-shaped fruits in this case are slightly ribbed longitudinally and of a dirty pale brown, and gradually becoming paler towards the base where it is green. The flesh is rose coloured, syrupy, and of a deliciously rich flavour.

Fig Violette Sepor.—The tree in this case is a strong and vigorous grower, with stout branches and large leaves even when grown in pots. The obovoid or pear-shaped fruit is of large size, obscurely ribbed, and pubescent in the young state and green, becoming very pale when ripe. The flesh is richly flavoured and juicy. The first five varieties of Fig if not exactly old have yet been introduced for some years, but Violette Sepor is evidently new, as it has not been recorded in the fifth edition of Dr. Hogg's "Fruit Manual." All the six were brought up from the gardens of the Royal Horticultural Society, at Chiswick, and received First-class Certificates.

JAPANESE IRISES.

The flowers of Iris Kæmpferi are now about over; plants in full sun, the best situation for them, do not continue blooming for more than a month, and are with us in their greatest beauty at the end of June and beginning of July; but by planting in shady situations the blooming time may be extended to about two months. I wonder in gardens with water or damp situations that the Iris is not more generally grown. It is much admired, and so varied in form and colour as to suit all tastes. When it was first introduced we bought some of Messrs. Veitch's importation with fine flowers; but as the plants and our experience were both small, the former did not live long. Our next trial was with a few larger clumps bought at a sale; seeds of these were sown, and seedlings of seedlings planted round our four small ponds at Oakwood; where the soil was good they throve, but in a few places where it was poor, they dwindled and did not bloom well. We planted from the water's edge upwards, and found that the plants did not suffer from being wet at the roots in winter; we also planted some in moist soil at some distance from the ponds.

In "The Flowers of Japan," by Mr. Conder, at plate iv., the Iris flowers seem to be about the same size as ours, but there are some colours which we have not got yet. Mr. F. T. Piggott, in the "Garden of Japan," an interesting book recently published, at p. 40, gives a drawing of Iris Kæmpferi, and speaks of thousands of every tint, from purest white through the purples down to crimson. When looking round our plants with flowers nearly over, he told me of flowers he had seen in Japan larger than any I have known in this country. When I told him of the belief that up to the time of the Vienna Exhibition Iris Kæmpferi had been sacred to the Mikado's garden and not allowed to be sent out of the country, but that the desire to make the most effective Japanese garden prevailed, and Irises were sent over, sold at the close of the exhibition, and distributed over Europe, he had not heard of this, and said he had seen them in various parts of Japan.

We have lately had the chance of extending the cultivation of Iris Kæmpferi. Having to drain a field annexed to the garden, we did so by means of wide ditches, one of these had easy slopes and was planted on both sides with Irises two deep, 700 clumps, and a part of the new field seeming to be moist enough, between three or four thousand clumps of seedlings were planted on level ground and these plants seem thriving. Few bloomed this year but I hope next year there will be a fine display, in addition to our getting the chance of especially good varieties for show situations. In some of our old clumps round the ponds four varieties bloom in the same clump and the effect is rather pleasing than otherwise. I believe that many nurserymen can now supply the Iris.—*George F. Wilson, Heatherbank, Weybridge Heath, Aug. 12.*

CYPRIPEDIUM HYBRIDUM VIPANI.

We are now in a position to give an illustration of this beautiful Cypripedium, which was exhibited for the first time before the public at the Temple Show on the 25th and 26th of May last by Messrs. F. Sander & Co., who were merely showing it for Captain Vipan from whose collection it came. The seed parent was C. philippinense, better known in gardens as C. lævigatum, while the pollen parent was C. niveum. The parentage can be traced in the progeny both in the shape and colour of the flowers, two of which were borne on the young plant exhibited. The rounded upper sepal is white with about 11 purple veiens. The petals are similarly coloured with five purple veins, and are longer and narrower than those of C. niveum, in fact intermediate between the two parents. The lip is wholly white, while the staminode is green with a white margin. Everybody who saw it, whether amateur or connoisseur, were very much pleased with it on account of its distinct character and pleasing light-coloured flowers. As the plant gains in strength it may bear a greater number of flowers on the stem.

PORTLAND NURSERY, READING.

The lover of flowers who has not yet paid a visit to the Portland Nurseries of Messrs. Sutton & Sons at Reading, has undoubtedly failed to serve one of the important purposes for which this love of the beautiful in flowers was given to him. He should strive to feast his eyes upon the things he loves best in their most perfect form; and he can do this at Reading. Here is a nursery so well ordered, fitted with means so well adapted to ends, so compact, and with everything in it in the best condition, that it can be held up as a model one in all respects. And yet, while largely employed for producing, it is of the greatest value for testing; and at this season of the year there can be witnessed hundreds of trials of subjects, sold in the form of both seeds and plants, that Messrs. Sutton & Sons are in the habit of sending to their numerous customers. I confess to taking great interest in what I may term the productive side of the nursery—the multiplication of plants of many kinds for supplying as living plants, or as bulbs or seeds; but I take an immense amount of interest also in the trials of some many things in the open where they can be seen at their best—or shall I say the nearest approximation to their best—because immediately something of unusual beauty or quality puts in appearance it suggests the possibility of something

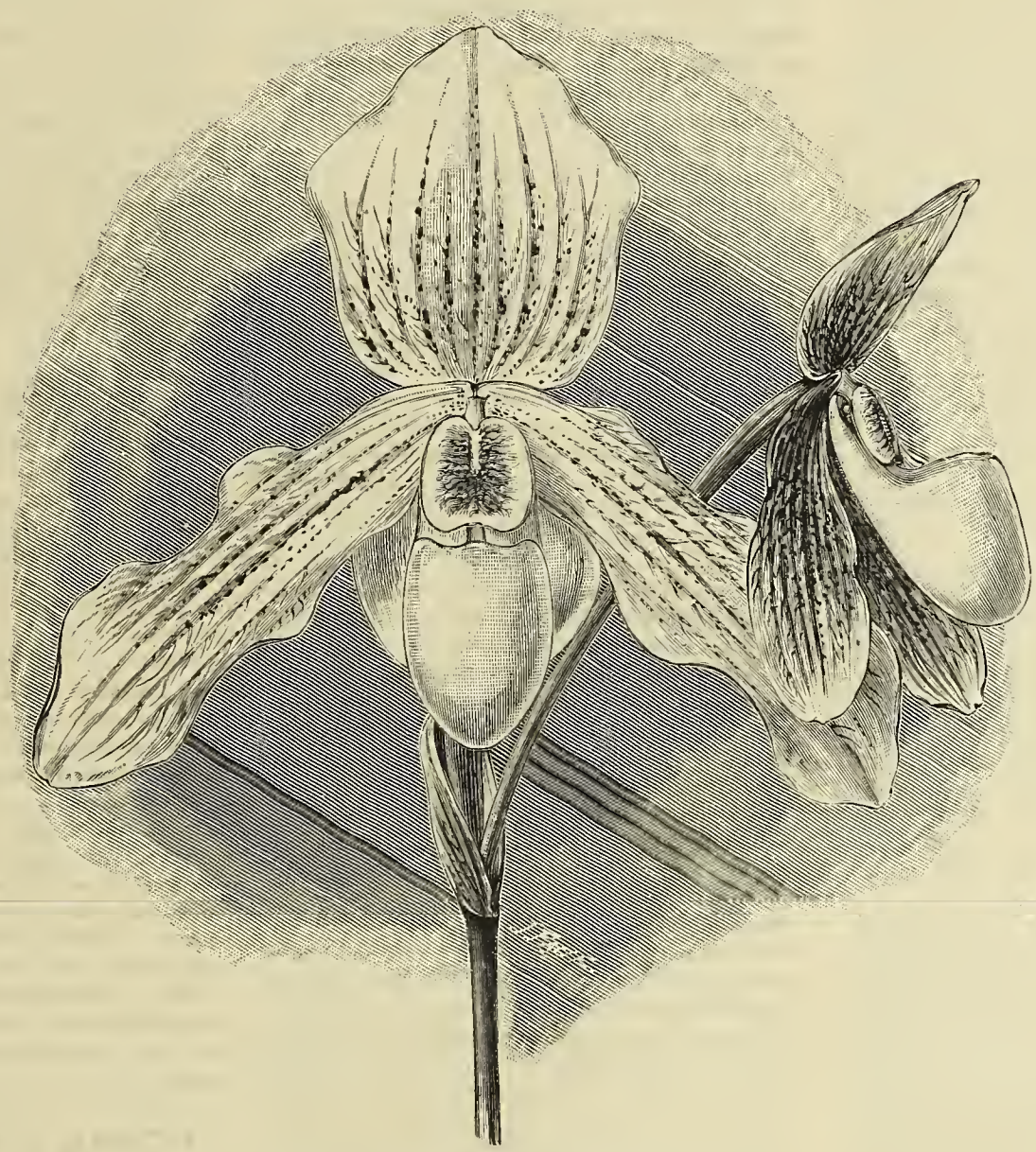
even more beautiful waiting to be revealed by the skill and enterprise of man.

The position of the nursery is excellent, it always seems bright and sunny, and all the light and sunshine that it appears possible to fall upon such a space visits it abundantly. Did anyone ever see houses better adapted to ends? There is a considerable number of them, generally span-roofed, of moderate dimensions, with side stages. In one or two of these are the old-fashioned sloping side stages, well adapted for the display of specimen Calceolarias, Cineraries, etc., in their season. One of these houses is now filled with plants of Achimenes in great variety, affording an excellent opportunity for selection.

The Begonias, representing strains of double and single of the highest quality, are now superb. It is a vain attempt to describe them, they should be seen. One is able to understand what can be done with the tuberous Begonia six months from a seed, when they see plants 15 in. to 18 in. in diameter carrying heads of fine bloom. What a stride has been made with the yellows, both in form and colour, and the whites too are exquisite in form and purity; some are particularly large, stout and symmetrical. There is one called Prince of Orange, of a mulberry scarlet tint, and indeed all shades, from white to the deepest blood crimson. I like the bicolour section, those having white grounds margined with shades of pink, rose, and scarlet. Many seedlings from these run to self colours, so anyone desirous of obtaining these margined varieties would do well to order them as dry bulbs. Messrs. Sutton & Sons send out seeds of Begonias in colours for bedding purposes, and it is satisfactory to note how true they come from seed. What delightful basket plants the doubles make, or for standing on any elevated places where the branches can take a pendant form, and what a variety of colours there is among them!

The winter flowering and bedding types are particularly interesting; the former belong to the semper florens section. They consist of semperflorens, white; semperflorens rosea, white margined with carmine-rose; Duke of Edinburgh, flower larger and deeper in colour than the preceding, and superior in all respects; and Crimson Gem, crimson with yellow anthers, a capital combination. All the foregoing can be raised from seeds sown in January and February, to flower at midsummmer; and at midsummer to bloom during the winter, when they should have a temperature of about 60°. The bedding varieties are Princess Beatrice, After Glow, and Fairy Queen, three charming varieties, dwarf in growth, very free and continuous in bloom, and which make delightful bedding plants in summer, from their dwarf, close growth being well adapted for bedding; the two former are also winter bloomers, and they are propagated by means of division in spring.

And then the Gloxinias. When I compare what I can see here with the small, dull coloured, drooping varieties I remember in cultivation thirty years ago the contrast is wonderful. There are something like 3,000 plants of Gloxinias, the large majority of them from seed sown in January last. Time was when it was thought to be necessary to sow seeds of Gloxinias in June and July to have them in bloom the spring and early summer following; now growers make greenhouse annuals of them with remarkable success, as can especially be seen at Reading. Not long since Messrs. Sutton & Sons sent a large quantity of plants all the way to Wolverhampton, and though it is said the Gloxinia is a bad plant to travel, it was remarkable how well the plants had travelled on this occasion. They had at Wolverhampton a large batch of splendid erect flowering white which was awarded a Certificate of Merit; and a later batch of this variety, which comes quite true from seeds, can now be seen in bloom at the Portland Nursery. Then there is the Duke of York, also certificated at Wolhampton, rich carmine-crimson with a broad margin of white, a superb variety; Empress of India, rich deep purple paling to mauve on the petal edges; and Prince of Wales, white, with a small light rose beauty spot on each segment near the base. Time was when five segments made a flower, with six occasionally; now six appears to be the normal number, and as many as seven or eight are found in some of the large-flowered varieties of the present day. The improvement seen of late in the Gloxinia is one of floral sensations of the day.



Cypripedium hybridum Vipani.

One feature of great interest in one of the houses is a batch of seedlings of Freesia Leichtlini and F. refracta alba in full bloom, and in reference to them one could fitly recall Milton's fine lines:—

"——— Odoriferous wings dispense
Native perfumes, and whisper whence they stole
Those balmy spoils."

The atmosphere of the house was laden with the fragrance given forth through the fine pores of the scented flowers. These plants which were strong, vigorous, and blooming with remarkable freedom, were raised from seeds sown in February, in a temperature of from 60° to 70°. As soon as the plants were large enough to handle they were pricked off into 48-sized pots, about six plants in a pot, suitable soil being employed, and in these they were flowering. The seedlings were kept close until June, when they were placed in a cold frame and brought on into bloom. Why should not Freesias be thus raised from seeds?

There was a batch of Streptocarpus seedlings also, of various colours, and very pleasing, and one can quite understand that these will be subject to great improvement at Reading, as at Chelsea and elsewhere.

Then there are Cyclamen represented by hundreds of plants in 48 and smaller pots, raised from seeds sown in September last, which will bloom gloriously in the autumn of this and the spring of next year. Those who have made a point of visiting Reading at the time the Cyclamens are in flower, know well what a splendid strain is grown here, and how well they are cultivated. It is found they come true from seed; that is to say, colours are selected, and names given to them, and the seedlings come very true to their parents, and so Messrs. Sutton & Sons are justified in sending them out in this way. But in this hasty sketch we have had to pass over some of the floral treasures found in the glass houses at the Portland Nursery. There are many things out of doors of a highly interesting character. With the Editor's permission they shall be deferred until next week's issue, when I will return to the subject.—*R. D.*

TUBEROSES.

I HAVE been for two seasons past a close and interested observer of the Tuberose. Growing the bulbs as a field-crop for wholesale trade, it behoves me to note closely, and to remember facts pertaining hereto. Two years ago I failed to get my bulbs grown to the size demanded by trade (from four to seven inches in circumference), losing thus my entire profit on the crop. I wrote to several kind friends asking about them. One friend wrote me that the size of bulbs was of no great consequence if we could only get buyers to credit the fact; and that in his experience, "small, well-cured bulbs bloomed just as well as the large ones." This was corroborated by my last year's experience. I had thousands of small bulbs, too small to sell, but in my eyes too valuable to throw away. One kind adviser said, "plant your small bulbs deep, and get grand ones for next season's sales." I tried the experiment though sparingly, only planting about two thousand. Nearly the entire planting has flowered abundantly, but strange to say, the original bulbs planted have increased very little in size. This convinces me that, with our long seasons south, it is needless to cultivate the bulbs for more than one season. I feared to trust these small bulbs for my own pleasure grounds, therefore bought three hundred of a more successful grower, with the result that since June 15th I have had an abundance of Tuberose-flowers, first from the purchased bulbs, and since from the small bulbs planted. Some of these were fully equal in grade to those of the extra-sized bulbs purchased. These same small bulbs had been housed in a cold basement (brick walls), where they froze hard. That Tuberose-bulbs are not always injured by freezing is also proved by the fact that a relative of mine left some bulbs undug the entire winter, unprotected in any manner. To our intense astonishment many of these bulbs developed just as fine heads, and as large individual flowers as those kept in frostproof places. The bulb-buyers invariably ask for bulbs averaging from 4 to 7 in. in circumference, with long necks, &c. You rarely find

that one bulb in a thousand measures 7 in. Tuberose-growers could afford to sell at the usual prices, and make a good profit, if purchasers could be persuaded that small bulbs were just as good as the large ones. The only difference which I have noticed in the blooming of large and small bulbs, is that the latter require a longer time to perfect their flower-spikes after budding.—*Correspondent of American Gardening.*

THE HERBACEOUS BORDER.

Choice Plants in Flower.

RUDBECKIA PURPUREA.—One of the choicest of Rudbeckias is that under notice, which although introduced from the United States in 1799 is yet far from being plentiful in gardens. The rootstock grows very slowly and therefore cannot be increased with the same rapidity as the best yellow, namely, R. speciosa. The rays are purple, the disc deep brown, and the head often measures 3 in. across. Increase may be effected in spring by careful separation of the crowns.

SAPONARIA OFFICINALIS.—In this we have the tallest and strongest growing of all the species in cultivation, and which are by no means numerous. The pale purple or lilac flowers are not particularly showy, but conspicuous enough in the border and serve to give variety at a time when composites are numerous. They are produced in dense fascicled cymes not unlike those of the Sweet William, and in fact belong to the same family. Propagation is easily effected by division. There is a double one with pink flowers changing to rose, and which some growers might prefer.

BOCCONIA CORDATA.—The stems of this bold Poppywort are shorter this year than usual owing to the dryness of the season. Under favourable conditions as to moisture, they run up to a height of 6 ft. or 8 ft., and then have a sub-tropical effect. The aim of the cultivator with this plant should be to grow it as vigorously as possible, for it never looks better than when growing luxuriantly and just ruffled by the wind so that the white under-surface comes into view. The creamy flowers are small individually, but produced in masses terminating the main stem and the branches. Increase by suckers is easy. It should be planted in the back line of the border where the soil has been trenched up to a depth at least of 2 ft. and well manured.

ACONITUM NAPELLUS BICOLOR.—By many this variety is considered prettier than the type, which has almost uniformly blue flowers. In this case the edges of the lateral sepals and the tip of the upper one, or hood, is of a light blue, while all the rest is white, thus giving the flowers a variegated appearance. The plant grows 3 ft. or 4ft. in height, according to the nature of the soil in which it is grown and its conditions as to moisture. At all events it is a very effective and old-fashioned garden plant, flowering in August or September according as it is grown in the south or north of Britain. It is a poisonous plant, however, and should be grown where none but those who know its danger can get at it.

ADENOPHORA LILIIFOLIA.—On casual observation this plant closely resembles a Campanula, being somewhat similar in habit and the form of its flowers to C. rhomboidalis. The flowers are somewhat smaller, however, more numerous, bell-shaped, pendulous, and clear blue. The leaves are ovate, serrate, and deep green, recalling those of Campanula grandiflora. The stems grow about 2 ft. high, and with their panicles of flowers look very pretty. Altogether the plant is very neat, and might with advantage be more frequently planted in borders of well drained, moderately light soil.

DORONICUM PLANTAGINEUM EXCELSUM.—Occasionally this may be seen in gardens under the name of Harpur Crewe, a name originally given it in gardens before its botanical affinity was ascertained. The lower leaves are ovate on long stalks, but the stem leaves are stalkless. The large heads are of a golden yellow, and produced in succession all through the spring and summer, provided the plant is kept growing. With this object in view it should be occasionally transplanted, at least every twelvemouth or two years, breaking it up and planting the vigorous young growths in well dug and manured soil.

VERONICA SPICATA.—Amongst the perennial species of Veronica, few are neater or prettier than the more typical forms of this species, and the variety, V. s. minor is quite a gem. The plant in good soil grows about 12 in. high, every stem terminating in a long spike-like raceme of bright blue flowers. Propagation is easily effected to any extent by seeds, cuttings, and division.

GENTIANA SEPTEMFIDA.—The stems of this species are procumbent at the base, then erect, and terminate in a small cluster of flowers, the lamina of which, with its curiously fringed intermediate segments, is of an intense blue; the tube is of a bronzy blue. Many of the species of Gentian are difficult to grow successfully in gardens, but that under notice only requires to be planted in well drained, but moderately moist soil and let alone. It flowers regularly every year.

THE BEDFONT SEED GROUNDS.

THE rich brick earth-lands along the valley of the Thames in the western part of Middlesex are thickly studded with market gardens, a fact which testifies to the suitability of the land for the purpose. Seed farms are not numerous, fruit and vegetables being extensively grown, so that the Bedfont seed grounds of Mr. R Dean, Ranelagh Road, Ealing, are like an oasis of flowers amongst the fruit and vegetables. A considerable amount of variety is included in the four acres, and choice varieties of many old-fashioned garden flowers are full of interest to all who delight in gardens and gardening.

Antirrhinums sown in February in a cold house are now in full bloom in many colours, such as rose, purple, white, yellow, and crimson, striped and mottled. We were much taken with a brilliant crimson variety, having a white tube and named Brilliant. This latter had also been raised from seeds and was wonderfully true to the type, about 12 in. or 15 in. high and most floriferous. Other named varieties in smaller quantity were Geo. Finlay, yellow and closely striped with crimson; John Turner, bright yellow mottled with red; Zebra, pale yellow, striped red; Hoo Glen, white mottled crimson; and Firebrand, crimson with a purple tube. The Candytuft named White Empress has racemes of flowers 6 in. to 8 in. long. Sweet Peas of the leading named sorts are grown in some quantity. Several choice named varieties of Indian Pinks are grown in different parts of the grounds so as to avoid their being mixed by the bees. That named Brilliant is single with large brilliant crimson flowers, freely produced on stems about 6 in. high. Some double and semi-double ones of the same colour afford an opportunity for selection. A double white one named Snowflake is also very choice in its way. French Marigolds are grown in some quantity, and a dwarf yellow variety about 12 in. high and 18 in. through is very floriferous and fine. Other varieties are striped, and some of a rich brown, laced with gold. China Asters include some very fine quilled ones in a mixture of various colours. The Mignon and Comet strains are also mixed, the latter being characterised by a white edge to the florets. The double Royal Marigolds constitute a strain of Calendula officinalis, having the florets tipped with maroon. African Marigolds are represented by the orange and lemon varieties with heads 4 in. to 5 in. across, and the strong plants resembling miniature trees.

Several very choice Tropæolums are grown in quantity, including a brilliant clear scarlet variety named Bedfont Rival. The foliage is of a light green. Quite distinct from this is Lustrous, with dark bronzy glaucous foliage, and brilliant crimson-scarlet flowers of a darker hue than Empress of India. Self sown seedlings of Tropæolum canariensis now cover a concrete wall with a mass of living greenery and clear yellow flowers. Ten-week Stocks are grown in some quantity, amongst which is a fine white one named Princess Alice. We noted also a fine plantation of intermediate white Stocks, and the large mauve flowered variety named Mauve Beauty. The large percentage of double flowers precludes the chance of getting many seeds from them. Annual Chrysanthemums are represented by the yellow C. Sibthorpii, C. segetum grandiflorum with larger yellow flowers, and C. coronarium with double and semi-double white flowers. The new double giant strain of Zinnia elegans grows about 18 in. high, or might have been taller if rain had been more plentiful, but the flower heads are of great size. The orange-yellow flower heads of Venidium calandulaceum are freely produced in dry weather, and being easily raised from seeds might well be grown where Gazanias are sometimes used.

A good strain of Pentstemons is grown for the production of seed; most of them have at one time or other been sent out under names, but here they are grown in mixture for the purpose stated. Some are also grown under names. A plantation of single Petunias are very floriferous and attractive, some being purple or crimson, and others striped with purple on a white ground or white striped with purple. Spotted white and purple Foxgloves show which can be done with a British plant. Spotted and blotched Mimulus delight in the shade of a north border. A striking plant is Lobelia speciosa grandiflora with dark blue flowers and a small white eye Similar in habit to a Sweet Pea, is Lathyrus tingitanum, a climbing annual with deep purple flowers. L. Drummondi with deep rose flowers is now out of bloom, as it commences to flower in May, but its place is taken by L. latifolius delicatus with white flowers suffused with pink and having darker veins. A good strain of Sweet Williams, now mostly out of flower, yet show many beautifully marked flowers. Carnations also find a place, and amongst them we noted a white variety with moderate sized fragrant white flowers.

Bedding Pansies and Violas are grown to some extent, including Countess of Hopetoun, white; Trentham Purple, dark purple; Hollyrood, and Bluebeard, both dark violet blue varieties of different shades of colour; Champion, white, and a large number of seedlings. Some very fine selfs could be selected from amongst them, with perfectly circular flowers and rich colours. Some of the seedling yellows were almost or entirely without rays. A quantity of single Dahlias are now very profusely laden with flowers. Scarlet Bedder is a brilliant scarlet; Victoria has white flowers with a single edge; Paragon is now pretty well known to most or all cultivators of single Dahlias; and other varieties have pink, yellow, and white flowers respectively.

BEGONIAS AT WEXHAM PARK.

A DAY or two ago, by permission of Mr. Ford, the gardener, I had the pleasure of making another visit to the beautiful gardens belonging to Sir Charles Piggot, Bart. I have on previous occasions forwarded you a few notes respecting the good things that are always to be found there. What attracted my attention most of all this time was the grand and enormous collection of tuberous Begonias; such a sight I have never before seen in any private collection, and I doubt whether anyone could find another in England to equal them. There are two houses entirely devoted to them, one a span-roof, 50ft. long by 14 ft. wide; the other, a ¾-span, 36 ft. long by 14 ft. wide. The plants are staged on either side of the centre walk, and present a gorgeous sight such as one cannot easily forget. The plants are the picture of health and vigour, and the size and substance of the flowers is remarkable, many measuring 7 in. in diameter.

If ever any were seen to perfection these would certainly stand in the first rank; but the most extraordinary feature about them, considering the size of the plants, is the exceptionally small pots they are grown in, scarcely any exceeding 8 in., and the greater portion are grown in 40's and 32's, and yet some of the plants measure from 2 ft. to 3 ft. across, and are literally covered with massive flowers. I must not omit to mention, however, that they are liberally fed with artificial manure. The greater part are from seed sown last year which Mr. Ford selected and saved himself. His mode of culture is simple but very effective. The seeds are sown in shallow pans early in the spring in a compost of loam, leaf soil, and coarse sand, about equal parts; but great care is taken not to cover the seeds too deep, a little fine sand sifted on the surface is all that is required. As soon as the seedlings are large enough to handle they are carefully pricked off in similar pans, and kept in a warm, moist atmosphere close up to the glass to prevent them getting drawn; this Mr. Ford considers the principal thing in the cultivation of these beautiful plants. As the season advances they are gradually hardened off and placed in frames, still keeping them close up to the light and air. Then when the season permits they are planted out in a rich and well prepared bed in the kitchen garden. Those thus

treated are now a perfect mass of flowers of the most brilliant colours.

The very best are then selected and labels put to them denoting the various colours and qualities of each for growing in pots next year. Mr. Ford also uses a great quantity for bedding purposes in the flower garden, several beds of which are looking very gay. They seem adapted for this purpose far more than Pelargoniums, especially in wet seasons, for instead of the rain spoiling the flowers as is the case with Pelargoniums and many other kinds of bedding plants, it seems to brigbten them up and make them look even more beautiful.

To give your readers a faint idea of the quality of tbese plants, Mr. Ford exhibited on the 11th inst. seven plants at the Maidenhead Flower Show, each one of whicb was awarded a First-class Certificate, and I am quite confident be might have shown dozens equally as good. With tbe stock of plants Mr. Ford has in hand to work upon next year, we shall expect to see some extraordinary good specimens, for it seems he has found out tbe secret of growing this beautiful class of plants to the highest perfection.—*J. G.*

[A boxful of blooms taken from the above plants and accompanying this article amply bore out the statement of our correspondent as to tbe size and quality of the flowers, which were really wonderful considering the small size of the pots in which they bad been grown. Although Mr. Ford has only recently undertaken tbe culture of tuberous Begonias, be has already given good evidence of his ability as a grower. Tbe variety of colour was very extensive, including scarlet, crimson, rose-pink, blush, white, and yellow in numerous tints and combinations. Some of the varieties were not all that could be desired as to shape, but others were as round or circular as could be desired. Of course all the flowers sent us were single, with the sepals in many cases of good substance. The conditions of culture must have been excellent.—Ed.]

CHICAGO EXHIBITION.

Horticultural Department.

Work in this department has been greatly retarded by the unusually heavy rainfalls of the last two months, and the cyclonic conditions frequently accompanying. The rustic columns which form a colonnade round the Forestry Building are now being placed. They are natural tree trunks contributed from tbe various States. Tbe work on this is nearly finished.

A carved panel for the Women's Building from Omaha has attracted much attention. It is a conventional design on oak of oak leaves and acorns. One of the best has come from Alabama. It is a bold design of Magnolia leaves and blossoms, natural size. Many others are being received, all from lady carvers in the different States.

A notable thing being done in various localities is tbe sending of circulars tbroughout tbe State asking for contributions of specimens of pressed native flowers, to make as complete an exhibit as possible. Tbis cannot fail to be interesting and instructive.

Goods marked "for exhibition purposes only" will not be allowed to be sold till after the close of the season. This will be rigidly enforced by inspectors. All tbe mercbandise will have to pay the Customs duties assessed when taken out of the bonded warehouses on the grounds (in which they will be stored on arrival) for sale purposes. Should any extra portion of those be required for exhibition they can be used duty free by so marking them.

The Illinois State Horticultural Association bas decided to make a continuous exhibit of all the horticultural products of the State throughout the exhibition. Twenty thousand square feet of space has been set aside in the department for this purpose. A proposal is being mooted at present which will place this department, along witb several others, under one bead—tbat of tbe present chief of the Agricultural Department, in order to effect a large saving in salaries. As yet, however, it is impossible to say whether tbis will be carried out or not.

France bas come to the front in great style by offering to take charge, at its own expense, of the whole decoration, witb gardens, of the spaces surrounding the Horticultural and Women's Buildings. France evidently intends to transcend its reputation as a country of landscape artists, as the expense of transportation and labour alone involved in this great offer will be enormous. Six months ago French horticulturists declined to make any exhibit, and now they ask for an allotment of at least 60,000 square feet on the outside. The interest so rapidly developing is extremely gratifying to the management; and it is to be hoped that British horticulturists will not be found wanting, but will make at least an equally fine display. Such a display will pay well here, as prices are very much higher than in Britain for all kinds of nursery stock

The State of Missouri is storing at its headquarters, St. Louis, forestry and horticultural specimens from all parts of the State. There are 200 varieties of trees grown, and specimens will be sent to Chicago. A large forestry exhibit is expected from Minnesota.

In the landscape department 235 men and fifty teams are hard at work spreading black loam for flower-beds, grading and seeding the wooded island, distributing spare sod where required, and grading permanent roads. Over 4,000 square yards of gravel have already been spread and rolled on roadways. The *New York World*, in an article lately on Chicago, criticises the arrangements of floral designs at a Soutb Side Park as follows:—

"Cbicago has fine parks, and it would be wrong to bang the man in cbarge of the flowers in tbe park that visitors will see on their road to the Exposition. To hang sucb a man as that would be to drag murderers down to his level. He has disfigured tbat fine park with the following horrible things: Two facsimiles (life-size) of a man rowing in a boat, built up of Cacti, or something of that sort; a huge 'gates ajar' on top of a grassy slope, and on either side of the gate—O, dreadful deed!—a correct imitation, made in beautiful flowers, of a roll of carpet half unrolled.

He has also a calendar made of flowers, in which he cbanges the date each day; a flower sun-dial, an imitation of the earth's surface in flowers, etc. But all tbe items in his horticultural chamber of horrors fade beside the imitation of rolls of carpet. A man who would be guilty of sucb a crime as that would try to make individual roses look like kidneys. It is sincerely to be hoped that Chicago will do away with these horrors, and avoid being ridiculous in the eyes of all the civilised gardeners who may visit the Fair."

I confess to a certain sneaking sympathy with the man whose handiwork is thus ruthlessly assailed. No doubt he was pluming himself for a wider flight next year, and now New York has spoken, and he is doubtless mourning in sackcloth and ashes. All the same, the country cousins, who will make up a large portion of the visitors, would be hugely delighted with such a display, and especially with the pattern of the carpet. We cannot all be artistic, and it is to be feared that many of us cannot even appreciate bigh Art—with a capital A—when we see it, in floral designs or otherwise.—*C. Macquarie, Chicago.*

GARDENING MISCELLANY.

SCYTHE MOWING.

I was much pleased to read "D's" remarks at p. 769 on this subject, for I had often thought about the same thing. It rests with the bead gardeners of to-day to see that it does not become a lost art. I well remember, when foreman at a place near London, in 1876, how the break-down of the large lawn-mower caused us to fall back upon the scythe. The chief took the opportunity to remind the young men that they tben had a good chance of trying their hand with the ancient implement, and would find a knowledge of how to use it of great benefit, if ever tbey came to have charge of a place. I availed myself of the opportunity, and commenced at 5 a.m. and continued until breakfast-time. I was placed between two old hands, and found it more difficult than I had thought, especially the sharpening, wbich one or the other of the old men did for me the first few mornings. It is one of those things tbat practice makes perfect in. My shoulders felt anything but comfortable after the first lesson or two, but I have found the benefit of the chief's advice many times since. There is also another matter which the same gardener used strongly to urge upon the young men under him, which was always to "look well after the pot," meaning thereby the kitchen garden department. I find that many young men now developing into gardeners know very little about this branch of our profession, and they will surely find themselves in an awkward plight when they have to overlook others, if they lack a sound knowledge of kitchen garden management. A few years back when in Essex, being in want of a journeyman, I applied to a well-known nursery firm for a young man who could use a scythe and had a fair knowledge of kitchen garden work. They replied, "We are unable to send you a young man suitable for the work you name." When at Chiswick, just 20 years ago, one of the old men ("Shaddy") used to say with pride, that Mr. A. F. Barron when he first started with R. H. S was one of the best short grass cutters in the gardens, and that would, I think, be in the time of the late Mr. Robert Thompson. The work can in no sense be degrading, judging from the high position which Mr. Barron has since taken in the horticultural world.—*B., Manchester.*

ERIGERON SALUGINOSUS.

The flowers of this species are about 1¼ in. in diameter with very numerous white rays and a pale yellow centre. The leafy stems are 18 in. high, and very floriferous, so tbat a mass of the plant is very effective. A large quantity of it is grown in the nursery of Mr. T. S. Ware, Hale Farm, Tottenham. Botanists include it amongst the Asters, but the numerous rays of the head seem against this classification. The quantity of flowers it produces when grown under very ordinary conditions is sufficient to recommend it to all lovers of hardy plants. Being a native of North America it is perfectly hardy, but by no means common, although introduced as long ago as 1827. There is a taller form, with larger flowers, in cultivation.

LINUM FLAVUM.

In the southern part of Britain this proves perfectly hardy, requiring no protection in the open ground and is a more effective plant even than L. arborenm, because it grows taller and produces a greater quantity of bloom of a clear golden yellow. The flowering stems are very short in L. arboreum, but those of L. flavum rise to a height of 12 in. or 18 in. bearing a loose panicle of bloom. The glaucous leaves are oblanceolate or spathulate, not unlike those of its ally, but less numerous and not crowded. A large batch of it has been flowering freely for many weeks past in the nursery of Mr. T. S. Ware, Tottenham.

CHINESE PINKS AS BEDDING PLANTS.

Many years ago, Chinese Pinks, but particularly the strain known as Dianthus chinensis Heddewigi, were grown to some extent as summer bedding plants. Again there seems to be some reaction in their favour, as we have seen several instances of it lately. The large flowers and their warm colours possess much to recommend them. In some instances the finer varieties are selected and grown separately; but in most cases tbey are grown in mixture, as at Falkland Park, South Norwood Hill, the residence of J. McMeekin, Esq., where we noted a great variety of colours. The plants are only about 6 in. high, with single flowers as a rule measuring 2 in to 2¾ in. across. Some of them are crimson with a rose edge, others white witb crimson centre, white with a five-rayed blotch, crimson with a pink eye, carmine and flaked with rose at the edge, carmine and white with a pinkish purple centre. There are a number of double ones amongst them, but they are neither so conspicuous nor sbowy as the single ones, wbich are mostly brighter in colour witb larger flowers.

GLADIOLUS COOPERI.

A considerable number of species of Gladioli have been introduced from time to time, but only a few of them have been taken in hand by tbe florist. There are several wild types with relatively large flowers, and G. Cooperi, which was introduced in 1862, is one of them, It has stems about 18 in. bigh, and widely spreading flowers with recurved segments, of a soft salmon red, and an elliptic, richly coloured blotch on each of the three lower segments. The leaves are ensiform, and of moderate width. The above is descriptive of the flowers of some plants at Kew, but the colours do not correspond with recorded descriptions.

FUMIGATING WITH LETHORION CONES.

HAVING used the Lethorion vapour cones for fumigating a great variety of plants as well as fruits, and found them both safe and successful with all but two subjects, I am tempted to seek further information on the subject. The two exceptions I have referred to were Salvia coccinea, and single-flowered zonal Pelargoniums. They were both in full bloom when I fumigated them, and the following day the petals fell from the plants in showers. There would appear to be very few subjects liable to injury from the use of these cones, but it would be well to know what they are so that they can be removed from houses in which the cones are used. I should be glad if some of your readers would give their experience.—*H. W.*

EREMURUS OLGÆ.

THE species of Eremurus are stately plants, which although not possessing bright or conspicuous colours, may nevertheless be considered showy. When raised from seeds they require a considerable length of time to come into bloom, but ultimately reward the growers for their patience. The leaves are confined to the base, forming a tuft from which the scape rises to a height varying from 3 ft. to 10 ft. That under notice has been flowering for some time past with Mr. T. S. Ware, Hale Farm Nurseries, Tottenham. The stem is 6 ft. high, and the upper two feet form a raceme closely covered with flesh white flowers; the base of the stamens and the ovary in the centre are golden yellow, contrasting with the rest of the flower. While in bud they are of a beautiful salmon colour.

CERASTIUM CHLORIFOLIUM.

MANY of the species of Mouse Ear, or Cerastium, have small and by no means conspicuous flowers, but that under notice is an exception, and has flowers as large or even larger than those of C. arvense, and of the same colour. The most striking feature of the plant, however, is the smoothness of its leaves, which vary from spathulate to ovate, and are of a decidedly glaucous hue, resembling in this respect Chola perfoliata, as implied by the specific name. The leaves of many species of Cerastium are felted or woolly and hoary in appearance, so that the plant under notice is strikingly distinct, while the flowers are sufficiently large and numerous to be conspicuous. It may be seen in the herbaceous ground at Kew.

CACALIA AUREA.

THE flower heads of this annual composite are of a rich orange inclining to scarlet, and brighter than those of Hieracium aurantiacum. The stems grow about 12in or 18in. in height, and although the flower heads are moderate in size they are very distinct amongst annuals. The glaucous leaves are oblong, and clasp the stem. Those who cultivate annuals largely might grow it by way of variety. To keep it growing and flowering over as long a period as possible, the young seedlings should be thinned out before they get in any way crowded.

SEVENOAKS FLOWER SHOW.

THE twenty-fifth annual exhibition in connection with the Sevenoaks Horticultural Society, was held in Knole Park, on Wednesday, August 10th, and proved to be one of the best shows held since the society was established. Favoured with fine weather and the consent of Lord Sackville to hold the exhibition in one of the best spots that could possibly be found, had the desired effect of bringing together a large concourse of people. Knole itself, without the attraction of a flower shower, is an efficient draw to the general public, with its well kept pleasure grounds, fine woodland and forest scenery, to say nothing of the ancient Oak tree for which the park is famous, and which is said to be 250 years old, and the King Beech, which is situated about 250 yards from the bottom end of a fine avenue of Oaks, known as the Duchess's Walk. This grand Beech is nearly 28 ft. in circumference, and displays as much top as three or four ordinary trees. But enough, our mission is to report on the exhibits, and we at once made for the plant tent, which was a fine one, 140 ft. long and 40 ft. wide, and contained some of the best specimen-flowering plants ever put up in competition.

For six exotic flowering plants, Mr. A. Gibson, gardener to T. F. Burnaby-Atkins, Esq., Halstead Place, took 1st honours, his best plants being Dipladenia Brearleyana and amabilis, each having about eighty fully expanded trusses of their gorgeous flowers, a fine Anthurium Scherzerianum, and Clerodendron Balfourianum; Mr. J. Goodman came in 2nd with a fine Stephanotis floribunda, with about a hundred trusses, Allamanda Hendersoni, and Anthurium Andreanum as his best examples; Mr. A. Hatton was 3rd. For a specimen flowering plant Mr. Gibson was again 1st, showing a magnificent plant of Dipladenia Brearleyana, with eighty-six fully expanded trusses. This plant also received a Silver Medal as being the best specimen in the show; Mr. C. Sutton, gardener to Earl Stanhope, Chevening, had the next best, which was a fine healthy plant of Dipladenia insignis; 3rd Mr. Elliott, gardener to Lord Hillingdon, The Wildernesse, with a fine Lilium auratum with seventy spikes and about three hundred blooms.

For six fine foliage plants Mr. J. Goodman, gardener to Mrs. Crawshay, Bradbourne Hall, was easily first with good examples of Croton Williamsii, C. majesticum Cycus revoluta, and Alocasia Thibautiana; second, Mr. A. Hatton, gardener to Mrs. Swanzy, The Quarry. In the class for six exotic Ferns Mr. J. Goodman was again to the fore with fine, well-grown plants of Cibotium regale, Dicksonia squarrosa, and Davallia Mooreana. Mr. Hatton was again second with good examples of Cibotium princeps, Marattia salicifolia, and Davallia Mooreana.

The groups of miscellaneous plants arranged for effect were not so numerous as last year, neither do we think they were so good. There were only five competitors, and the best arrangement was that put up by Mr. G. Fennell, gardener to Mrs. Cazelet, Fair Lawn, Tonbridge; Mr. R. Edwards, gardener to Barclay Field, Esq., Offord, being second, and Mr. S. Cooke, gardener to De Barri Crawshay, Esq, Rosefield, third. The Fern groups were much above the average, especially the one put up by Mr. A. Hatton, which we think was the best we have ever seen, a plentiful use of Adiantum macrophyllum having a splendid effect; 2nd, Mr. J. Goodman, with a good group of fresh Ferns, but not so well arranged or so effective in colour; 3rd, Mr. H. Heath, gardener to Mrs. Petley, Riverhead.

In the second division groups were well shown by Mr. W. Searing, gardener to R. Monckton, Esq., and by Mr. Heath, who must have regretted not having entered in the first division, where they would have stood a good chance of carrying off chief honours.

Fruit was not so good as we are accustomed to see it at Sevenoaks. The best collection was shown by Mr. Osman, Chertsey, who had good Grapes, Nectarines, and Peaches; 2nd, Mr. G. Fennell; 3rd, Mr. J. Goodman. Mr. Osman had the best black Grapes, followed by Mr. A. Hoodley, Kippington; and Mr. Robinson. For white Grapes Mr. C. Sutton, Chevening, led with finished bunches of Muscat of Alexandria; 2nd, Mr. Osman; 3rd, Mr. Goodman. Mr. Gibson had the best Nectarines, and Mr. Hatton the best Peaches.

The table decorations on separate tables, 9 ft. by 4½ ft., were again a grand feature, there being no less than nine competitors for the four prizes offered; and in this keen contest Mr. W. Searing was placed 1st, with a very pretty arrangement of Sweet Peas and bronze foliage; 2nd, Mr. F. W. Seale, with a table which was almost entirely dressed with Laburnum, and which was greatly admired; 3rd, Mr. R. Potter, gardener to Sir Mark Collett; 4th, Mr. R. Edwards. For a hand bouquet, Mr. S. Cook was 1st; Mr. Webber, Tonbridge, 2nd; and Mr. Potter, 3rd.

In the vegetable department the class for nine dishes brought out a numerous display of splendid baskets, indeed so good were they that the judges pronounced them all worthy of a prize. The principal award went to Mr. Robinson; Mr. R. Baldwin being 2nd; and Mr. Snow, gardener to C. D. Murietta, Esq., Wadhurst, 3rd. For six kinds there was again a grand lot staged; 1st, Mr. Barney, Maidstone; 2nd, Mr. J. Buckland, Walthamstow Hall; 3rd, Mr. C. Noble. The cottagers, not to be outdone, also showed some splendid vegetables, indeed they were quite up to those shown by the professionals. We congratulate the secretary, Mr. A. Fenner, together with the committee, on the great success which attended their efforts.

DELPHINIUM BELLADONNA.

SOME of the more modern garden varieties of Delphinium are notable for their great size, especially the so-called semi-double ones. Belladonna is an old one with flowers of moderate size, but freely produced in long branching racemes. Young plants have smaller flowers, but they have the additional recommendation of throwing up shoots in succession and flowering at various times during the course of summer and autumn. The flowers are of a clear but bright azure or sky-blue, in fact of a pleasing and attractive hue. The small petals in the centre are white and serve as a beautiful contrast. We noted a large quantity of it in the Montague Nursery, Tottenham, occupied by Mr. F. Gifford.

ORCHID NOTES AND GLEANINGS.

AT the meeting of the Royal Horticultural Society on the 9th inst., Orchids were as well represented as any other class of plants, and the following were considered worthy of Certificates;—

Lælia Oweniana.

THE pseudo-bulbs of this hybrid are fusiform and 1 in. to 2 in. long, bearing a solitary, oblong, leathery leaf, 3 in. to 5 in. long, by an inch in width. The flowers are of good average size, considering the parents from which the hybrid was obtained, namely, L. Dayana, crossed with the pollen of L. xanthina. The sepals and petals are white, the latter being nearly erect, oblong and considerably broader than the sepals The lip has a white tube, and a roundish, cuspidate, purple lamina, the margin and side lobes are indeed paler, and there is a white blotch at the apex. There is a large yellow blotch in the throat, and three purple lines run down into the throat. The column is trigonous, white, and marked with purple spots in lines down the face. The seed parent has had most influence upon it. An Award of Merit was accorded it when shown by Messrs. F. Sander & Co., St. Albans.

Lælia crispa superba, Statter's var.

THE pseudo-bulbs of this fine variety are short, very stout, and of a shining yellow hue, bearing a solitary, terminal, rigid, and leathery leaf. A plant shown in a basket by Thomas Statter, Esq. (gardener, Mr. Johnson), Stand Hall, Whitefield, Manchester, had three spikes of bloom, bearing respectively eight, five, and two blooms, but four had been removed from the latter on account of age, otherwise there would have been nineteen in the aggregate. The oblong, revolute petals are white; the petals are also white, elliptic, folded back at the sides and crisped, but not doubled backwards as in the type. The lip is also crisped at the edges, and of a deep purple reticulated with lilac at the margin, while the purple extends on to the side lobes and down the throat. An Award of Merit was accorded the variety.

Lælio-Cattleya Ingrami.

BIGENERIC hybrids are getting common, but after all, those produced between Lælias and Cattleyas only tend to show how closely allied the two so called genera are. The seed parent in this case was Lælia pumila Dayana, crossed with Cattleya Dowiana aurea. The flower is only moderate in size, taking after L. p. Dayana in that respect and measuring about 3½ in. across the petals without being spread out, and the lip being 2½ in. long. The wonderfully rich colour, especially of the lip, is derived from the seed parent. At present the plant is only small, showing six pseudo-bulbs of gradually increasing size, and as two of them were produced in one year and the plant is only five years old, no doubt the plant will be larger by-and-bye. The leaves are solitary, oblong, terminal and leathery. The sepals are lanceolate-oblong and pale purple, and the petals ovate, obtuse, ascending and darker in colour. Both the lamina and the side lobes are strongly undulate at the sides and of an intense crimson, with the exception of a pale blotch at the apex of the lamina. The throat is purple, with paler lines running down into the tube. It was exhibited by C. L. N. Ingram, Esq, (gardener, Mr. T. W. Bond) Elstead House, Godalming, and deservedly received a First-class Certificate.

Oncidium macranthum nanum.

THE leaves of this fine variety are linear-lanceolate and similar to those of the type, but the pseudo-bulbs are very much smaller and ovate. The species is well known to be a tall, climbing plant, but the

variety only grows about 15 in. to 18 in., bearing two to four flowers at the apex. The upper sepal is roundly cordate, deep yellow and slightly suffused with buff; the lateral sepals are oblong and more decidedly buff. The petals are roundly cordate and deep yellow. The middle lobe of the small lip is yellow, while the lateral ones are triangular and brown, with a prominent, nearly white crest on the middle. An Award of Merit was accorded it when shown by Messrs. Charlesworth, Shuttleworth, & Co., Heaton, Bradford, and Park Road, Clapham.

Cypripedium caudatum Luxembourg var.

ALTOGETHER this is a vigorous growing variety with linear-lanceolate, channelled and leathery leaves as long as the scape, or longer. The large upper sepal is bright yellow, netted with darker veins, and having pale blotches between the veins, and the outer face is even darker. The lower sepal is similar to the upper one, or has more of the pale, nearly white, blotches between the larger veins. The petals are long and twisted and of a deep brown, except at the base where they are reticulated with green on a pale yellow ground. The lip is green and netted with brownish lines, and the sides of the pouch are pubescent and spotted with crimson or purple. The staminode is brown with a yellow centre. A First-class Certificate was accorded it when shown by M. Godefroy Lebeuf, 5, Rue d'Edinbourg, Paris.

Twin-flowered Maxillaria venusta.

WHEN this comes into flower we usually see plants of good size bearing only two flowers. A specimen is now flowering with Mr. P. McArthur, 4, Maida Vale, and which although it consists of only six pseudo-bulbs bears five flowers, two of which are grown together by their backs and face different ways like the Siamese twins. The plant is grown in a cool house, where it succeeds much better than in an intermediate house. The plant is also somewhat different in habit from the ordinary form, inasmuch as the flowers proceed at right angles from the base of the plant and hang over the edges of the pot. Whether it will retain this habit in after years we cannot say, but at present it is very distinct in this respect. The flowers it may be recollected are pure white with exception of the disc of the lip and are very fragrant, the odour, if agreeable, being an additional recommendation to any flower.

Vanda Hookeriana.

I CALLED the other day at Parkfield, near Worcester, the charming residence of C. W. Lea, Esq. Among the many fine Orchids he delights to cultivate, none to my mind can compare with the beautiful Vanda Hookeriana. The plants are about 5 ft. high, being grown on upright rafts and neatly mossed between the growths. They stand in the end of a span-roofed stove, of ordinary temperature, fully exposed to the light and sun all the year round, and are never allowed to get dry. The result is fine, vigorous plants, and a glorious crop of flowers.—*A. J.*

Odontoglossum hastilabium.

MR. D. DONCASTER, Sheffield, has a wonderful strong spike of Odontoglossum hastilabium in flower just now: it is over 4 ft. high with eight side shoots, from 9 in. to 12 in. long, and carries 124 finely developed flowers. The bulb that bears this spike is an enormous one. The plant is grown among the O. crispums.—*A. J.*

WHAT TO DO IN THE GARDEN.

Dracænas.—Many of the plants which did good service in spring and early summer have now got too tall, and may have their tops taken off and rooted in a propagating frame, or a handful of moss may be tied round the stem, after having ringed it to induce the emission of roots. When roots have been pretty plentifully developed in the moss, the top may be severed from the stem, and, after being potted, placed in a close frame or stove to complete the rooting process.

Pandanus Veitchii.—The present is a convenient time for taking off the cuttings of Pandanus Veitchi, so that they may get thoroughly rooted before the advent of winter. The smaller and best variegated suckers always prove the most satisfactory for decorative purposes, and retain their variegation better than those that are strong and vigorous. Poor soil is always more conducive to this end than rich material.

Azaleas, New Holland Plants.—All plants of this class which have not hitherto been placed out of doors will derive advantage and ripen their wood better by being placed out of doors for a few weeks. Stand them on a bed of ashes in a sheltered position where they will not be subjected to too great an amount of sunshine, at least for a few days after they have been stood out, otherwise the foliage will suffer.

Show and Fancy Pelargoniums.—The old plants that were dried off and cut back some time ago will now have started into fresh growth, and may be repotted in smaller sized pots after the balls of soil have been considerably reduced. The plants may then be placed in a cool airy house where they may be allowed to grow away slowly. Water the soil immediately after potting to settle it. Firm potting is also a matter of importance.

Calceolarias.—The seedlings of the main batch of plants should now be potted off, using a compost of good fibrous loam, a little well-decayed cow manure and sand sufficient to keep the whole in an open and porous condition. The plants must not be subjected to much sunshine at this time of the year.

Cyclamens.—The old plants which were retained for flowering another year and which were kept in a semi-resting condition should now be repotted into fresh material, if that has not already been done. The fresh growth being made is a sign that the operation should no longer be delayed. They may be transferred to a shelf in the greenhouse. Seedlings that were germinated in the early part of the year should now be transferred to their flowering pots. Keep the crowns of the corms just above the soil, otherwise many of the buds will damp off during the dull days of autumn and winter.

Chinese Primulas.—The young plants that were raised from seeds sown in April should now be ready for transferring to 48 size pots, and returned to the cold frame in which they have been grown during summer. All flower buds that make their appearance should be removed as soon as they can be laid hold of, to encourage good and rapid growth. Later on all the stronger plants may be transferred to 32 size pots in which they may be flowered. A little heat will be necessary later on, when the nights get longer and colder.

Cinerarias.—The different batches must be potted on as they require it and kept near the glass to prevent drawing. Low frames are the best for them, and if facing the north so much the better. Green fly is generally the most troublesome pest to which they are subjected, and prompt remedies should be applied, in the form of fumigation, whenever the insects make their appearance.

Melons.—The late batch of plants should now be getting established. Growth should be encouraged by maintaining a genial atmosphere by means of artificial heat at nights, and the plants will feel the benefit of syringing twice a day when the weather is fine. Air must, however, be given freely, otherwise the growth made will be weak and by no means consolidated. Mulch the soil over the roots and less water will have to be applied, much to the advantage of the plants.

Onions.—As the leaves begin to turn yellow they may be bent down to encourage ripening. Those with moderately thick necks may be treated in this way, but if the necks are of great thickness and the bulb small, they may simply be left for use as required, for they will never make good keeping bulbs. The good sound bulbs may be pulled in a few days, and laid out in the sun to ripen.

Celery.—Earth up Celery in dry weather, taking care not to allow the soil to tumble into the crowns. A thorough watering may be given to late crops a few hours before commencing to earth up the plants. Pull off suckers and all the small, useless leaves.

Leeks.—Keep filling up the trenches as the plants grow, in the case of those that are being blanched. If they were planted on the level instead of trenches the soil may simply be drawn up against the stems, as is sometimes done in the case of Celery.

Peas.—As the early crops get gathered pull up the stems and prepare the ground for some other crop, such as early Cabbages, to be planted out next month; or Cauliflowers to be planted out early in spring. It may be laid down in Strawberries directly. In any case trench the ground and manure it well, especially if for Strawberries, and after treading the ground, take out shallow furrows 30 n. apart, and plant the Strawberries directly.

QUESTIONS AND ANSWERS.

**** Correspondents are requested, in order to avoid delay, to address all communications to "THE EDITOR" or "THE PUBLISHER," and not to any person be name, unless the correspondence is of a privat, character. Telegrams may be addressed "Bombusa, London."*

CAULIFLOWER AND BRUSSELS SROUTS CLUBBED.—*A. L., Leeds*: It is the custom with many gardeners to raise their stock of Cabbages, Cauliflower, etc. on shallowly-dug borders every year. After the required number of seedlings have been transferred to their permanent quarters, the remainder are allowed to struggle with one another for an existence for almost the rest of the season. Now, by this practice the borders get filled with the spores of the fungus that produces clubbing, and when seeds are again sown on that ground in the following year, the roots of the seedlings get diseased before they are transplanted, and although the fact may escape observation for the time being, the seedlings never get a chance to make good growth before the fungus has almost destroyed the roots in the open ground. You should avoid planting the Brassica tribe on the same piece of ground at shorter intervals than three years. Furthermore the beds in which the seeds are sown should be trenched 2 ft. deep in the autumn or winter, at the same time giving the ground a good sprinkling with gas lime so as to kill the spores that may be in the soil. In this way it is possible to get healthy seedlings free of the disease, and which, being planted on clean ground, ought to give satisfaction almost any season. Deep and clean culture should always be aimed at with everything, especially in old gardens.

FRUITS TO NAME.—*J. C.*: Apple, Irish Peach.—*Correspondents sending fruits to be named are requested, where possible, to send fair average examples, to number them carefully; and to pack them in boxes that will not be liable to get broken in transit.*

HARDINESS OF THE HYDRANGEA.—*W. Guest*. There are several species of Hydrangea that are hardier in England than H. hortensis and its varieties, but with exception of H. paniculata there is no other really distinct kind, we believe, that in any way approaches the ornamental character of H. hortensis. We do not know that experiments have been tried with it, but it would certainly be worth while trying some. For instance, good specimens might be started with, planting them in a dry and warm situation so as to thoroughly ripen their wood in autumn. When planted out in good soil, the plants make such rampant growth and continue so late in autumn that they have no time to ripen the wood before frost sets in. Of course in a dry and sunny position growth would generally be poor, as the Hydrangea likes a good supply of moisture all through the summer months. Holes might, however, be dug out and the sides built round with cemented bricks, or with concrete, or simply puddled with a layer of impermeable clay so as to hold water when required. A drain pipe could be placed in the lowest part of these holes, or sunk tanks, if they might so be termed, and furnished with a stopper so as to retain a sufficient supply of moisture during the summer months or till the plants had finished flowering; after which the drain pipe could be opened, and the roots thoroughly drained to encourage the ripening of the wood.

BEDDING VIOLAS.—*A. L. Jameson*: In your locality there should be no difficulty in wintering the young plants or rooted cuttings in the open air. They are perfectly hardy, and notwithstanding the fact that several of the varieties are liable to die off, it is not by reason of the cold, for many of them will behave in that way during summer. The cultivation of those with a weak constitution should be discouraged, unless for very special reasons on account of their great beauty. Make up a bed under the shelter of a wall, or in any sheltered, but open position, not overhung by trees. Improve the staple of the natural soil by adding a considerable quantity of leaf soil and sand, especially if the natural soil is inclined to be heavy. The cuttings may be inserted now or a little later on, after the newly-dug soil has been pressed firm and levelled. The suckers or young shoots that come up from the base make the best plants, and should be inserted firmly and then watered. Shade during the middle of the day for a week or so, if the sun is bright.

WHITE LUPIN SEEDS.—*J. C.*: The seeds you have obtained are those of Lupinous albus, supposed to be of Egyptian origin or from the western shores of Asia Minor, bordering upon the Mediterranean. The species is, however, largely cultivated in several of the south European countries bordering upon the Mediterranean. The seeds are, as you say, very bitter in the raw state, but when boiled they lose their bitterness and any other deletrious properties they may possess, and constitute a useful article of food, largely used in Eastern countries from ancient times to the present day. We are not surprised the seeds should find their way to this country as an article of human food.

NAMES OF PLANTS.—*Omega*: The Oswego Tea (Monarda didyma). *P. M*: 1, Verbascum Chaixii; 2, Galega officinalis alba; 3, Tradescantia virginica alba; 4, Campanula Trachelium alba semiplena;

5, Centaurea montana; 6, Eryngium alpinum; 7, Spiræa japonica rubra (erroneously called S. callosa rubra); 8, Antennaria margaritacea; 9, Lythrum Salicaria. *I. W.*: 1, Lilium croceum; 2, Lilium chalcedonicum; 3, Lilium pardalinum; 4, Lysimachia vulgaris; 5, Sedum reflexum; 6, Campanula latifolia; 7, Campanula rapunculoides; 8, Digitalis lutea. *G. E. Gay*: 1 Lastrea Filix-mas; 2, Polystichum aculeatum; 3, Scolopendrium vulgare; 4, Polypodium vulgare; (no number attached) Asplerium Filix-fœmina red petioled var. *W. Ruphus*: 1, Lilium croceum; 2, Sidalcea candida; 3, Francoa ramosa; 4, Cephalaria tatarica; 5, Aconitum ochroleucum; 6, Astrantia major.

POTATOS AT CHRISTMAS.—*Omega*: No.

COMMUNICATIONS RECEIVED.—A. J.—S. C.—J. C. S—W. S.—J. W. L.—W. S.—O. T.—H. J. V.—W. P. C.—J. P.—A. H.—R. B—E. O. G.

TRADE CATALOGUES RECEIVED.

JAMES VEITCH & SONS, King's Road, Chelsea, S.W.—Hyacinths and other Bulbous Roots. Special list of Strawberries.

R. GILBERT, High Park Gardens, Stamford.—Strawberry circular.

SUTTON & SONS, Reading.—Bulb Catalogue for 1892.

JOHN T. GILBERT, Dyke, Bourne, Lincolnshire.—Bulbs and other Flower Roots.

COVENT GARDEN MARKET.

August 16th.

FRUIT.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.		s. d.	s. d.
Black Currants ½ sve	4 0	4 3	Pine apples.		
Red Currants ...½ sve.	2 6	3 0	—St. Michael's, each	2 6	6 0
Grapes..... per lb.	1 0	2 0	Apples...per ½ sieve	1 6	3 0
Peaches... per dozen	2 0	8 0	Plums...per ½ sieve	3 6	7 0
Melons..... each	1 6	2 0			

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
ArtichokesGlobe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Beans, French, perlb.	0 6		Lettuces ...per dozen	1 6	2 0
Beet..... per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages ... per doz.	1 6	2 6	Onions.....per bunch	0 4	0 6
Carrots ... per bunch	0 6		Parsley ... per bunch	0 6	
Cauliflowers, Eng.dz.	3 0	6 0	Radishes... per dozen	1 6	
Celery.....per bundle	2 6		Smallsalading,punnet	0 4	
Cucumbers .....each	0 4	0 9	Spinach, per strike ...	1 6	
Endive. French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	0 9
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Asters .....per doz.	4 0	6 0	Heliotrope, per doz.	4 0	6 0
Balsams .....per doz.	3 0	6 0	Lilium Harrisii, doz.	12 0	24 0
Begonias ...per doz.	6 0	12 0	Lilium lancifolium...	12 0	24 0
Cyperus .....per doz.	4 0	12 0	Lilium Auratum.....	18 0	36 0
Dracæna term., doz.	24 0	36 0	Lobelia, ...per doz.	2 6	4 0
Dracæna viridis, doz.	9 0	18 0	Marguerites, per doz.	6 0	12 0
Evergreens, invar. doz	6 0	24 0	Mignonette, per doz.	4 0	6 0
Ferns, invar., per doz.	4 0	18 0	Palms in variety, each	2 6	10 0
Ferns, small, per 100	6 0	10 0	Palms, Specimen ...	15 0	63 0
Foliage Plants, doz.	12 0	60 0	Pelargoniums, perdoz.	6 0	12 0
Fuchsia, ...per doz	3 0	6 0	—scarlet .....per doz.	2 0	4 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blms.	2 0	4 0	Mignonette... 12 bun.	1 0	3 0
Asters.....doz. bun.	3 0	6 0	Pelargoniums, 12 sps.	0 6	0 9
— French .....bun.	0 6	1 3	—scarlet.....12 bchs.	3 0	4 0
Bouvardias, per bun.	0 6	1 0	Primula, double, bun.	0 6	0 9
Carnations, 12 blooms	1 0	3 0	Pinks .....doz. buns.	2 0	4 0
Carnations, doz. bun.	4 0	6 0	Pansies, doz. bchs ...	1 0	2 0
Cornflower doz bnchs	1 6	3 0	Pyrethrum doz bnchs	2 0	4 0
Eucharis ...per doz.	2 0	4 0	Orchid Bloom in var.		
Gardenias 12 blooms	1 6	4 0	per bloom, from	0 2	0 8
Gladioli...doz. buns.	6 0	12 0	Roses, doz bunches	2 0	6 0
—..... doz. spikes	1 0	2 0	Roses, yellow, dozen	2 0	4 0
Heliotropes, 12 sprays	0 3	0 6	— Red..... doz. blms.	1 0	2 0
Lilium Harrisii,			— Saffrano...per doz.	1 0	1 6
doz. blooms	1 6	3 0	— Tea ..... per dozen	0 6	2 0
Liliums var., dz. blms.	1 0	3 0	Stephanotis, dz. sps.	2 0	4 0
Maidenhair Fern, 12bs.	4 0	6 0	Stocks.....doz. bun.	3 0	4 0
Marguerites, 12 bun.	2 0	4 0	Sweet Peas, dz. bns.	2 0	4 0
Myosotis or Forget-me-not, doz. bncbs.	2 0	4 0	Sweet Sultan, dz. bn.	2 0	4 0
			Tuberoses, per doz	0 3	0 6

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ST. JACOBS OIL

Cures Neuralgia, Rheumatism, Sciatica, Gout, Sprains, and Bruises. It acts like magic. It penetrates to the seat of the disease. It is for outward application only.

FLOWER SHOWS, &c., 1892.

[The Editor will be greatly obliged if Secretaries of societies will communicate to him the dates of their exhibitions as soon as fixed.]

AUGUST.

23.—Royal Horticultural Society: Begonia Conference, etc., at Chiswick (2 days).
23.—West Malvern and Mathon Flower Show.
24.—Kingswood, Gloucester, Flower Show.
24—Newcastle-upon-Tyne Flower Show (3 days).
25.—Droitwich Flower Show.
25.—Kenilworth Flower Show.
25.—Leighton Buzzard Flower Show.
26—Fruit Show at Earl's Court (2 days).
26—Sandy Flower Show.
27.—Morley and District Paxton Society's Show.
29.—Cresswell Flower Show.
29.—Sheffield Flower Show (2 days).
30.—Brighton and Sussex "New" Horticultural Society's Show (2 days).
30.—Harrogate Horse and Horticultural Show.
31.—Bath Floral Fête (2 days).
31.—Bishop Stortford Flower Show.
31—Handsworth Flower Show.

SEPTEMBER.

1.—Oxford Flower Show.
1.—Stirling Flower Show (2 days).
2.—National Dahlia Show at the Crystal Palace (2 days).
6.—Royal Horticultural Society: Committee Meetings at Drill Hall.
7.—National Chrysanthemum Society's Show at Royal Aquarium (2 days).
7.—Royal Caledonian Horticultural Society (2 days)
9.—Autumn Flower Show at Earl's Court (2 days).
10.—Leicester Early Chrysanthemum and Dahlia Show.
20.—Royal Horticultural Society: Committee Meetings at Drill Hall.
28.—National Chrysanthemum Society: Meeting of Floral Committee.

OCTOBER.

4.—Royal Horticultural Society: Committee Meetings at Drill Hall.
5.—Fruit Show at Earl's Court (3 days).
12.—National Chrysanthemum Society's Show at the Royal Aquarium (3 days).
18.—Royal Horticultural Society: Committee Meetings at Drill Hall.
25.—Fruit Show at Earl's Court (3 days).
26.—National Chrysanthemum Society: Meeting of Floral Committee.
27.—Alverstoke and Gosport Chrysanthemum Show (2 days).

NOVEMBER.

1.—Royal Horticultural Society: Committee Meetings at Drill Hall.
1.—Kent County Chrysanthemum Show (2 days).
1.—Brixton Chrysanthemum Show (2 days).
1.—Barnstaple Chrysanthemum Show (2 days).
1.—Brighton and Hove Chrysanthemum Show (2 days).
2.—Ascot Chrysanthemum Show (2 days).
2.—Ealing Chrysanthemum Show (2 days).
2.—Portsmouth Chrysanthemum Show (3 days).
2.—Croydon Chrysanthemum Show (2 days).
3.—Steyning Chrysanthemum Show.
4.—Crystal Palace Chrysanthemum Show (2 days).
4.—Bolton Chrysanthemum Show (2 days).
8.—National Chrysanthemum Society at Royal Aquarium (3 days).
8.—Kingston and Surbiton Chrysanthemum Show (2 days).
8.—Enfield Chrysanthemum Show (2 days).
8.—Sevenoaks and West Kent Chrysanthemum Show (2 days).
8.—Leeds Chrysanthemum Show (2 days).
8.—Batley Chrysanthemum Show (2 days).
9.—Bath Chrysanthemum Show (2 days).
9.—Birmingham Chrysanthemum Show (2 days).
9.—South Shields Chrysanthemum Show (2 days).
9.—Cardiff Chrysanthemum Show (2 days).
9.—Bournemouth Chrysanthemum Show (2 days).
9.—Hornsey Chrysanthemum Show (2 days).
10.—Chelmsford Chrysanthemum Show.
11.—Leicester Chrysanthemum Show (2 days).
11.—Sheffield Chrysanthemum Show (2 days).
11.—Eccles and Patricroft Chrysanthemum Show (2 days).
11.—Wellingborough Chrysanthemum Show (2 days).
11.—Dundee Chrysanthemum Show.
11.—Bradford and District Chrysanthemum Show (2 days).
15.—Royal Horticultural Society: Committee Meetings at Drill Hall.
15.—Liverpool Chrysanthemum Show (2 days).
15.—Plymouth Chrysanthemum Show (2 days).
16.—Hull Chrysanthemum Show (2 days).
16—Rugby Chrysanthemum Show (2 days).
17.—Edinburgh Chrysanthemum Show (3 days).
18.—Chorley Chrysanthemum Society (2 days).
18.—Stockport Chrysanthemum Show (2 days).
22.—Dalkey Chrysanthemum Show.
24.—National Chrysanthemum Society: Meeting of Floral Committee.

GREENHOUSES.

These Greenhouses are made especially for Amateurs at a cheap rate, so that everybody can have one that any bandyman or gardener can put together in a few hours, as the framework is made so complete. All the framework is of good, sound well-seasoned red deal. The bottom part filled in with good, sound match boards, tongued, grooved, and beaded, and well seasoned. Ventilation given according to size of each House. The glass is good 16-oz. English, cut and packed (no charge for packing cases). The House is painted one coat o good oil colour, lock for door, all necessary iron-work to ventilation, stages on each side for plants. All parts carefully marked, securely packed and put on rail, or delivered, erected and glazed complete, within 20 miles of London Bridge, at the following respective Prices:—

(Proportionable Prices for other size, and or erecting in any part of the country.)

Long	Wide	High		On Rail.	Delivered & Erected Complete.
7 ft.	5 ft.	7 ft.	4 ft. to eaves	£2 16 0	£4 5 0
8 ft.	5 ft.	7 ft.	4 ft. to eaves	3 10 0	5 0 0
9 ft.	6 ft.	7 ft. 3	4 ft. to eaves	4 0 0	5 10 0
10 ft.	7 ft.	7 ft. 6	4 ft. 6 to eaves	5 0 0	6 15 0
12 ft.	8 ft.	8 ft.	5 ft. to eaves	6 0 0	8 0 0
15 ft.	10 ft.	8 ft. 6	6 ft. to eaves	8 10 0	12 0 0
20 ft.	10 ft.	9 ft.	5 ft. 6 to eaves	12 0 0	16 0 0
25 ft.	10 ft.	9 ft.	5 ft. 6 to eaves	17 0 0	22 0 0
50 ft.	10 ft.	9 ft.	5 ft. 6 to eaves	30 0 0	40 0 0
100 ft.	10 ft.	7 ft.	5 ft. 6 to eaves	50 0 0	70 0 0

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Estimates given for any size on application. Deduct 10 per cent. if required for brickwork.

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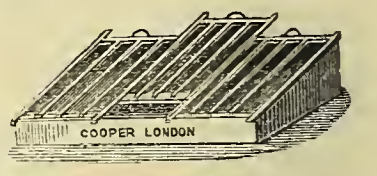

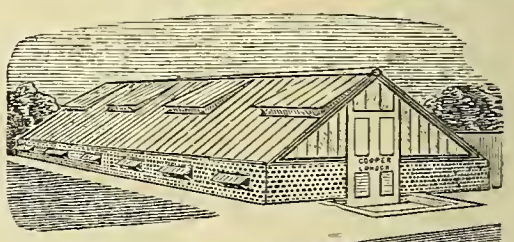

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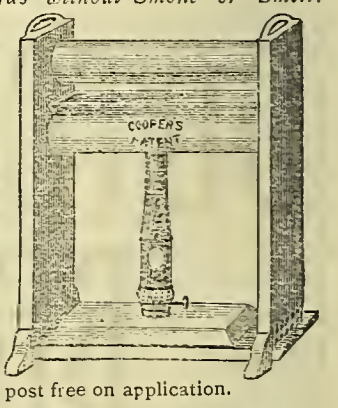
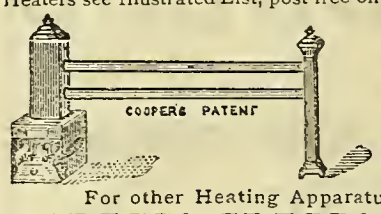


These Heaters are constructed as a means of Heating by Hot Air without the use of hot water or fire. Its peculiar construction economises the heat generated, so that there is no waste of heat or fuel. There being perfect combustion in this Stove, and nothing whatever injurious to plants, but actually everything conducive to their health, it should be observed that plants may be bad in full bloom throughout the severest winter. From 20s. complete. For full particulars and prices of other sized Heaters see Illustrated List, post free on application.



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4th.	8s. 9d.	12s. 0d.	17s. 0d.	24s. 0d.
3rd.	10s. 2d.	13s. 0d.	19s. 0d.	26s. 0d.

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Glass cut to any size required: 15-oz., 1½d. per ft.; 21-oz., 2½d per ft. Large sizes for cutting up, 15-oz., per case, 300 ft., 26s.; 21-oz., per case, 200 ft., 26s. All glass is cut and packed in own warehouses and put on rail free of charge; quality of glass and careful packing guaranteed. Special quotations for large quantities. Have cash estimates from me before ordering elsewhere.

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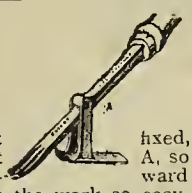

The fulcrum is not fixed, as usual, but is pivoted to the fork at A, so that the teeth are naturally pressed forward against the root and hold it. This makes the work so easy that a child can do more work with it than a man can do with any other fork. Price 1/6 each, of Ironmongers, Seedsmen, &c.; or post free of

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THE UNITED STATES NURSERIES,
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For Index to Contents see page 826.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Aug. 29.—Cresswell Flower Show.
Sheffield Flower Show (2 days).
Bulb Sale at Protheroe & Morris' Rooms, and every day in the week.
TUESDAY, Aug 30.—Brighton and Sussex "New" Horticultural Society's Show (2 days).
Harrogate Horse and Horticultural Show.
WEDNESDAY, Aug. 31.—Bath Floral Fête (2 days).
Bishop Stortford Flower Show.
Handsworth Flower Show.
Eastbourne Flower Show.
Bulb Sale at Stevens' Rooms.
THURSDAY, Sept. 1.—Oxford Flower Show.
Stirling Flower Show (2 days).
FRIDAY, Sept. 2.—National Dahlia Show at the Crystal Palace (2 days).
Sale of Orchids at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, AUGUST 27th, 1892.

CO-OPERATIVE HORTICULTURE.—Whatsoever may be the significance of the great Co-operative gathering at the Crystal Palace last Saturday in a purely trading or economic aspect, or in an even wider degree upon the burning questions which arise from out of the present relations of Capital to Labour, at least there can be no doubt whatever as to the importance of such a display in a purely horticultural aspect. The show, which was a remarkably good one, and if not quite so extensive as heretofore all the better for the absence of really inferior articles, illustrated in a marked degree the widespread character of gardening, and of the influence which competition exerts in the promotion of good cultivation.

With a schedule of some 250 classes open chiefly to workers associated with co-operative efforts, it was not remarkable that the exhibits should run up to several thousands, and if some were only moderate in quality, especially from new competitors, the best were so good that they must have become useful and striking object lessons for the unlearned, and in that manner alone in a public way helped them better to understand what in the estimation of competent judges constitutes excellence and quality in garden products. But apart from the gathering which invariably brings together one of the largest collections of visitors of the year, and mostly of plain practicable teachable people, the co-operative movement in its

horticultural aspects must be exerting considerable and highly beneficial influences amongst myriads of workers who on Saturday last were neither exhibitors at or visitors to the Palace.

We are very grateful for the existence of the Palace that it enables gatherings of this important nature to be possible, and there can be no doubt but that co-operation finds resulting from these annual festivals powerful impulse. We hope as well as expect to see every succeeding year that the average quality of the exhibits will rise to higher excellence although now so generally good.

JUDGING AT FLOWER SHOWS.—The more we see of Flower Show Judgments, the more do we realise the need there is, if such a realisation be possible, of some sort of consensus of opinion on the part of judges as shall bring judgments somewhat into harmony. Even now do we often see at the same show different sets of judges basing their awards on totally diverse aspects, so that the confusion which results is positively bewildering. We are fully aware that even in dispensing law our judges are often at variance in their decisions. Still legal cases offer so many different aspects, that no one can tell how they are going to be presented, or under what varying conditions; hence some considerable difference of opinion seems inevitable. But when the matter relates, as is the case with flower show judging, to objects which may differ in degree but nothing else, it does seem as if any material variation in decision ought not to be possible.

It is so unfortunate for the competitors that they never know how to take the judges. There never can be any certainty as to the nature of the points they will favour, or the line they will take; so that exhibiting becomes very much of a lottery, and none can tell just how things will turn out. Why on earth in judging flowers or fruits, or vegetables, or combinations of all three should there be so much diversity. Would it be possible for some sort of parliament of judges to meet occasionally to whom could be referred the making of judging points or rules, and to whom also could be referred decision on all disputed points. The thing is not impossible but there would be no power to enforce such decisions were there any disposition to object.

It ought not to be impossible to form an institution or association of horticultural judges, and make all the members abide by the rules of judging laid down by the association, and perhaps committees of flower shows could in time be induced to refuse to engage any as judges who may not be members of the association. The matter is worth discussing, and we should like to see is well threshed out.

DAHLIAS.—The Flower Show Tournaments of the present week have been lavish of beauty, quality, and interest. Still, they will by no means have exhausted the capacities of the Metropolis to furnish attractive exhibitions for lovers of flowers or other garden products. Towards the close of the ensuing week will be held the Great Annual Show of the National Dahlia Society at that temple of Flora, the Crystal Palace, where it is certain we shall see the Dahlia not only in wonderful profusion, but also in almost unusual excellence. We are having a fine Dahlia season there can be no doubt, because the plants are clean, are in robust health, and have now ample moisture at the roots to sustain them.

We may never get just a model or perfect season for any flower, but at least this year the Dahlia grower has little to complain of. Whether from a florists' point of view we have gained anything through the general introduction of Cactus and single forms on to our show tables, matters little. There is so much of room for all classes of flowers, both in gardens and at shows in these days, that we rather hail with satisfaction the introduction of sections which, if devoid of the florists' points, yet have for us and for the general public so much that is wondrously beautiful.

Without doubt Dahlia exhibitions owe very much to their diverse sections, because they have proved to be so capable of awakening renewed interest in not only the Dahlia generally, but in the florists' sections especially. We may well hope to see Dahlia lovers of every class in strong force at the Crystal Palace on the 2nd and 3rd of next month, and there will be a further opportunity to admire Dahlias at the Royal Aquarium the following week, when to the Show at the Crystal Palace that of the National Chrysanthemum Society will be a sort of second and without doubt a beautiful addition.

VEGETABLES.—"Ay, sir," said a country Potato grower the other day, "Taters be splendid this year," a remark that is emphatically true. Farther than that we have had to listen to some strongly expressed regrets that the once promised Potato Exhibition at Earl's Court seems to have fallen through; as it is believed that a Potato show this season would have been of altogether unusual excellence. Whilst agreeing with these regrets we may nevertheless express a hope that just what the management at Earl's Court is doing so splendidly for fruit this week, it may yet do for vegetables generally, for they as a class of garden produce are in splendid form generally this year; and it is noteworthy that there are some new and very able growers coming into the field, so that it is far from probable that any one exhibitor could make a big sweep in various classes.

To persons not much accustomed to vegetable exhibitions it is indeed a surprise to find what a fine and attractive display they make, how much of fine form and of beauty there is in them. Apart from the high class culture shown in the exhibits individually, competitors if they only have elbow room set their products up so effectively that a collection thus displayed often makes a very pleasing as well as a suggestive picture. We do strongly impress upon all judges that in awarding prizes they should lay the greater stress upon form and beauty, and not quite so much as is commonly the case on mere size or weight. Judges should always be something more intelligent than is a pair of scales, and so far as vegetables are concerned the higher the standard set up by judges the more elevated will become the aims of exhibitors and the ideals of the the public. Truly we do enjoy a grand vegetable exhibition; and hope yet to see such a one in London this season.

Baron Schroder.—The name of this greatly esteemed patron of horticulture is included in the list of gentlemen on whom Her Majesty has recently conferred the honour of a Baronetcy.

Bulbs for the London Parks.—We understand that the London County Council have accepted the tender of Messrs. F. Miller & Co., 267, Fulham Road, S.W., for the supply of bulbs for planting this autumn in all the parks and gardens under the control of the Council.

Peter Lawson & Son, Limited.—At the annual general meeting of the shareholders of this company held on the 17th inst, the report as issued to the shareholders was adopted, and a dividend of 10 per cent. per annum was declared; £1,500 was added to the reserve fund, and the balance of £2,974 12s. 9d. was carried forward to next year. The retiring directors, Mr. Eastes and Mr. Paterson, were re-elected, and Mr. David Syme, the present manager of the company, was elected a member of the board.

The Mourning Calla.—Apparently this has been given in Germany as the common, we should hardly say popular, name to a plant otherwise known as Arum sanctam because it comes from the Holy Land, where its its worth first became known and where it was collected. It has the habit of an Arum with arrow-shaped leaves, of a light green not unlike those of Richardia africana variously known as the Trumpet Lily, Lily of the Nile, &c. The spathe is the most striking feature of the plant, and is described as of a shining blackish purple above and green beneath, while it measures 14 in. to 18 in. in length and 4 in. wide. A coloured figure accompanying a circular sent us shows the spathe to be of a deep maroon-crimson above and greenish yellow beneath but something must be allowed for the attempt made by the artist to reproduce the colours. It is being sent out by Herr C. Deegen, Köstritz, Thuringia.

Shooting at Apple Stealers.—A Saltburn gardener was last week committed for trial on the charge of unlawfully shooting at one John Morgan, who admitted having gone to the defendant's garden with others with the intention of stealing Apples. The complainant stated that he was shot in both legs and one arm, and it was submitted for the defendant that he did not shoot with the intent to do any harm, but simply with a view to frightening depredators away.

Progress of Begonias.—At the Begonia conference held in the gardens of the Royal Horticultural Society, at Chiswick, on Tuesday last, Dr. Masters said that twenty-five years ago anyone might have travelled the world over, including the Cordilleras of South America or the Himalayas for the matter of that, but he would have failed to find anything like what the visitors to the conference saw before them. The hybridists who had wrought the improvement had produced not only a new species, but a new genus, so different was the structure of the double flowers by comparison with those of the wildings. Mr. Harry J. Veitch said that the improvement in Begonias had made immense strides during the last twenty-five years, but he hoped that the progress to be reported at the end of the next quarter of a century would even be greater, and with that end in view he urged amateurs to take up their cultivation, and by cross-breeding and hybridising, encourage and help forward the great movement.

The Prime Minister on Small Holdings.—Addressing his neighbours and friends at the Hawarden Flower Show on Tuesday, Mr. Gladstone said there were few things of more unmixed advantage to the community than the local prosecution of these most laudable undertakings for drawing from the earth in the small holdings and gardens of the country the fruits, the vegetables, the flowers that it is capable of yielding in a degree and upon a scale far greater now than in former times, far greater he hoped, in the near future than it is now. It was at one time a sad spectacle to notice in this country the absence of small holdings and of gardens. Let us hope that the day is approaching when these will become universal. We have in the last session of Parliament passed a law for the purpose of promoting the multiplication of these holdings; it is very far indeed from being a perfect law—but we hope to mend it, and that, I even trust, perhaps in the course of next year. Be that as it may, be assured that there are few subjects more closely connected with the health, the happiness, the comfort, and even the morality of the country than the careful cultivation and the careful multiplication of these small holdings all over the country.

Lilium Warei.—The different species of Lily give a long season of bloom, and the amount of variety they present is also a great feature in their favour. The flowers of the Lily under notice are golden-yellow without any spots whatever; they are also pendent, with revolute segments, and both distinct and beautiful when at their best. The stems attain a height of 3 ft., and are furnished with lanceolate leaves in whorls, and terminate in a raceme of four to six flowers. It bloomed a short time ago in the nursery of Mr. F. S. Ware, Hale Farm, Tottenham.

MY HOLIDAY ON THE CONTINENT.

(Concluded from page 802.)

My next visit was to Messrs. Haage & Schmidt, who, in addition to a large seed growing garden, have a great deal of glass, and grow probably the largest collection of Cactus in the world. I asked to be admitted, and an English gardener was at once sent round with me. Passing through Fern houses, and Palm and Caladium houses, I was much struck with a plant growing on a brick wall, which proved to be Pothos celatocaulis. I found that it had its root on a piece of wood like an Orchid, and climbed against the wall, the leaves lapping over one another like tiles on a roof, and lying against it as flat as if glued there. It is a self-attaching climber. The Cactus were growing in the open in frames or in high leantos out of which the glass had been taken. There was one stem of Cereus validus at least 16 feet long. A very fine collection of the hedgehog sort, the old man varieties of Mamillaria and Pilocereus, some fine Bishops' Hats (Astrophytum), in fact, a very fine and remarkable collection. Nothing seems to come amiss to Messrs. Haage & Schmidt; there is hardly a plant known that they do not grow.

Half way through the houses a gentleman joined us whom I afterwards, when at the Cactus frames, found to be Mr. Smith himself; and from this point he alone took me over the establishment. Never have I had before such an intellectual gardening treat. He spoke English most fluently, and had that rare charm of being able to impart knowledge in the most modest way. He showed me the aquatic plants; and here I found growing in ordinary frames, cemented so as to hold the water, specimens of all kinds small and great. I will only mention two: Victoria Regia, which had been in bloom the week before, and the leaf of which was 3 ft. 10 in. across, and Euryale ferox, with a leaf of about the same size. After this we shall be having advertised, "Every man his own Kew Garden. Victoria Regia frames for villa residences, price complete, £4. Apply, etc." From the frames we went into the annual gardens or fields, and had a look at some of the Asters, which were just commencing to bloom (August 10th).

I was much pleased with a bed of Iceland Poppies of three colours, many of the flowers being double. I understood that the orange coloured plants throw the most double seed, but that not above 40 per cent. can be relied on for double flowers. Messrs. Haage & Schmidt publish a catalogue containing upwards of 11,700 different kinds of seeds. It is indeed a work of reference. It is stated that Luther, who was a fervent botanist, used to devote his time when at Erfurt first to prayer, and after to the study of the then catalogue of the ancestors of Messrs. Haage & Schmidt. Anyhow the young German gardeners now always obtain a copy of the catalogue as a text book of the names of flowers.

Before leaving Erfurt I went over the gardens of Mr. J. C. Schmidt, who is known throughout Germany for his cut flowers. Here I found everlasting flowers laid out on tables to dry in the sun. A very fine lot of Palm houses containing excellent plants of Cycas, the leaves of which are used singly at funerals having a small bouquet attached to the end. I was told that there were some 2,000 large Cycas plants in the houses, and about 3,000 small ones. In the large Palm house was a fine specimen of Nicotiana colossea, grown from a cutting last year. It had just done flowering and must have been 16 ft. high, with a stalk 3 in. thick. Here they were growing a large number of Cucumbers, Prescott Wonder being the chief favourite in Germany.

In the gardens there were a great many of the Japanese climbing Cucumber, which seemed to be very prolific. They were grown on three poles placed in a pyramid. I understand that this was the greatest success of all the novelties of last year. Mr. N. Schmidt is a large Rose grower also, having about 100 acres of Roses and Briers. There are probably some fifty other establishments at Erfurt, of whom I know Messrs. Heinemann and Mr. Lorenz publish English catalogues, but I had not time to pay any further visits. I may say that the Begonias I saw in all the houses were very poor indeed by the side of what we grow at home, and the Gloxinias on the contrary were very fine.

Nancy.

From Erfurt I travelled to Nancy to see what Mr. Lemoine had to show. His garden is small but very prolific. I noted a fine bed of Ceanothus, some thirty varieties, some flowering, but mostly past; a very fine collection of Fuchsias in pots outside; and a very good bed of Begonia Layfayette and another of Fulgens, both of which do well in the hot sun. The Gladioli were just coming nicely into bloom, and were a sight quite worth the visit, all colours and hues, and the same may be said of the perennial Phloxes, which were just in their prime. The Pelargoniums, for which the house is so famed, were mostly over, but from the remains one could see that great and special attention had been given to the plants. I noticed a fine border of Heliotrope, of all colours, growing about 3 ft. 6 in. high. It appears to be not quite so sweet-scented as the ordinary kind, and was obtained, Mr. Lemoine told me, by crossing the ordinary Heliotrope with the Peruvian.—*J. C. Stogdon.*

PELARGONIUMS.

The original confusion of the two genera, Geranium and Pelargonium was due to the great Linnæus himself, who failed to see that the distinctions were sufficient for the creation of separate genera. Succeeding botanists, even in the early numbers of the *Botanical Magazine* described Pelargoniums under the name of Geraniums; and your correspondent, "*A. D.*", at p. 801, knows probably as well as most of us do that when once a garden plant gets distributed under a name, whether erroneous or otherwise, it is almost impossible to correct a wrong one, especially after it has become familiarised with gardeners and the people generally. Probably relatively few of the public who speak of Geraniums when it means Pelargoniums would recognise a plant of the former if they saw it.

A Geranium has regular flowers, and ten perfect stamens, while a Pelargonium has irregular flowers, five to seven perfect stamens, and a nectary or tube running down the side of the pedicel of every flower. There are other important distinctions, but the above should serve at a glance to put the public in the right track if at all observant. Florists have indeed altered the flowers by making them regular and as round as a shilling, but the other characters remain the same. Both genera belong to different groups of the same family. The confusion of common names, spoken of by "*A. D.*", is augmented when to the above an intermediate genus is added, namely, the Heron's Bill (Erodium), which has five perfect stamens, and the flowers of some species slightly irregular.

The Ivy-leaved Pelargoniums were derived from P. peltatum, a name applied by botanists owing to the stalk being inserted on the back of the leaf not at its base. The popular name of Ivy-leaved had evidently been applied after the plants were getting common in cultivation. It would be difficult to say with certainty how many species were used in the creation of the so-called zonal race, but it is pretty much within the truth to say that P. zonale and P. inquinans were largely used, the former giving rise to the characteristic horse-shoe shaped zone on the leaves, and the latter to those without any zone at all. Then again there are varieties in which the zone is very feebly displayed, a fact that creates no surprise seeing how great the intercrossing has been. The golden and silver tricolors, the bronzes, the bicolors and the golden leaved varieties all belong to the zonal group and have been selected on account of this variation of colour in the leaves. It would be rash to state that no others but P. zonale and P. inquinans have been used in the parentage of the above medley group, but with the hundreds of hybridists that must have been busy with the Pelargoniums in the early days of their introduction, it is to be feared that the pedigrees of the progeny must now be largely scattered to the winds on the death of the hybridists themselves.

The large show and fancy Pelargoniums, sometimes termed French or stage Pelargoniums, were derived from P. cucullatum. The so-called regal or decorative varieties, as well as the double or semi-double varieties, are also of this strain. Old-fashioned things like Rollison's Unique must not be overlooked, as they were entirely different and recalled the appearance of the Oak-leaved Pelargonium quercifolium, which might have been one of the parents. The creeping stemmed and silver leaved Manglesi and the variegated Duke of Edinburgh, speaking from memory, have affinity with the Ivy-leaved section, which is now itself getting more or less mixed with other types. Several other species are grown entirely for the sake of their agreeably scented foliage, and they do not appear to have been altered from the originals in any way. They include P. Radula, P. denticulatum, P. tomentosum. P. fragrans, and others; but the above are the most common, and some of them are largely grown for market purposes.

As I have already stated, Geraniums and Pelargoniums belong to different tribes of the same family, and so do Tropæolums, Balsams, and Oxalis.—*F.*

BEGONIAS AT BEXLEY HEATH.

There is now a fine display of tuberous Begonias at the Begonia Nursery, Crook Lodge, Bexley Heath, where Mr. T. S. Ware grows the bulk of his stock. There are three houses filled with large plants, in which the display is now a gorgeous one. Several other houses are filled with young plants, either seedlings or cuttings in various stages of development, and in the grounds around the houses are small seedlings planted out wherever a small piece of ground can be had. A short distance away is a piece of nursery ground consisting of heavy yellow loam, the greater part of which is planted with Begonia seedlings sown in January and planted out in June. In this place alone are 200,000 seedlings in beds about 100 ft. long, about two or three beds of each colour being planted. The season not having been favourable to the growth of seedlings, they are not very large, but many fine varieties both single and double may be detected in the beds. A fine strain of bronzy yellow kinds have been raised as the result of crossing. Altogether the strain is a fine one.

In front of Crook Lodge are some charming little beds of double varieties very suitable for the purpose, including the Marquis of Stafford, double rosy scarlet, of small size and Miss French, a very floriferous creamy white variety with larger flowers. In one of the houses is a set of varieties with salmon, sulphur and white flowers suitable for basket work.

Single Varieties.

The named varieties are of course all in the houses, and a charming display the single ones make. The purest white perhaps is Purity, but Bexley White is perhaps a finer thing with large flowers and broad leaves. Goliath is suffused with orange on yellow and is darker in the centre. A fine blush white is Pride of Bexley. A clear bright yellow is Velleda, with broad foliage, and the latter is also characteristic of Devonia, with orbicular yellow flowers tinted with bronze. The finest orange we noted was Perfection, with bright uniform orange, orbicular flowers. A bright scarlet is Superba, and Challenger has maroon crimson flowers deepest in bud. On the contrary Dean Swift has soft scarlet-red flowers. A dwarf sort is Crimson Bedder, about 12 in. high with medium sized crimson scarlet flowers.

A very choice thing in its way is a large bright yellow flowered variety named Sovereign, with large huge leaves veined with silvery lines like an Anthurium. On the other hand Shelly is suitable for basket work, having deep red, white-centred flowers drooping on long stalks. Very distinct also is Bicolor, a sulphur variety with a rose edge. Grandiflora has large, deep scarlet flowers, produced on stems about six inches high. A pretty variety is Novelty, with carmine flowers and a white centre. The quantity of flowers produced by the bright scarlet Aurora is wonderful. Angola is also floriferous with somewhat drooping deep pink flowers. The bright yellow blooms of Felicia are borne in drooping cymes and in quantity. Very choice is Sunset, with the flowers scarlet externally and orange internally. Distinction is in the way of Novelty, with carmine flowers and a small white centre.

Doubles.

The double varieties are also very numerous, and the most of the finest are collected together in one house, but others in great numbers are to be seen in several of the houses in all stages of growth, both seedlings and cuttings. A large quantity of Duchess of Teck is conspicuous in one of the houses by its large primrose flowers, bronzy stems, and dark green leaves. They were raised from cuttings last year and are now approaching their best condition. The Duke of Teck has bright scarlet flowers of great depth with broad guards, and is considered by Mr. Ware as the finest double in cultivation. A soft primrose variety with broad sepals is Baronne de

St. Didier. Those of Hecla are warm rose, and the sepals arranged round a single centre. A charming Camellia formed flower is Miss Jeannie Fell, of a deep red and very neat. Princess May is similar in form, but the flowers are white and somewhat crimped. A very deep flower is Victory and bright scarlet. The huge flower named Triumph is deep red. A pleasing variety is Alba Magna, with one centre and broad crimped white petals.

A choice and striking flower is Mrs. F. Fell, salmon-pink in the centre, fading to salmon. Picotee is pale pink with a rose edge, and long outer sepals. Charming also is Claribel, of medium size, and salmon with a white centre. In the same style is Viscountess Cranbrook, with rose flowers tinted with scarlet and a white centre. Baroda is bright salmon with nodding flowers. A bold bright scarlet is Henshaw Russell. Beauty of Belgrove is rose shaded with white, reminding us of the Rose La France. Triomphe de Nancy is pale sulphur with a primrose centre. Comtesse O'Gorman has a bright yellow centre. A distinct thing is Solferino, sulphur tinted with salmon. Very floriferous and suitable for basket work is Miss Partridge, with soft yellow flowers on long, perfectly pendent stalks. A curious mixture of rose, salmon, and yellow, more or less striped, is Sericea.

A huge deep rose flowered variety is Manora. Aurecole is soft salmon shaded with yellow; and Couronne is soft scarlet-rose. Alice Crousse is noticeable for its soft pink flowers, small centre and broad guards. Lafayette, with small brilliant scarlet freely produced flowers, is suitable for bedding. The nodding flowers of Procida are blush-white. There are several seedlings of great merit, but we were particularly taken with one of last year's raising. It has Camellia formed flowers of a uniform pink, and all the sepals are regularly recurved around a common centre. Others have yellow bronzed flowers, scarlet with wavy sepals, and soft salmon with a white centre. All the plants are grown in 48, 32, and 24-size pots, the last named being the largest.

THE PORTLAND NURSERY, READING.

Referring again to the visit I recently paid to Messrs. Sutton & Sons, at Reading, I cannot help saying that the outdoor grounds are as full of objects of interest as the glasshouses. There are no vacant places of ground, but if a crop is cleared away another at once takes its place. And there are no weeds to be seen; the same order and neatness which prevails within doors is just as noticeable outside; good cultivation and close attention can be discerned on every hand.

One feature which claimed attention was a large batch of the new Nemesia Strumosa Suttoni with its distinct, striking and chameleon-hued flowers as various in tint as they are interesting to the sight. Of its extremely showy and unique character there can be no doubt, and if it proves of easy cultivation it is certain to become very popular.

In cold frames Calceolarias, and Primula sinensis from summer sown seeds are coming on remarkably well, and the plants will be seen to advantage in the late autumn and winter. From the seed pans or pots, the young plants are pricked off into boxes and tins, which rest upon inverted flower pots, and are thus raised above the ground level, and so prevent the ingress of vermin.

Next came under notice a large bed of Carnations in full bloom, many of the plants quite dwarf, wonderfully free, and not given to hang down their heads, but holding them up fearlessly and erect. These are admirable qualities in border Carnations; for to be effective the plants should be dwarf, stocky, free of bloom, and the individual flowers not too large. There is danger just now of the introduction of a race of tall growing Carnations of lanky growth, the flowers large but with a tendency to hang their heads as if suffering from a spinal complaint or some such affection, or perhaps from undue modesty at finding themselves in such exalted positions.

Near these is a batch of strong growing Hollyhocks, seedlings obtained from seeds sown in February last, nearly every one of which will bloom this season. We used to sow Hollyhock seeds in May and June, and see the bloom in the May following. Now by sowing in a gentle heat in January or early in February, growing on the seedlings, hardening them off, and getting them out in the open as soon as possible, the grower is able to see something of their quality the same season.

Turning from the contemplation of this bed of Hollyhocks, the eye was attracted by a patch of a very fine white Lobelia of the Erinus speciosa section that seemed to have first-rate properties and free from the slightest tint of blue. Near to this is a bed of varieties of the Marvel of Peru — Mirabilis Jalapa—and which received its common name, probably, from having come in the first instance from America, as at that time everything brought from the New World was considered marvellous. In the light, sandy soil of the Portland Nursery this fine ornamental plant, now too much neglected, does remarkably well, forming charming bushes and blooming with great freedom. The roots should be lifted in the autumn, dried a little and kept through the winter in the same way as Dahlias.

The Phlox Drummondii were very fine indeed, and here can be seen two distinct sections—the first what is known as the large-flowering or grandiflora type; the other the dwarf compact. What delightful beds both make, and with what a prodigality of blossom the plants reward the cultivator. There has never yet been raised a Verbena which can touch P. D. splendens grandiflora as a bedding plant—the raiser of this deserved a peerage. The more I see of the beauty of Phlox Drummondii the more I admire it as an effective bedding plant. There are several bold and striking colours, such as white, crimson, rose, carmine, scarlet, purple, etc., and some striped varieties; and the colours come pretty true from seed. A large bed of the grandiflora type, edged with the compact varieties, would be a floral sensation. I strongly recommend the compact types for small gardens, and the colours are delightful.

And then, as free flowering hardy annuals to cut from, what can compare with the Indian Pinks, D. chinensis, and its fine variety Heddewigii. Compact in growth, marvellously free, and the strains here very fine, it seems impossible to wish for anything better; yet better will doubtless come some day. But Indian Pinks must be well grown: treat them generously, and they heap up their fine blossoms in happy plenteousness; starve them and they disappoint. Among the cut flowers shown at the co-operative flower show at the Crystal Palace on Saturday, were the Indian Pinks, and they formed delightful bunches.

And then the Petunias and Verbenas. To get an idea of the value of a Petunia or a Verbena as floral objects, the plants should be seen as they appear at Reading—isolated, and standing two or three feet apart. Why, the possibilities of an individual are startling. We plant Petunias and Verbenas in beds thickly, but we can never in that way realise what an individual plant is capable of. But plant them out as is done at Reading, the rows a yard apart, and the plants two feet apart in the rows, and then they are seen at their best. While I like the smaller flowered striped Petunias best for bedding, and especially that section known as Sutton's Dwarf, the larger flowered varieties, double and single, as seen here, are wonderfully good and striking in appearance. I had begun to lose an interest in the Verbena as a bedding plant, but the plants here with their striking heads of fine flower assured me that if only the Verbena be subjected to good cultivation, it is yet an admirable bedding plant, and this strain grown by Messrs. Sutton & Sons has been so well selected that distinct colours—blue, white, mauve scarlet, striped, etc.—come quite true from seeds. Going back to the Petunia, I may mention one of the most useful and effective bedders in the single carmine—dwarf, compact, and very free.

A golden Composite, named Leptosyne maritima, a half-hardy annual producing large yellow flowers on a long stalk, is well worthy of a place in the garden for cutting purposes It grows to a height of 2½ ft. to 3 ft. Gaillardias were very fine indeed, and singularly free. Here is the old Matricaria inodora flore pleno in large bushes producing an abundance of pure white double flowers, from which hundreds might have been cut, the blossoms greatly resembling those of a miniature Pompon Chrysanthemum. The Alonsoas were very good also; charming plants which have fallen sadly into neglect.

Beds of tall and Tom Thumb Antirrhinums of excellent quality were admirable, the morning sun touching up their brilliant hues with great radiance. If anyone desires two charming half-hardy perennials, let them grow Anagallis Phillipsii, a grand shade of blue, and Garibaldi, scarlet, both very fine indeed.

Stocks and Asters are late; successional sowings had to be made, but there will be a great display early in September. Zinnias were very fine indeed. as exhibition flowers nothing could be finer. There are many beds of Pansies which will stand over as spring trials. The Portulaccas are getting brilliant under the summer sunshine, when their rich colours are seen to the best advantage.

Finally, there is a remarkable trial of 3,000 plants of Tomatos, all doing very well. Such an out-door plantation has never before, perhaps, been attempted in this country, and what an opportunity it affords for comparison.

In penning such a rapid sketch as the foregoing it is inevitable something worthy of notice should be passed over. I have simply endeavoured to indicate a few things that are of great value in the garden. I do not know what arrangements Messrs. Sutton & Sons make as to the admission of gardeners to their Portland Nursery; but I am quite certain that a few hours spent here on a summer day would greatly enarge the knowledge of gardeners, as well as afford them much pleasurable enjoyment.—*R. D.*

HYDE PARK.

The summer bedding in Hyde Park, mostly concentrated along the side of Park Lane, may now be considered at its best, although some of the Pelargoniums have suffered through the recent heavy rainfall. An interesting feature of it is the extent to which Fuchsias are used, and likewise bedding Violas as edgings and groundwork. Carpet bedding is by no means extensive, but the few beds are well executed and neatly kept. The plants on the grass in isolated specimens or groups remind us of what is more extensively done in the parks at Paris, and is an interesting feature.

To the west of the Grosvenor Gate the beds are in single file on one side of the path. Commencing at the west end and proceeding eastwards, a noticeable bed consists of Fuchsia Mrs. Rundell on a groundwork of Viola Beauty of Chipping Norton, a free flowering dark blue variety extensively used both in beds and on the borders. Near this is a bed of the tuberous Begonia Lady Stanhope, with soft red flowers produced in great profusion A crimson-red Chrysanthemum named Scarlet Gem is also very profusely in flower. Rev. F. Atkinson and Henry Jacoby are very floriferous Pelargoniums, each occupying an oblong bed; the former is somewhat lighter in colour than the latter, but otherwise similar. A pretty combination is a circular bed of Fuchsia gracilis variegata and Acacia lophantha on a groundwork of Begonias and Alternantheras. On a similar plan is an oblong bed of Fuchsia gracilis variegata and Dracæna congesta on a groundwork of Viola Beauty of Chipping Norton. A bed of the magenta pink Pelargonium Lucy is also floriferous. Then come beds of Fuchsia Earl of Beaconsfield, Marinka and Dunrobin Castle, the latter being a graceful dwarf plant with a profusion of flowers. A circular bed of the bright yellow Chrysanthemum Precocitè is also in prime condition.

East of the Grosvenor Gate and leading from thence to the Stanhope gate the greater number of the beds are concentrated in double file on the right hand side and in a single row upon the left. On the right are two beds of Fuchsia Madame Corneilsson, about 3 ft. high, on a groundwork of Viola lilacina edged with Iresine Lindeni and Fuchsia Meteor, the latter being pegged down. Two beds on the left at distant intervals are filled with a mixture of subjects including Chrysanthemum Precocitè, C. Scarlet Gem, Lilium speciosum; Campanula pyramidalis, and its white variety; Calceolaria amplexicaulis, &c. A circular bed of the blush Chrysanthemum La Nymphe is also at its best. A little farther on is a bold bed of scarlet seedling Begonias.

Another mixture consists of Ivy-leaved Pelargoniums 2 ft. high and Fuchsias 3 ft. to 3½ ft. high, having the lower part of their stems covered with Petunias. A bed of Fuchsias is planted between with African Marigolds and Viola Mrs. Turner, the latter being of a pale lavender and white, and in these respects differing from the newer and dark blue Viola Mrs. C. Turner. Two attractive beds consist of Heliotrope President Garfield, 3 ft. to 4 ft. high, mixed with the Night Scented Tobacco, Carnations, Begonias, etc. The Crimson Red Begonia

Charles Baltet is laden with medium sized flowers; and not far off is a bed of Begonia Lady Stanhope in prime condition. The Coral Plant (Erythrina Crista-galli) fills a large oblong bed on the left, and the stems about 3 ft. high bear long racemes of bloom just commenced to expand. It is mixed with Lilium longiflorum, but the latter is almost out of bloom. A bed of dark flowered Fuchsias is mixed with Lilium longiflorum, and African Marigolds, on a groundwork of Viola Ardwell Gem. The latter is liable to get drawn when grown in mixture, and notwithstanding its excellence when more freely exposed is not so suitable for a groundwork to other plants as Wonder, another yellow of similar hue.

Where a cross walk intersects the bedding ground, are two neat carpet beds. In the centre is a plant of Dracæna indivisa, on a groundwork of Antennaria tomentosa followed by Alternanthera versicolor, and then four large patches of A. magnifica, succeeded by four long stripes of A. amœna running towards the corners of the beds. The groundwork is of Herniaria glabra and the edgings of Alternanthera paronychoides aurea and Magnifica, with Echeveria secunda glauca on the perpendicular edge. At some distance along on the left is an intricate figure of Alternantheras with three Palms along the centre, and dot plants round the sides on a groundwork of Antennaria tomentosa, edged again with broad lines of Alternantheras. Another neat carpet bed consists of a broad patch of Pachyphytum bracteosum in the centre with elevated masses of Alternantheras on either side, and a broad patch of Echeverias at either end. Numerous dot plants consist of small Palms, Dracænas, Echeverias, and Sempervivums.

In bold contrast to the above is a bluntly four-cornered bed of Abutilons, red and white, about 6 ft. high, edged with Sweet Peas 3 ft. and now in full bloom. Four circular beds of tubercus Begonias again testify to their suitability as bedding plants. Then follows a bed in mixture of Petunias, Lilium speciosum, Chrysanthemum Precocité, Begonia Emperor, about 18 in. high, and Viola Blue King, edged with Coleus fulgens and Viola Snowflake. Graceful and pretty is an oblong bed of Fuchsia gracilis and Grevillea robusta with the usual groundwork of Violas and a triple edging. The monotony of low beds is again relieved by a bed of standard Fuchsias 5 ft. high, with Heliotropes between them 2 ft. high. Cheerful also is the bright yellow Chrysanthemum Jardin des Plantes, about 18 in. high and floriferous. Another rather pleasing mixture consists of Ficus elastica, Melianthus major, Lobelia splendens Victoriæ, and Fuchsia Sunray on a groundwork of Viola lilacina. A beautiful bed consists of mixed Fuchsias on a groundwork of Viola Beauty of Chipping Norton. A bright and bold mixture consists of Abutilons 3 ft. to 4 ft. high, scarlet Tropæolums, 3 ft., Lilium speciosum, L. longiflorum, Petunias, Verbenas 18 in. high, and Chrysanthemums. Beds of Pelargoniums are tame as a rule, but near the Stanhope gate is an attractive one of a white variety named Aspasia, closely mixed with Viola lilacina, the flowers of which stand almost on the same level as those of the Pelargoniums, showing them off to advantage. Another large bed of Begonia seedlings is planted here, so that altogether this class of plant is well represented.

Near this is another well-executed carpet bed consisting of a scroll work of Alternantheras with Echeverias in each of the four centres intermixed with Sedum glaucum. The outer groundwork consists of Herniaria dotted about with plants of Sempervivum tabulæforme, Pachyphytum bracteosum, Reineckea carnea variegata, etc., edged with Alternanthera nana aurea, A. amœna and Echeverias.

Numerous Fuchsias, ranging from 2 ft. to 4 ft., are planted singly upon the grass or in groups, with some distance between every two plants. Amongst the varieties used are Henry Brookes, Mrs. Rundell, Madame Corneilsson, Annetti, Tower of London, Mrs. Marshall, elegans, gracilis, and Berliner Kind, many of which are now well laden with blossom. Other plants used with good effect are Eucalyptus globulus, 6 ft. to 8 ft. high, Clematis Jackmanni in full bloom, Tropælum Ball of Fire, Heliotropes, Bamboos, 8 ft. or more, Plumbago capensis and its white variety, 6 ft. to 8 ft. high, Erythrinas, 3½ ft. high, and a fine mass of Phormium tenax Veitchi. Old specimens of Pelargoniums in a group upon the grass are also flowering finely.

EXETER FLOWER SHOW.

The annual summer exhibition of the Devon and Exeter Horticultural Society took place on Northernhay Grounds, Exeter, on the 19th inst., and, for a wonder, was favoured with fine weather. So very frequently is it wet on the day of the Exeter Flower Show that it has almost passed into a proverb. The result of its being a fine day was that the attendance was better—the drawings being £10 in excess of last year—and the comfort of the visitors was proportionately greater. The exhibits were arranged in three large marquees. The largest was occupied with vegetables and Messrs. Robert Veitch & Son's exhibits; the middle one contained the groups of plants for competition, and Mr. Kerswell's group of foliage plants, also the fruit for exhibition and competition; and the third marquee was filled with specimen plants and cut flowers.

As a whole, though the entries were less numerous, the quality, excepting in fruit, was far superior to former years—more particularly was this noticeable in vegetables. Messrs. Veitch's five guinea cup for a collection of vegetables has for years past been a bone of contention to some really first-rate men in the vegetable classes. For three years in succession it has been won by W. E. S. Erle Drax, Esq., of Therborne (gardener, Mr. Copp), Sir John Shelley running him close every year. This time, however, the blue ribbon for vegetables has gone to Sir John Shelley, Bart., of Shobrooke Park (Mr. Mairs, gardener), and Mr. Erle Drax has had to take second place. The prize collection contained Invincible White Celery, Renton's Monarch Leeks, Sutton's Satisfaction Potatos, Ponderosa Tomatos, Veitch's Exhibition Sprouts, Giant Zittau Onion, Veitch's New Intermediate Carrot, Model Turnip, Duke of Albany Peas, Autumn Giant Cauliflower, etc. It was undoubtedly a grand collection, each item of it being as good as any single dishes in the show. In addition to this, the collection was put together in a masterly way, winning by this a special prize for good arrangement. Vegetable growers were of opinion that it was the very best collection that had been seen at Exeter, and Mr. Mairs was warmly congratulated by his brother gardeners on his success.

In the competition in single dishes, the most notable entries were the perfect specimens of Veitch's Model Carrots, Veitch's Exhibition Shallots, Prizewinner Potatos, and Orange Jelly Turnips, shown by the Rev. A. B. Cruwys, of Cruwys Morchard, one of the best growers of vegetables for show in the county of Devon. He also showed some fine Beet, but they were not looked at. The Beet was not cut so, that fineness of grain and superiority of flesh and inside colour did not count, all going for outside appearance. Surely this is not the best way to judge Beet! The same with Leeks, appearance was everything, for they were not cut open. There were, however, some wonderfully fine specimens of Renton's Monarch and the Lyon shown. Judging from what was staged it would seem as if the west of England men could make their northern brethren sit up in the matter of Leek-growing. Carrots were splendidly shown, nearly all the long ones being the New Intermediate of Veitch and Sutton, and the short or stump-rooted being of the Scarlet Model variety. Among the Potatos, Satisfaction, Windsor Castle, Early Puritan, The Dean, and Sutton's Seedling were very well shown. Major Carew, of Elmsleigh, Exmouth, showed on Messrs. Veitch's stand a basket of their new Potato Prodigious. The weight of Potatos shown was 71 lb., which had been raised from a single tuber! The tuber was cut into twenty-three sets and planted last March. There was not a diseased Potato in the whole lot, and some of them were very large—six weighing 6 lb.

W. C. Sim, Esq. of Knowle (gardener, Mr. Williams), and the Rev. Sub-Dean Acland, of Broadclyst (gardener, Mr. Baker), were well to the front in the vegetable classes, showing some uncommonly well-grown vegetables of different kinds—well-grown and well-shown.

In the groups of plants arranged for effect "Greek met Greek," the two principal combatants being Lady Theodore Guest, of Henestridge, Blandford (Mr. Wilkins, gardener), and Wm. Brock, Esq., of Parkerswell (gardener, Mr. Rowland). Quite recently Lady Guest had taken first at Salisbury, and the week before the Exeter show, Mr. Brock had taken first at Taunton. Here, at Exeter, Mr. Brock took premier honours, and Lady Guest came in a good second. The feature of Mr. Brock's group was its lightness of arrangement and harmony of colour. The outside was fringed with Panix and Adiantums leading up to small leaved Crotons and small-foliage plants. Overhanging the Crotons were sprays of Francoa racemosa and Humea elegans, and studded in and out were Tuberoses, Agapanthus umbellatus, and Hyacinthus candicans. Here and there, well placed, were nice plants of Cocos Weddelliana, one or two Bamboos and a few showy flowering plants. The group was kept dwarf and undulating, and the effect was exceedingly pretty. Lady Guest's group was nearly as good, but not quite.

In judging the fruit there was some difference of opinion on the question of the Grapes, the judges having apparently given the award in favour of a well flavoured rather than a good looking Grape. Grapes were nothing very special, nor, indeed, was the other fruit anything extraordinary. The botanical section, in which there were some capital prizes for wild flowers offered, was keenly contested, a special prize of three guineas (and second and third prizes of value) being offered by J. C. Stogdon, Esq., of Clement's Inn, for thirty-six varieties of wild flowers collected anywhere in the British Isles. It drew out some rare specimens, the winning lot shown by Mrs. Macalister, of Hamslade House, Bampton, North Devon, being a splendid collection, and that shown by Miss Palmer, from Dorset, being also a good one. In Mrs. Macalister's collection were Drosera intermedia, D. anglica, Trifolium fragiferum, Aster Linosyrus, Lobelia urens, Wahlenbergia hederacea, Poterium officinale, Epipactus latifolia, Sibthorpia europea, Spathula tinctona, Reseda lutea, Daucus carota, Lathyrus sylvestris, Campanula latifolia, and other plants more or less rare. The smaller collections were also of considerable merit, and showed on the part of those who competed an intimate knowledge of the flora of the district. This section of the exhibition has been steadily growing, and the fillip given to it by Mr. J. C. Stogdon, a good botanist himself, in offering valuable prizes, brought out the best display that has ever been seen in Exeter. But why are nearly the whole of the competitors ladies? Surely there must be some good male botanists in a neighbourhood which can rejoice in so rich a flora as that of the valley of the Exe and the Axe. The nurserymen's collections were a great help to the show, Messrs. Veitch's miniature Alpine garden being a pretty piece of work. Messrs. Kelway's Gladioli were as usual very fine, but Mr. Fowler's, of Taunton, were still better, he showing some really grand spikes of bloom.

ALLOTMENT GARDENS.

The town of Chertsey possesses a number of allotments which are under the control of the Rural Sanitary Authority, and are managed by a Committee of that body. On the 11th inst. the allotment holders held their second annual exhibition in the Chertsey Town Hall, and despite the long season of dry weather the show of garden produce was a very good one. Winter Onions were especially good, and three collections of Vegetables were staged which would have done credit to any professional, yet they failed to secure prizes owing to the judge's hands being tied by a rule which prevents any exhibitor from taking more than 12s. 6d.—a peculiar arrangement to say the least, and one that cannot too soon be amended. The exhibitors in question had to be content with certificates, V.H.C., H.C., and C., respectively; and in many of the other vegetable classes the best samples were passed over, and the prizes awarded to inferior productions—a case of how not to do it with a vengeance.

It was evident in many cases that the allotment holders are able to appreciate something better than the commoner things. I noted that one of the exhibitors, Mr. E. Horton, had Sutton's Windsor Castle, and Fidler's Reading Giant Potatos, Carter's Beef Heart Cabbage, a good one where size is an object, Carter's Anticipation Pea, and Elephant, a new Pea sent out by the same firm, and promising to be a good one. This exhibitor and three others also secured prizes for the good cultivation of their plots. There was a large attendance of visitors in the evening, when the prizes were distributed, and the allotment holders presented a table of flowers and vegetables to the Vicar, Canon Pattenden.—*A. J. Brown.*

NOTEWORTHY PLANTS.

In this short article it is my intention to call the attention of the readers of The Gardening World to a few noteworthy plants, some of which are comparatively new and others which, although not strictly new, are not so well known amongst the gardening community as their merits deserve. It seems a great pity that plants which are truly beautiful, useful, and, above all things, easy of cultivation, should after they have once been noticed in the horticultural press be allowed apparently to fall into oblivion. Is this kind of thing to go on for ever? There are plants that have but little to recommend them, which are quite common, and indeed are as uninteresting as are commonest weeds; still we are constantly hearing of them, but of many of the master works of nature one scarcely ever hears. I for one deplore this state of things, and earnestly long for the time when those new introductions which are really meritorious should be more regularly noticed. Who now, for instance, ever hears of

Ipomœa rubro-cœrulea? — Nevertheless it is one of the most beautiful of the family to which it belongs. There is a fine specimen of it in the Victoria House at Kew, trained along the roof, and which at the beginning of last February was truly most beautiful and was universally admired. It seems a great pity that a plant so charming and so distinct should be allowed to fall out of cultivation, and it seems very likely that such is doomed to be its fate. It is far more beautiful than its ally I. Horsfalliæ; and yet we cling to the latter whilst the former is neglected and forsaken. Truly in no other stove plants do we get such a lovely shade of blue. It owes its somewhat paradoxical name to the fact that the limb of the flower when opening is of a reddish colour, changing to a very delicate blue when fully expanded.

Tacca pinnatifida is another subject that should be oftener met with in collections of stove plants. There are at Kew some very good specimens of this in the intermediate house there. This plant was introduced from either the East Indies or Society Islands (it is a native of both) as early as 1793, and is known as the arrow-root plant. It has a tuberous rhizome from which spring its large, pinnatifid leaves. The flowers are small, and are borne well above the foliage in dense umbels surrounded by leafy bracts. It has a very striking appearance.

Bilbergia decora is a subject which if the public were acquainted with it would soon become popular. It somewhat resembles B. (Bromelia) Zebrina, but it is superior to that species. It was first cultivated at Ghent in 1864, and was introduced into Europe from New Granada. It is figured in the *Botanical Magazine* (t. 6937). The plant from which this plate was taken flowered in the garden of the late Sir George Macleay, of Pendell Court. The leaves are strap-shaped, about two feet in length, and two or three inches across. These are disposed in rosettes, and are finely marked with transverse bands. The flower spike is pendulous, about six inches long, and borne on a peduncle about a foot in length. The flowers are a greenish colour, the petals being about a couple of inches long and spirally twisted. The flowers are almost entirely hid by the large, oblong-lanceolate, bright red bracts, which are the principal feature in the plant.

Monochætum sericeum multiflorum is another beautiful subject which I have not seen for years. The last plants I did see were growing in the nurseries of Messrs. Fisher, Son & Sibray, Sheffield. This is a dwarf, compact, shrubby, evergreen plant, only a few inches in height. The flowers are a rosy mauve colour, about one inch in diameter, and produced in great abundance during the early months of the year. It is a very desirable greenhouse plant and thrives in a compost consisting of peat, loam and leaf mould in equal parts. This plant should be shaded in hot weather. It grows well in a temperate greenhouse.

Brownea Crawfurdi is a plant which excited some little attention a short time ago. It is a hybrid between the graceful B. grandiceps and B. macrophylla, and was raised by the late Mr. Sharman Crawfurd, of Cork. At the R. H. S. meeting held on the 9th of February last, a head of it was exhibited and was very favourably commented on. It flowers are of a dazzling red colour, which are produced in globose heads about nine inches in diameter. The fully developed inflorescence is a most beautiful sight and one which is not readily forgotten. The flowers of this species is much richer and deeper than in either of the parents.

Rudgea macrophylla.—This beautiful Brazilian plant is a most charming late spring and early summer flowering subject. It is sometimes met with under the name Psychotria leucantha, and possibly some of our readers may be acquainted with it under that synonym. It is figured in the Botanical Magazine (t. 5653). The leaves are very large, glossy, dark green, and are arranged in opposite pairs on stout stems. The flowers are pure waxy white, and in the bud have a close similarity to Orange blossoms. They are produced in large, dense, terminal, globose heads. This plant thrives in a moist warm stove.

Sarmienta repens is a charming little Gesneraceous plant admirably suited for cultivating in pans suspended from the roof. It is a native of Chili, from whence it was introduced in 1862. The flowers are rather small, urceolate, scarlet, and are produced in May. It should be planted in peat, charcoal, and sphagnum, and liberally supplied with water.

Thunbergia (Hexacentris) mysorensis is a handsome climber and flowers during the months of April and May. It is a native of India and is figured in the Botanical Magazine (t. 4786). It has large crimson and yellow flowers depending in long racemes from the shoots of the plants, which should be trained along the rafters of the house; thus trained it has a very pleasing effect. It grows freely and blooms satisfactorily either in an intermediate or stove house.

Leucopogon lanceolatus, figured in the *Botanical Magazine* for 1832, but not a good representation, is a very old greenhouse shrub. The flowers are small, white, and are borne in terminal and axillary drooping spikes in great profusion. It is a native of Australia and requires much the same treatment as other hard-wooded greenhouse plants.

Greyia Sutherlandi.—This monotypic genus was recently exhibited at a meeting of the R.H.S., where it received considerable attention. It is a native of Natal, and was introduced to cultivation by the late Dr. Moore, of Glasnevin Botanic Garden, who in 1859 raised plants from seeds imported from Natal, and it first flowered in the Chelsea Botanic Garden in 1874, and from that plant a coloured plate was prepared for the *Botanical Magazine* (t. 6040). It is a greenhouse shrub; is deciduous, and requires full exposure to the sun to ripen the wood. It also requires to be kept rather dry during its period of rest. The flowers are scarlet and are borne in terminal racemes, a single raceme often bearing a hundred flowers. Unfortunately this subject requires a lot of room if it is to be well done.—*C. H. B.*

GARDENING IN EAST LONDON.

This was the second exhibition held by the East London Amateur Floricultural Society, the operations of which are included within a circle, the centre of which is a point close to the Bethnal Green Museum. It takes in Clapton, which is perhaps as favourable to plant growing as any suburb of London, but it was pleasant to note that many of the things, and not the least meritorious of them, came from Bethnal Green. The show took place on Monday, in the Oxford Hall, Victoria Park Square, just behind the Museum, and the objects of the society are well set forth in the schedule as seeking to "extend the cultivation and love of flowers in East London." That it is doing this in a remarkable degree was seen at this second exhibition. The society is governed by an active committee of working men, the exhibitors are working men, not a few of whom have put up homely glass erections in small back gardens, and where, in spite of smoke, dulness, and mist, fog, and lack of sunshine, they grow and bring to perfection plants that in my opinion are relatively equal to the finest seen at the Regent's Park or at the Crystal Palace.

The Royal Horticultural Society gives one of their Bronze Medals for competition, and the possession of this is longed for with the same largeness of desire as an aspiring politician does to a seat in the House of Commons. The Oxford Hall is commodious and convenient, but badly lighted, and the plants are not seen to the best advantage. They are placed on tables running lengthwise and round the sides of the hall, and they were filled, Fuchsias appearing to be the leading East London plant, and some of the specimens were highly meritorious considering it is a plant requiring an abundance of light and air. Zonal Pelargoniums, Coleus, Cannas, and Petunias came next in point of numbers, some of them remarkably good considering the localities in which they are grown.

The R.H.S. Medal was offered for a miscellaneous group occupying a space of some 26 ft., and there were seven or eight of these, and the subjects had been grown in small and homely greenhouses. It was won by a Mr. Robson, who resides near to the Cambridge Heath Station, a carpenter, who has but a little garden, as may be supposed in such a locality, and it consisted of Cannas, Plumbago capensis alba, Fuchsias, Zonal Pelargoniums, Begonias of the metallica type, Gloxinias, Ferns, Lilium auratum, etc. Very close indeed to it came that contributed by Mr. Ransom, a dock labourer, who resides at Stepney, and who is an enthusiastic amateur gardener, who finds among his plants during times of enforced leisure from labour, pleasant recreation. The third prize went to Mr. Mears, Hopctown, just at the back of Shoreditch Church, who is an assistant in an ironmonger's shop. Mr. Ransom had Plumbago capensis, Lilium speciosum, Petunias, Tobacco plants, Fuchsias, etc. In some of them could be seen small, admirably grown plants of Gloxinias, and some essay to produce the tuberous Begonia in exhibition form.

Mr. Bass, Potato Dealer, Green Street, Bethnal Green, had the three best Fuchsias of any age, and the three best zonals, which were remarkably good, considering they were grown in a small, dark back-yard. The best plant in the show was a Begonia of the metallica type, the name of the exhibitor I failed to get. Mr. Richards, a cabinet maker, had the best double Petunias, and very good they were. Some specimen Cannas and Coleus were grown by Mr. Bass in Green Street. A capital brace of Telegraph Cucumber was shown by Mr. Bone, bootmaker, who has a little glass arrangement heated by means of a pipe from the kitchen boiler; and from the Sewardstone Road came a dish of six excellent Tomatos. The secretary, Mr. J. Richards, took the 1st prize with a capital hanging basket of plants, worthy a place in any conservatory.

Cut flowers were represented by very good Dahlias and Asters; and Mr. A. Rawlings sent from Romford a stand of capital Dahlias, the following being very fine: T. W. Girdlestone, John Rawlings, Willie Garratt, Mrs. McIntosh, Glow-worm, Gen. Gordon, T. J. Saltmarsh, W. Rawlings, Mrs. N. Halls, Miss Cannell, Mrs. Gladstone, and Rev. J. Godday, etc.—*R. D.*

THE BEGONIA CONFERENCE.

Begonias of all classes were well represented at the Conference held on Tuesday and Wednesday in the gardens of the Royal Horticultural Society at Chiswick. They were arranged on staging in a large tent upon the lawn near the Council Room, illustrated on the opposite page. A large collection of species and garden hybrids and varieties was exhibited by Messrs. J. Veitch & Sons, Chelsea, including B. Froebelli, and a hybrid between it and one of the tuberous sorts; also B. Sedeni, B. picta, B. Thwaitesii, B. Dregei, B. Socotrana, B. Burkei, B. Martiana, B. insignis, B. corallina, and others. Many of those grown solely for their foliage were also well represented in Sambo, Arthur Malet, Marie Louise, B. Rex, Potheosii, and many others too numerous to mention. A Silver Floral Medal was awarded for the collection. A few kinds were brought up from the Botanic Gardens, Cambridge, amongst which were the curious but fine one named B. gogoensis, also B. Haageana, B. Beddomei, etc. B. semperflorens rubra Vernon var. and others from Messrs. Vilmorin, Andrieu & Co., were also shown. A large collection of cut flowers of double tuberous varieties came from Messrs. H. Cannell & Sons, Swanley. The scarlet, rose, pink, salmon, white, and yellow varieties were well mixed and backed up by varieties of B. Rex and Palms. They also had a collection of species and garden hybrids in pots.

A collection of tuberous Begonias in pots was exhibited by Messrs. J. Laing & Sons, Forest Hill. All the varieties were double, and included some of the best and most recently named varieties, such as Picotee, Lady Theodora Guest, Lord Esher, Sir Trevor Lawrence, Comtesse d'O'Gorman, and others

of equal merit. They had also a collection of the varieties of B. Rex, B. Lubbersii, B. Haageana, and other fine-flowering sorts. Some flowers were made up in bouquets and sprays. A Silver Gilt Flora Medal was awarded the group. A large collection of species and garden forms was brought up from the Royal Gardens, Kew, and occupied about nearly half of the central table. Some huge plants of B. Haageana, and B. metallica occupied the centre. B. ricinifolia, B. nelumbæfolia, B. peltata, B. Ingramii, and B. Incarnata purpurea were also prominent plants. A pan of Acidanthera bicolor, Lilium Henryi, and Stenoglottis longifolia were also interesting plants.

Some prizes were offered for tuberous Begonias, and the first prize for nine double varieties was awarded to O. T. Hodges, Esq., Chislehurst. A first prize was also awarded to William Marshall, Esq., Auchinraith, Bexley, for six foliage Begonias. A Bronze Medal was awarded to J. Currie, Esq. (gardener, Mr. McMillan), Trinity Cottage, Edinbro, for cut flowers of early blooming Chrysanthemums, including Madame Desgranges, Stanstead White, Mrs. Irvin Clark, Puritan, and others. Miss Debenham, St. Peter's, St. Albans, exhibited some Pompon Chrysanthemums. A pink Carnation named Mrs. Leopold de Rothschild was shown by Mr. G. Reynolds, gardener to the Messrs. de Rothschild, Gunnersbury Park, Acton. A Silver Flora Medal was awarded to Mr. Jas. Hudson, gardener to the Messrs. de Rothschild, Gunnersbury House, Acton, for a collection of the old-fashioned sweet-scented Pelargoniums such as P. denticulatum, P. Radula, P. quercifolium, P. fragrans, Lady Plymouth, and several others, mostly of large size, well grown, and in the best of health. Three large stands of Antirrhinums, both self, striped, and parti-coloured flowers, were shown by Mr. G. Wythes, gardener to the Duke of Northumberland, Syon House. A large basket of blackish-purple Coleus was shown by Mr. J. A. Morris, Acton, Middlesex.

A small quantity of Orchids also made their appearance, the exhibitors being Baron Schroder (gardener, Mr. H. Ballantine), The Dell, Egham; Messrs. F. Sander & Co., St Albans; C. E. Goodheart, Esq. (gardener, Mr. W. Padbury), Langley Park, Beckenham; Messrs. Pitcher & Manda, Hextable, Swanley, Kent; Drewett O. Drewett, Esq. (gardener, Mr. J. Keeling), Riding-Mill-on-Tyne; and C. Whitefield King, Esq., Morpeth House, Ipswich. A few Vallotas were shown by Mr. A. J. A. Bruce, Edge Lane, Manchester.

The Ferns exhibited in competition for the prizes offered were arranged in another tent close by. The first prize for ten Plumose varieties of different species was awarded to the collection from the Clifton Zoological Gardens and the Shirenewton Hill collection. From the same collections came the first prize lots of ten cruciate or narrow-leaved varieties, also ten varieties of Lady Ferns, a group of the varieties of Polystichum aculeatum, sixteen varieties of any type or size, sixteen dwarf varieties, eight varieties, also eight varieties of Nephrodium Filix-mas, ten varieties of Scolopendrium vulgare, eight varieties of Polystichum angulare, eight crested varieties of different species, four varieties, four varieties of Polypodium vulgare, four Adiantums, eight rugose or muricate varieties of Scolopendrium vulgare, and ten varieties of Aspleniums. Altogether the collection was a most wonderful one both in extent, variety, and evidence of good culture. Many of the specimens were of large size. C. T. Druery, Esq., Fernholme, Forest Gate, received the second prize for sixteen varieties of any Ferns, and the first prize for the best Athyrium, a beautifully plumose sort named A. Filix-fœmina plumosum Drueryi. The first prize for four varieties of Polypodium, and the first prize for the best Polypody was awarded to Wm. Marshall, Esq., Anchinraith, Bexley, who took a second prize for four varieties of any sort of Ferns. Of course all of the above were British Ferns, a large proportion being of great beauty.

A collection of hardy ferns was shown by Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton, and most of them were in 48 and 32-size pots. A Silver Banksian Medal was awarded. A nice group of Polystichums was exhibited by W. Roupell, Esq. An extensive collection of hardy ferns, occupying about half the length of one side of the staging, was exhibited by Messrs. W. & J. Birkenhead, Sale, near Manchester. Both the dwarf and tall varieties were represented, and a little grouping here and there attempted. A Silver Gilt Flora Medal was awarded.

At a meeting of the Fruit Committee a Cultural Commendation was awarded to Mr. J. Gibson, The Oaks, Carshalton, Surrey, for a stand of Onions. He also had some good Parsnips. A collection of Plums was exhibited by Mr. John Watkins, Withington, Hereford, both in punnets and as they had grown upon the trees. A Cultural Commendation was awarded to Messrs. Geo. Bunyard & Co., Maidstone, for some dishes of a new Apple named Lady Sudeley. A Silver Banksian Medal was awarded to Messrs. H. Lane & Son, Berkhamstead, for a collection of Plums as they had grown on the branches, and which were literally laden. Ten baskets of Apricots were exhibited by Mr. G. Wythes. Some fruits and also plants of a new Tomato named Collins' Challenger were staged by Messrs. Collins Bros. & Gabriel 39, Waterloo Road, S E. Some baskets of the small and sweetly flavoured Grapes were shown by W. Roupell, Esq., Roupel Park, S E., and he also received a Cultural Commendation for a basket of Lady Sudeley Apple. Seven baskets of Apples, some Pears, and Figs were shown from the society's gardens. All had been grown under glass and were

The Council Room and Lawn in the R. H. S Gardens at Chiswick.

fine, a Cultural Commendation being awarded for the Apples. Some Plums were also shown by Mr. John King, Bandon Hill, Croydon.

The central staging of this tent was occupied with flowering plants. A Silver Flora Medal was awarded to Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, for a collection of Phloxes, Hollyhocks, and other plants, the Hollyhocks being represented by about three dozen spikes of double-flowered seedlings of great merit. A Silver Gilt Banksian Medal was accorded to Messrs. Kelway & Son, Langport, Somerset, for a fine collection of Gladioli, Gaillardias, Sunflowers, and other hardy subjects. A Silver Gilt Flora Medal was awarded to Messrs. H. Cannell & Sons, for a collection of Cactus and decorative Dahlias and the Begonias previously mentioned. A Silver Flora Medal was awarded to Messrs. Paul & Son, Cheshunt, for a collection of Phloxes, Roses, and other hardy flowers. Messrs. Pitcher & Manda were awarded a Bronze Banksian Medal for a collection of hardy flowers.

SHREWSBURY FLOWER SHOW.

The Flower Show and Musical Fête organised by the Shropshire Horticultural Society, and held in The Quarry, Shrewsbury, on the 17th and 18th inst., was again an unqualified success, and again broke the record all round. The society has been in existence 18 years, and its annual growth has been something phenomenal in the history of such associations. In 1875 its total income from all sources was £791 12s. Last year the total amounted to £3,334 10s. 6d. of which sum £1,765 7s. 6d. was taken at the gates on the two days over which the Fête extends, and the gross profit was upwards of £900. Last week the amount taken at the gates was £2,068 14s. 2d. (£1,633 14s. 8d. on the second day), showing an increase of over £300 on the previous year's receipts: and it is estimated that the receipts from all sources will not fall short of £3,500.

The weather on the first day was all that could be desired, but rain fell on the second for a short time, when the outlook was ominous, but happily it passed away, and nearly 50,000 people passed through the turnstiles. The principal features in the plant classes were the groups and specimens which were of the very best. For a group occupying a space of 300 square feet, the premier award went to Mr. Peter Blair, gardener to the Duke of Sutherland, Trentham, who, if such an Hibernianism may be allowed, fairly beat himself, and those who know Mr. Blair's style will admit that that is high praise. His nearest competitor was Mr. J. Cypher, of Cheltenham, who is always hard to beat; and the second and third awards went to Mr. Roberts, gardener to C. H. Wright, Esq., Halston Hall, and Messrs. Jones & Sons, Coton Hill, Shrewsbury. With sixteen stove and greenhouse plants, Mr. Cypher and Mr. Finch, gardener to James Marriott, Esq., Coventry, again came into competition, but well as both showed, Mr. Cypher was easily first; and Mr. Mould, of Pewsey, secured third honours. For six plants in flower, Orchids excluded, Messrs. Cypher and Finch were placed equal first with admirable groups; and in a competition for a similar number of flowering and foliaged plants confined to the county, the awards went to Mr. Farrant, gardener to Mr. Juson, Abbey, Foregate, Mr. Bremmel, gardener to H. H. France Hayhurst, Esq., and Mr. Pearson, of Attingham, in the order named. Mr. Roberts, Halston beat Mr. Finch with six exotic Ferns; and in the county class for the same number Mr. Farrant again secured first honours against Mr. Stevenson, gardener, The Vineyard, Wellington, and Mr. Bremmel. Mr. Cypher beat Mr. Blair with 20 Orchids in flower, both showing admirably for the season; and in a grand class for half a dozen Palms Mr. Cypher beat Mr. Finch and Mr. Blair in the order named. The local classes were all well filled but call for no special comment.

The cut flowers all round were of the very highest quality; and a special feature, introduced for the first time, was a competition with dinner tables arranged for eight persons and decorated. This class brought out a splendid competition, in which Mr. J. R. Chard, of Stoke Newington, beat the local nurserymen, Messrs. Jones & Sons and Messrs. Pritchard & Son. There was a surprise too in the principal bouquet class, Messrs. Perkins & Son, of Coventry, having to lower their colours to Messrs. Jenkinson & Son, of Newcastle-under-Lyme, but the former well held their own with button-hole flowers. With twenty-four cut Roses, the Messrs. Harkness, of Bedale, secured premier houours against Messrs. Perkins & Son and Messrs. Dicksons, Limited, Chester; and with a collection of Dahlias, Messrs. Keynes, Williams & Co, Salisbury, took the lead, Mr. George Humphries, Chippenham, coming in second; and Messrs. Jones & Sons, third. Mr. J. Walker, of Thame, had the best twenty-four blooms; and for thirty-six the awards went to Messrs. Kimberley & Son, Coventry. Herbaceous cut flowers made a very imposing display, and with a collection open to nurserymen only, Mr. M. Cuthbertson, Rothesay, came in first, Messrs. Dicksons, Limited, Chester, being second; and Messrs. Harkness, third. Mr. R. Sydenham, Messrs. Thomson & Co., and Mr. A. R. Brown were all to the fore in the Carnation and Picotee classes. The wild flower classes were well contested, and brought out a most interesting representation of the local flora.

The fruit all round was most excellent in quality, with the exception perhaps of the Muscat Grapes, which were below the average. With a collection of twelve dishes Mr. Dawes, Temple Newsam, came in first, and showing in his best form. Mr. Iggulden, gardener to Lord Cork, Marston House, Frome, was second; and Mr. Goodacre, Elvaston Castle, third; Mr. Blair taking an extra prize. The County prizes for nine dishes were won by Mr. Bremmell, Overley; Mr. Roberts, Halston; and Mr. Pearson, Attingham, in the order named. The black Grapes were highly coloured and well finished throughout. Mr. Bennett, Rhug, Corwen, had the best six bunches; Mr. Hepburn, The Priory, being second; Mr. Langley, Tedsmore Hall Gardens, third; and Mr. Bannerman, Blithefield, Rugeley, fourth. Mr. Crawford, gardener, Coddington Hall, Newark, had the best four bunches of white Grapes. Peaches, Nectarines, and Melons, were all exceedingly good; and a special exhibit, not for competition, consisted of a dozen handsome Queen Pines from Mr. Blair, which were awarded a Silver Medal.

The vegetable classes were an exhibition in themselves, so strong was the competition and so fine the quality all round, with a tendency nevertheless to run too large, that should be kept in check. For a collection of twelve varieties Mr. Pope, Highclere Castle, was first; Mr. Wilkins, Inwood House, second; and Mr. C. J. Waite, Glenhurst, third. Mr. Wilkins beat Mr. Pope for Messrs. Edward Webb & Sons' special prize; Mr. Hathaway, gardener to the Earl of Lathom, being third; Mr. C. J. Waite, fourth; and Mr. Smeatham, Leaton Knolls, fifth. The best six dishes of Potatos came from Mr. Hathaway; and Mr. Coombes, Himley Hall, Dudley, had the best three dishes. Special prizes were also offered by Messrs. Sutton & Sons, Messrs. James Carter & Co., Messrs. Thomson & Co., Mr. R. Sydenham, and Messrs. Clibran & Son, and good competitions were the result. The cottagers also came out very strong and made quite a remarkable display of vegetables and fruits, which they staged in considerable numbers and in unusually fine quality.

The special awards made to honorary exhibitors were as follows:—Gold Medal, the only one ever given by the society, to Messrs. Sutton & Sons, for a superb collection of their Gloxinias. Silver Medals to Messrs. Cutbush & Son, Highgate, for a collection of plants; to Mr. B. R. Davis, Yeovil, for Begonia blooms; to Messrs. Hewitt & Co., Birmingham, for collection of plants and cut flowers; to Messrs. Thomson & Co., Birmingham, for 500 Carnation and Picotee blooms; to the Liverpool Horticultural Co., for floral devices; to Messrs. Cannell & Sons, for Begonia and Dahlia blooms; and to Mr. P. Blair, for a dozen Queen Pines. Bronze Medals to Mr. John Price, Rhyll, and Messrs. Lea & Co., Shrewsbury, for collections of fruit. Certificates to Messrs. Sutton & Sons, for new winter-flowering Begonias, Afterglow, Rosea superba, Snowflake, and Duchess of Edinburgh; and for Gloxinias, Purple Prince, Duke of York, Her Majesty, Souvenir de Shrewsbury, and Empress of India. To Messrs. Keynes, Williams & Co., for Cactus Dahlia Mars; to Messrs. Thomson & Co., for self Carnation Mrs. J. Chamberlain; to Mr. E. Murrell, Shrewsbury, for Roses and a collection of plants; to Mr. H. Eckford, Wem, for new Sweet Peas; to Mr. A. Myers, Shrewsbury, for a collection of plants and flowers; to Mr. J. H. Pattison, Shrewsbury, for Violas; to Messrs. Birkenhead, Sale, for new and rare ferns; to Messrs. Kelway & Son, for a collection of Gladioli, and for Gladiolus Unionist, Sarah Bernhardt, and Nautch Girl; to Messrs. Dickson's, Limited, for a collection of plants; and to Mr. C. Turner, Slough, for Picotees and Carnations. Extra prizes to Messrs. Pritchard & Son, for a group of plants; to Mr. Wallis, Kee Hall Gardens, for five dishes of Figs; and to Mr. Bennett, Rhug, for a Pine Apple.

With an enormous programme to keep in order, and a thousand and one details to attend to on the part of the secretaries, Messrs. Adnitt & Naunton, the arrangements worked without a hitch of any kind, and the highest praise is their due for unwearied exertions in promoting the success of the show.

THE HERBACEOUS BORDER.

Choice Plants in Flower.

Lilium Chalcedonicum.—The bright scarlet flowers of this Lily are marked all over the lower half of the segments with small crimson specks, while they are closely revolute at the tips. The leaves on the lower part of the stem are spreading, while the upper ones are closely applied to the stems. The flowers are sweetly fragrant, but not powerful, and for that reason are very useful for cutting and mixing with other kinds. Some of the Lilies are too powerfully odorous for this purpose.

Achillea Millefolium roseum.—The bright rose coloured rays and the small heads of this plant, arranged as they are in a dense corymb, have a very charming effect, not only when seen growing in a clump, but in the cut state when mixed with other cut flowers; in fact they are often used for mixing in bouquets in some districts. The stems grow about 18 in. to 2 ft. high, and the plant is therefore suitable for the second line of the border. It is easily propagated to any extent by division.

Statice latifolia.—The individual flowers of this, as well as any other species of Statice, are neither large nor conspicuous, but they are usually produced in such quantity as to make up for any deficiency in other respects. In some species the flowers are crowded in spikes, and in other cases in umbellate cymes, but in the species under notice they are in large, loose, and graceful panicles. The corolla as usual is white with a blue calyx, and the oblong leaves are very broad as the name implies. The hardiness of the plant is an additional recommendation, as it thrives in ordinary garden soil in most parts of the country.

Lathyrus latifolius delicatus.—Some botanists consider that the correct name of the type of this climber is L. sylvestris platyphyllus, to which the name delicatus must be added to indicate its distinctness for garden purposes. There are now at least two very distinct varieties in cultivation, besides the ordinary form with deep rose flowers. The variety delicatus has white flowers beautifully suffused and netted with delicate pink, and are very pretty when seen in a mass.

Coreopsis grandiflora.—The golden yellow heads of this composite are very large, and being produced on long peduncles or stalks they are suitable for cutting singly as cut flowers. The leaves are narrow and cut into segments at the base. The plant is hardy, growing as a rule about 2 ft. high, and flowering in August. It does not increase very rapidly as a rule, but cuttings or seed may be had, and division can be effected in spring.

Lilium Leichtlinii.—The flowers of this beautiful Lily are produced in racemes of six to eight, and being of a uniform deep Apricot are very handsome; the anthers alone are different from the above, being of a deep brown or brownish-orange. They are also erect and widely spreading, giving all the effect that flowers of their size are capable of producing. Other kinds have revolute segments and appear smaller than they really are. The stems grow about 2 ft. high, and the species is suitable for planting amongst low growing Rhododendrons or other shrubs.

Astilbe chinensis.—The leaves of this species are larger than those of the well known A. japonica, most frequently spoken of as Spiræa japonica, but otherwise very similar, in being twice or three times ternately divided. The flowering stems are taller however, attaining a height of 3 ft. in the open air under ordinary conditions as to culture, bearing an elongated panicle of branching spikes of bloom

The flowers are small individually but pretty in the mass. The petals are white, but the anthers are purple and tend to give the flowers a pinkish hue. Altogether it may be described as a pretty subject for border work, for which it might be preferred to A. japonica; but it will never displace the latter for forcing.

FLOWER SHOW AT ABERDEEN.

The annual floral fête of the Royal Horticultural Society of Aberdeen was held in the Central Park, on the 18th, 19th, and 20th inst. Hitherto the show of the society has been confined to a horticultural display, the discoursing of music by a military band of distinction and an exhibition of fireworks in the evening. On this occasion, however, in addition to the attractions mentioned, the programme of events included a military tournament. Unfortunately the weather on the opening day was far from propitious; indeed the gates were closed early in the evening so heavy was the downpour of rain. On Friday and Saturday, however, the weather-clerk made ample amends for his shortcoming on Thursday. It has to be admitted at once that the resolution of the acting directors of the society to have military sports in connection with the fête in no way detracted from the excellence of the flower show. On the contrary, in several of its departments, it was the finest held under the auspices of the society for some years.

In the professional gardeners' section the display of plants in pots could not have been excelled. In the collection of best grown plants, arranged on a table 15 ft. by 8 ft., that forwarded by Mr. Alex. Grigor, gardener to Mr. A. O. Gill, of Fairfield, was worthily awarded the first place, and besides securing the premier prize, the collection also took, in addition, Her Majesty the Queen's special prize — a silver salad bowl, valued at twelve guineas. Second honours fell to Mr. James Strachan, gardener to Mr. John Fyfe, of Beechgrove who also exhibited a meritorious collection. Mr. G. McHardy, gardener to Dean of Guild Macdonald, was the first for the six best stove or greenhouse plants, Mr. Alex. Grigor being a good second. Ferns were an excellent display, more especially the exotics, and in this class, Mr. Gill led. Of Fuchsias there was but a fair show, but the assortment of Pelargoniums was of a high order, the double and single zonals and the tricolors being particularly noticeable. A really magnificent display of plants for dinner table decoration was forward. For size and colour, the show of Begonias would be hard to beat. Mr. John Hay, Polmuir Road, Aberdeen, carried off first honours with a grand specimen. Cockscombs were well coloured, and of great substance. Orchids looked really well.

In the amateur department the show of plants in pots was an extremely creditable one, and came out well in comparison with the professionals. An immense amount of pains must have been taken by the competitors in order to get their plants into condition, and when it is stated that many of the men had only frames in which to grow them the display was all the more creditable.

Considering the backward nature of the season the show of cut flowers was a splendid one. In the professional section Mr. Andrew Reid, gardener to Mr. Baird, of Durris, was awarded first prize for a splendid collection, arranged for effect on a side table 8 ft. by 3½ ft., and he also gained with the same collection, the Messrs. Doulton & Co's (London) prize, a handsome vase. The collection shown by Mr. Robert Kiloh, gardener to Mr. R. Gillies, of Woodlands, was composed of finer greenhouse flowers than the first prize collection, but the effect was wanting, and it only took second place. The show of Roses was one of the best ever seen in Aberdeen, Mr. D. Macdonald, from Clemount Nursery, was first for the best twenty-four blooms. The premier honours for best 12 went to Mr. Reid, gardener to Mr. Baird, of Urie. Considering the dull weather there was a very fair lot of Tea Roses forward, and the Pelargonium blooms were a specially fine show. Phloxes and Stocks have seldom been seen in better condition, and competition in these classes was keen. Pansies were numerous and splendid, but Dahlias were but a poor show owing to the lateness of the season. The nurserymen and florists staged a large and fine assortment of cut flowers. The Messrs. Croll, Dundee, with a splendid collection, secured premier honours for the best 36 Rose blooms. The same firm were also winners in the Tea Rose competition with magnificent specimens. The unfortunate rupture between the acting directors of the society and the Messrs. Cocker, Aberdeen, the well-known rosarians, precluded that firm from competing. Dahlias seemed to be favourites with the nurserymen and florists. The cut flowers entered by the amateurs and working classes were most satisfactory. There was quite a host of competitors in the wild flower bouquet competition, open to boys and girls under sixteen years of age.

Perhaps the outstanding feature in the fête was the magnificent display of fruit. The judges gave it as their opinion that never before had they seen a better. The number of entries exceeded those of last year, and the competition was close. In the professional section Mr. A. Howie, gardener to Rev. J. S. Gemmel, of Drumtochty Castle, was placed first for his collection of nine dishes, distinct. Mr. Howie also carried off a silver medal for the best collection of fruit. Grapes were in abundance, Mr. Reid, Durris, securing the principal prizes, although the other competitors run him close. Melons, Tomatos, Peaches, and Pears, formed good classes, the specimens being large and well flavoured. Strawberries, Goose berries, and Black Currants were shown in great numbers. The amateur and working class sections contained creditable displays of fruit.

In all departments the vegetables looked well, and the show on the whole was a fine one. For the best collection, arranged in a box 4 ft. by 3 ft. outside measurement, and comprising ten distinct varieties, there were six competitors, Mr. Middleton, gardener to Sir Arthur Grant, Bart., of Monymusk, taking the lead with an excellent collection. Mr. G. Milne, gardener to Lady Gordon Cathcart, took the second place. For a similar collection, open to market gardeners only, Mr. W. Anderson, Lower Cornhill, received the chief prize.

In the miscellaneous class there were a large number of plants, etc., on exhibition. Mr. Joseph Dalgarno, Whitehall, Aberdeen, showed a lovely collection of herbaceous plants and Ferns. Messrs. W. Smith & Son, Aberdeen, and Messrs. Ben Reid & Co., Aberdeen, exhibited magnificent collections of plants and cut flowers. Mr. John Forbes, Buccleuch Nurseries, Hawick, also exhibited largely, and was awarded a Silver Medal for his collection of cut flowers, and a First-class Certificate for his Carnation Meteor.

Thanks to the indefatigable exertions of the courteous and obliging secretary, Mr. A. M. Byres, C.A., Aberdeen, everything passed off most successfully. Large numbers of people visited the show, especially on Saturday, when the special trains took in thousands of spectators from all quarters of Aberdeenshire and the north.

GARDENING MISCELLANY.

LARGE HOLLIES

In reply to your query in last week's issue, as to whether there are any Hollies of larger dimensions than that at the residence of Mr. Colman in Surrey, I may say that we have here a Holly tree measuring 118 inches in circumference at 3 ft. from the ground, and which is about 70 ft. in height. We have several others ranging from 65 inches round to 108 inches in the kitchen garden, and a silver Queen measuring 68 inches round at 6 ft. from the ground. I would be glad to know if any of your readers can inform me of a tree measuring more than the one I first mentioned.—*John Carmichael, The Gardens, Touch House, Stirling.*

MEALY BUG ON A TACSONIA.

Much has appeared at various times in your columns concerning Mealy Bug. I have in the conservatory under my care a Tacsonia Exoniensis which is simply covered with it. We have gone over it time after time with a small brush and insecticide, afterwards thoroughly syringing with a strong solution of soft soap, and on some occasions mixed with paraffin, but in a very short time we find it just as bad as ever. I suggested cutting it out and having the place painted, but this would grieve my employer, as the climber is such a favourite of hers. Would some reader suggest how we can thoroughly get rid of the pest.—*A Constant Reader.*

COLEUS AS EXHIBITION PLANTS.

It has been generally remarked that the Coleus has rapidly declined as an exhibition plant. There is no doubt it is so, for those in the habit of attending flower shows note with regret that the plants now seen generally are small, drawn, dull-coloured, and attenuated foliage. More's the pity, because I think that in the matter of effective ornamental foliaged plants the Coleus when good varieties are well grown and presented in their best form—bold and luxuriant in growth and finely coloured—they rank next to the Crotons for vividness of leaf colouration. At the Trowbridge Flower Show, a few days ago, Mr. H. Matthews, gardener to W. R. Brown, Esq., Trowbridge, staged half-a-dozen plants of medium size, but very striking in appearance. The varieties were Butterfly, Mrs. C. Simpson, Beckwith's Gem, Mrs. Sheriff, Mr. C. Hart, and Lady Dacre. Not only are these fine exhibition varieties, but they are also good decorative sorts, and, as such, are well worthy of being cultivated. The form of Mr. Matthews' plants was that of a fine, bushy growth; much better than the sharply-trained pyramidal or flat specimens one is sometimes—I think too frequently—accustomed to see.—*R. D.*

POLYGONUM CAPITATUM.

Occasionally we see this grown upon the rockery, where it looks pretty enough, but as a rule it is not long lived. It ripens seeds, however, and these drop about and come up spontaneously in the following spring or summer. The pink flowers are aggregated in little round heads, hence the specific name. The leaves are also pretty in having a Λ-shaped, bronzy-purple blotch on the middle, like several other well-known species, but of a different shape. The plant is seen to best advantage however as a greenhouse plant, and particularly when grown in pots or baskets and suspended from the roof, so that the naturally trailing stems are allowed free play to develop. It is used in this way in the nursery of Messrs. J. Laing & Sons, Forest Hill, with very striking effect. Some are suspended in baskets, and others grown in small pots and stood along the edges of the stages in the Begonia houses, where the slender stems attain a length of 2 ft. or 3 ft., and hang down very gracefully. The spotting of the leaves is best brought out where the plants are near the glass.

THE PYRENEAN ROSE.

The single flowers of this wilding are pretty, and they are followed by fruits that are as pretty as they are curious. Usually the fruits of Roses are globose, oval, or some similar shape, but in the present instance they are oblong and narrowed a little below the calyx, of a bright red or scarlet colour, and more resembling the fruit of a Capsicum than a Rose. The plant grows about a foot high or thereabout, and is the Rosa pyrenaica of botanists. There are several of the Roses that well deserve to be cultivated for the sake of their fruits, and the Pyrenean species is is one of them.

DIANTHUS SUPERBUS.

Florists have a great aversion to fringed or saw-edged forms of both Carnations and Pinks, so that they would doubtless look upon D. superbus as a hopelessly incorrigible plant utterly beyond their powers to deal with. Almost the whole lamina of the petals is cut into shreds or fringes; but notwithstanding this the plant is very pretty during the month of August when covered with its lilac-purple fringed blooms. The leaves are short and green, while the stems rise to a height of 12 in. or 18 in. The plant may be grown upon the rockery or in the ordinary herbaceous border, but wherever planted it should enjoy an open exposure not overhung by trees, nor shaded in any way.

PALIURUS AUSTRALIS.

The foliage of this shrub is highly ornamental apart from the flowers and apart from the interest attaching to it as one of the species of Paliurus popularly known as Christ's Thorn. The leaves are broadly ovate and arranged in a double file along the sides of short lateral twigs in such a way that the shoots appear like pinnate leaves. The flowers are small individually, but very freely produced in the axillary clusters of a bright yellow. The branches moreover are spiny as in the case of P. aculeatus. The shelter

of a wall enables P. australis to make much better growth than if planted in the open shrubbery where it might not give satisfaction, not being so hardy as P. aculeatus. An unsightly wall in a sunny aspect would be much improved by it.

HELIANTHUS MULTIFLORUS BOUQUET D'OR.

There are now several fine varieties of this Sunflower in cultivation. The subject of this note is one of the best of the double forms, it being a matter of taste as to which is actually the best for ordinary garden decoration. The stems grow about 2 ft. to 2½ ft. high, at least in the neighbourhood of London, but are probably capable of greater growth than that in rich soil, in wet localities, or rainy seasons. The flower heads are large, golden-yellow, and the florets of which they are made up are nearly flat, in contradistinction to those Sunflowers which are tubular or quilled. The second or third line in the herbaceous border would be a suitable position for it; but it may also be grown in shrubberies or in large clumps or beds upon the grass. It may be seen in the nursery of Mr. T. S. Ware, Hale Farm, Tottenham.

TOMATO THE CONFERENCE.

Occasionally we hear it stated that The Conference Tomato is not so good as it was when originally sent out, in other words that it has degenerated. Of course it was sent out before it had been sufficiently tested to fix it, and some cultivators are not sufficiently careful in selecting the finest types of fruits for seed. There is evidence, however, in several gardens that it is still true and a useful sort for obtaining a good crop of fruit of a useful size for table purposes. Its rich and bright red or scarlet colour is also greatly in its favour as far as appearance is concerned. We noted a fine lot of plants recently in one of the houses in the Bedfont seed grounds of Mr. R. Dean, Ealing. They were grown in pots, and each plant carried four to eight bunches of fruit with a promise of more to come from the flowers. The number of fruits in a bunch ranged from five to eleven.

STRAWBERRY ELTON PINE.

Although a very old variety and having little attraction as to size, this is still a better Strawberry for dessert purpose or for preserving than many of the newer and larger kinds that have little to recommend them except size and colour. The British public will give preference to large Strawberries, a fact which is no great evidence of good taste. The variety under notice is also one of the latest Strawberries grown, for there were still a few fruits on the plants a fortnight ago in the Bedfont seed grounds of Mr. R. Dean, Ealing. The flavour is certainly excellent, and it would be well not to lose sight of the variety.

BEGONIA CRIMSON GEM.

There is a quantity of this Begonia in one of the trial beds at Chiswick in the gardens of the Royal Horticultural Society; and when first put out the leaves soon assumed a bronzy crimson hue The belief was that this hue was merely the effect of the sun upon the tender foliage when first transferred from the houses to the open ground. There is little doubt that the sun and full exposure to the air has brought about this beautiful hue; but the fresh growth made since then has shown little reversion, so that it appears the effect will be permanent so long as the plant is grown out of doors. This it is hoped will be the case, for as a foliage plant, independently of the rich colour of the flowers, it will be much sought after for bedding purposes. It comes from Messrs. Sutton & Sons, Reading and also from Messrs. Vilmorin, Andrieu & Co., Paris.

PYRUS BACCATA MICROCARPA.

The fruits of this little Apple or Crab are no larger than Peas, but of a deep shining red almost crimson, except the shaded side, which is more or less yellow. As in the case of the typical form of the Siberian Crab, the calyx is deciduous, and dropping away leaves the fruit more or less like a small Cherry as to form. The leaves are ovate, or sometimes oval and drawn out to a long point. It makes a highly ornamental little tree for the lawn or pleasure grounds either when in flower or in fruit during August and September. It may be seen in the botanic grounds of the Royal gardens at Kew.

CULTURE OF FORCING BULBS IN AMERICA.

There is no reason why we should not grow all the bulbs we use, as in some parts of our country we have soil and climate adapted to every species under cultivation. The Gladiolus, Tuberose, and some species of Lilies, all of which were imported thirty years ago, find such a congenial home here that we not only do not import, but have so turned the tables that we are now exporting annually more than we ever imported. What has been done with the bulbs mentioned may as well be done with the Roman Hyacinth and Narcissus in variety that are now brought from France in such enormous quantities.

This assertion is not a theory, but simply a statement of what has been done. Let us state the matter more in detail. Some four years ago the writer was asked, "What shall we do with some fifty thousand Roman Hyacinths that have been delayed in transit so long that they have made such roots in the cases that they are simply packed together like a cake?" We examined the mats, and they could hardly be called bulbs so thoroughly were they matted together, and replied, "Send them to North Carolina." And they were sent to that section known as the "Thermal Belt," which is a high elevation where there is rarely more than six degrees of frost and no extreme heat. The bulbs were planted by inexperienced hands, under the most discouraging circumstances, as they were so much grown as to appear worthless, and at least two months too late for good results. Notwithstanding all these unfavourable conditions, the bulbs made a good root growth in autumn, and in spring flowered profusely, and then ripened their bulbs in the most satisfactory manner. When ripe they were taken up and dried as best they could be without suitable buildings—in fact they were dried under the shade of trees—and returned to New York. Much to our surprise, after properly cleaning, they were, to all appearances, fully as good as the best we had from France. These bulbs were sold to the most critical trade, and pronounced the best ever grown.

At the same time a large number of bulbs of the Lilium candidum, that had met the same misfortune, were sent, and these grew equally well, making splendid bulbs.

The soil in the section referred to is almost precisely the same as that in Holland, where the growing of bulbs is the leading industry, while the climate is decidedly more favourable to the growth of bulbs. Besides that, a single acre of "good bulb soil" in Holland would cost as much as one hundred acres in North Caroline.

Here, too, Lilies of all denominations would find a congenial home; they grow vigorously, increase rapidly, make strong healthy bulbs, because they are entirely free from that blight that makes such sad havoc with bulbs at the North. All that is required to make this industry a profitable one in North Caroline is willing hands guided by experienced heads. Let such undertake the enterprise with a spirit that knows no failure and success is assured.

We need not speak of Tulip culture as Mr. Rolker has stated that very plainly and correctly. But we will say a word in favour of what are generally known as "Dutch bulbs," which include Hyacinths, Crocus, Narcissus, etc. These can and should all be grown in our own country; there is but one thing to prevent, viz., skilled labour; not in the cultivation—that is, in the labour of cultivation, but in the knowledge of their cultivation. This is not transferable, and can only be gained by years of watchful care, close observation and patient industry. Should any of the successful Dutch growers remove their plant to this country and give the industry the same attention they do at home they would benefit our country and at the same time produce the bulbs at less than one-half the present cost.

It may be asked: Why do not our florists undertake this work, a question we have already answered. We have not the knowledge necessary to carry on the enterprise successfully. Besides that, our florists lack the patience that must be shown, when we consider it takes from three to six years to produce the first quality of Hyacinths. Other bulbs can be produced more rapidly, and with less skill. This is particularly true of Roman Hyacinths and the many varieties of Narcissus grown in France. They are as easily grown as the Gladiolus and the Tuberose, and there is no branch of floriculture that can be so easily and profitably conducted as the growing of many classes of bulbs—which are now wholly imported—in this country.—*C. L. Allen, in American Florist.*

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.

Clearing Up.—The constant use of the syringe in the various departments has caused the stages and pots to become green, and as cleanliness is an important factor in their successful culture it should receive the attention of cultivators at the earliest opportunity. This also applies to the plants themselves which are sure to become a bit dirty through being syringed overhead; especially will this be so if the water used be hard. We generally for this work select a wet day when very little can be done outside and anyone can be set to clean down the stages, but where the roots are found clinging to the outsides of the pots great care should be exercised so as not to damage the points. This work then should be done by a competent man. Merely shifting the plants about seems to have a beneficial effect on some species.

Cattleya House.—Now is a good time to repot any plants of Lælia purpurata, L. elegans, and L. crispa that have gone out of flower. All Cattleyas and Lælias should be repotted at least once in two years. The roots are then more numerous and the general condition more robust; whilst if left in the same pot for a longer period the compost becomes sour, general debility of the plant sets in, and unless seen to at once its ultimate decay is certain.

If the plants have done well they will have got a firm hold of the pots; in such cases it will be necessary to break the pot and carefully detach the roots with a sharp knife. The practice of breaking away part of the pot and dropping the other part with the plant attached into a larger one we consider a bad one, but any of the small crocks that the roots have got firmly hold of can be placed in the new pot with advantage. We remove every particle of the old compost, and cut away all decayed or bruised roots, then repot into as small pot as will conveniently take the roots without crowding.

A few large crocks are placed over the hole first; then take the plant in the left hand firmly, place the roots in position, fill in between with smaller crocks until within an inch of the rim of the pot is reached, when a layer of good peat, not too dry, should be packed firmly about the plant, so that when it is finished the plant will stand erect without holding. Still with such tall plants it is best to support them with a neat stalk, or in shifting them about much damage to the roots may be caused by their swaying about. Very little water will be required for at least a fortnight (except a slight syringe) when the pots, unless they are large ones, may be plunged into a pail of water so as to wet the new crocks without saturating the compost. If the plants can be placed in a somewhat shady part of the house for a time so much the better.

Oncidium papilio majus—the Butterfly Orchid, is a very hard working Orchid, and if left to its own resources would soon flower itself to death. We generally meet with it growing and flowering freely on a block; but when so grown it does not last long in good health. We find it does well, increasing each year in size, when grown in a pot and treated liberally when growing by giving it weak manure water.

Cool House.—We are making preparations for overhauling the Odontoglossums during next month by getting a good quantity of moss, peat, crocks, and pots ready. The mode adopted by us in carrying out this work shall be the subject of the next calendar. —*C.*

Cattleya (hybrid) Baroness Schroder.

The above is a beautiful Cattleya that has been raised between Cattleya Trianæ and Lælia Jonghiana, and is therefore in botanical parlance a bigeneric hybrid. Being still quite a young plant the pseudobulbs are very short, varying from ½ in. to 2 in. in length, the latter being the youngest and most recent production. All terminate in a solitary, oblong, rigid, dark green leaf. The single flower produced on the plant shown at the Begonia and Fruit Conference in the gardens of the Royal Horticultural Society, Chiswick, on the 23rd and 24th inst, by Baron Schroder (gardener, Mr. H. Ballantine), The Dell, Egham, was about the size of a good average bloom of Cattleya Gaskelliana. No doubt it will be larger, and there will be more of them as the plant gets stronger. The oblong sepals and the ovate petals are of a warm rose, the latter having darker

veins. The lip is the most fascinating part of the whole flower; the tube externally is light rosy purple, and there is a very large golden-yellow blotch in the throat, while the rounded lamina is netted with pink on a white ground, and darker at the edges as well as the side lobes, Picotee fashion. The edges are much undulated or wavy and crisped. The interior of the tube at the base is purple marked with paler lines; and the trigonous column is pink. A First-class Certificate was deservedly awarded it.

Cypripedium Astræa.

The upper sepal of this hybrid is green at the base and white upward. The arching petals are strongly undulated on both edges, spotted with brown on a pale green ground and wholly brown upwards. The lip is suffused with brown on a green ground. The parents were C. Spicerianum and C. lævigatum, the latter more correctly termed C. philippinense. It is a bold looking flower even if not particularly showy. There were two flowers on the peduncle of a plant we noted in the nursery of Messrs. J. Veitch & Sons, Chelsea.

Cypripedium Enfieldense.

The leaves of this Cypripedium are broad, deep green and slightly tessellated with grey, as are those of its parents to a greater or less extent. The latter were C. Hookeræ and C. barbatum, the foliage of the former as is well known being very pretty. The flowers are solitary as might be expected. The roundish upper sepal is green with deeper coloured veins and rosy at the margin. The petals are greenish at the base, rosy purple upwards and at the margins. It was noted in the nursery of Messrs. J. Veitch & Sons, Chelsea. The great recommendation of these hybrids is that they keep up a succession of bloom all the year round, while the variety is endless.

WHAT TO DO IN THE GARDEN.

The Stove.—Shading may gradually be dispensed with in this structure so as to give the young growths a chance of ripening their tissues. The night temperature should still be kept up to 70°, with a small chink of top ventilation to allow the excess of moisture to escape. This is necessary for the safe preservation of the foliage of some of the kinds that are easily injured by an excess of moisture. Climbers on the roof that have made much growth should be partly thinned out to admit the light more freely.

Winter-flowering Plants.—Everything depends upon good culture now whether the display in winter will be good or bad. It therefore behoves the cultivator to see that all potting is done in good time before the plants get root-bound and stunted. Crowding should not be permitted, as a free play of light about the foliage is all important; room must be made for them where the plants require more space without being crowded upon one another. In the case of those that have received their last shift, and the pots are filled with roots, weak liquid manure will prove of great advantage.

Caladiums.—As the foliage of plants that were started early gets shabby or unfit for decorative purposes, do not take the plants to a cold house or pit nor stand them in the open air, otherwise the tubers will suffer great injury or become entirely rotten. Keep them in a warm house, gradually withhold moisture, and when the foliage has mostly died down, the pots may be laid on their sides underneath the stages in a stove or pit.

Chrysanthemums.—Staking, tying, watering, and disbudding are the principal operations at present. Liquid manure should also be given wherever the pots are well filled with roots. The earlier varieties will require disbudding, an operation which must be attended to from the first.

Vines.—It would be a mistake to hasten the ripening of the earliest vines by withholding water if there is yet plenty of green and healthy foliage. It is a better plan to keep the soil in which their roots are placed in a tolerably moist condition, and to hasten ripening by giving artificial heat and keeping the ventilators open night and day. If the foliage is in any way infested with red spider the garden engine should be occasionally brought into play to give the foliage a washing. All fallen leaves should be swept up and taken away immediately. Syringing may be discontinued in the recently planted vineries, and the temperature kept up at night, with ventilation to encourage ripening of the wood.

Figs on the Open Wall.—Young fruits that are now forming at the base of the young shoots cannot possibly ripen before winter and may be broken off. This has the effect of causing other fruit buds to develop at the sides of those removed, and they will supplement the quantity that are now lying dormant towards the top of the young wood, and will furnish the crop for next season.

Raspberry Canes.—Where the young and old canes are growing intermixed, the old ones should now be removed, or as soon as they have done fruiting. This will give the young ones the best chance of completing their growth and ripening the wood. Keep down the weeds amongst them as well as all suckers not required to form a fresh plantation, by running the hoe through them in dry weather.

Grafted Trees.—The shoots from grafts of Apple and Pear trees that were put on in spring will now be making some headway and getting top heavy. They should therefore be secured to stakes to prevent their being snapped by boisterous winds which are frequent in autumn. Remove any suckers that may appear from the stock.

Apricots.—The trees will now be getting cleared of their crops, and the earliest opportunity should be taken to give the trees a good cleansing by means of the garden engine and clean water. This will destroy the colonies of red spider which are apt to increase with great rapidity in weather like the present.

Pelargoniums for Bedding.—It is now getting late to trust to the rooting of Pelargoniums in the open ground. The best plan is to insert the cuttings in boxes, not too thickly, and place the latter in cold frames, where they may have the lights thrown over them for a few days and shaded from bright sunshine. The cuttings can be taken off in such a way as to thin the plants in the beds but not disfigure them.

Other Bedding Plants.—If the cuttings of such things as Verbenas, Salvias, Lobelias, Mesembryanthemum cordifolium variegatum, Iresines, Heliotropes, and others are put into boxes at once they can be rooted in cold frames; or if frames or pits in which Potatos and Cucumbers were brought on by means of fermenting manure are at hand, they will prove very useful for propagating such things.

LAW NOTES.

Messrs. James Cocker & Sons *v.* Royal Horticultural Society of Aberdeen.

An action, which has caused not a little sensation in horticultural circles in the North of Scotland, came before Sheriff Robertson, in the Aberdeen Sheriff Court, on Monday, the 15th inst. Messrs. Cocker & Sons, nurserymen and seedsmen, Aberdeen, sought to have the acting directors of the Royal Horticultural Society of Aberdeen compelled to receive certain exhibits belonging to pursuers which defenders had declined to enter for the annual show held last week. Mr. Cocker, senr., was formerly a director of the society, but he withdrew consequent on the resolution to hold a grand military tournament in connection with the show. The defenders contended that as Messrs. Cocker's usual yearly donation was withheld when asked for, and was not paid before 1st August, pursuers were no longer members of the society. For the pursuers it was held that the condition as to payment of subscriptions before 1st August applied only to new members, and that in the case of members, other than the Messrs. Cocker, subscriptions had been readily enough accepted after 1st August. The Sheriff reserved his decision until Tuesday afternoon, when he issued the following interlocutor:—Aberdeen, 15th August, 1892.—The Sheriff substitute having heard parties' procurators, and considered the case, dismisses the action and decerns. Finds the defenders entitled to expenses; allows them to lodge an account thereof and remits the same, when lodged, to the Auditor of the Court to tax and report. (Signed) Duncan Robertson.

The Sheriff, in a long note, remarked that whether defenders are acting wisely for the interests of their society, or altogether fairly in view of their past practice as to subscriptions, is another matter altogether, and one with which it seemed to him, he had nothing to do. The rule is explicit, and the fact that apparently in some instances in the past the officials have not strictly enforced it would not justify him in holding that they had thereby waived their right to enforce the rule, if, in their discretion they think it fit to do so now.

QUESTIONS AND ANSWERS.

**** Correspondents are requested, in order to avoid delay, to address all communications to "The Editor" or "The Publisher," and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa, London."*

Book on Carpet Bedding.—*G. S. M.*: The shilling guide to Hampton Court Gardens, by the superintendent, Mr. A. Graham, would probably meet your wants. There is no other of which we are aware in print.

Names of Fruits.—*Strathearn*: Both Lord Suffield.

Diseased Tomatos.—*R. S. W.*: The brown mark on the top of the large Tomato sent us is natural, even although a blemish, and is likely to make its appearance in after years, especially on large fruits. The area covered varies in extent upon different fruits, and all that we can suggest is to make sure of a good strain, and if you save your own seeds to select those fruits that are freest of the blemish. You might also notice the young fruits just as they have set, so that when the corolla withers it may be pulled off, as it would sometimes harbour a little moisture on the crown, and when subjected to the action of the sun's rays might cause the crown to get scorched or decay under the influence of the moisture alone. The small fruit is affected by the black spot caused by a fungus named Cladosporium Lycopersici. It gains an entrance by the decaying style and then ramifies in a circle round the crown, causing the well-known discoloured depression, which in course of time becomes black, both externally and to some depth internally. The safeguards are to maintain a dry and airy atmosphere, and to remove every fruit presenting the well-known depression at the crown. When taken in time it seldom does much damage.

Propagating Phloxes.—*A. Shand*: The cuttings may be put into boxes of sandy loam and leaf soil now or during next month, and rooted in a cold frame. Some prefer to take the cuttings in spring and root them in heat, but that is bad practice with hardy plants, as it has a weakening effect upon their constitution; so that cuttings should be taken now of all the varieties having young shoots arising from the base. Heavy waterings during dry weather would encourage the production of such young growths, and the removal of stems that have flowered would also promote the same. There should, however, not be much difficulty in the matter if the plants have been grown under favourable cultural conditions, such as watering occasionally and mulching to prevent the roots, which ramify near the surface, from getting unduly affected by drought. Cuttings generally produce more vigorous young plants than division of the old rootstock.

Earwigs on Dahlias.—*A. M. C.*: We should consider it quite unnecessary to resort to insecticides to destroy this pest, notwithstanding its destructiveness, of which we are well aware. Put a little moss in the bottom of small flower pots, and place one of each on the top of the Dahlia stakes, mouth downwards. Use a fair quantity of moss, and place it loosely in the pots so as to afford lodgings for the insects. Examine the pots every morning and drop the insects in a watering pot half filled with water, and after you have gone over the whole, turn out the insects on a walk or some hard surface, and have them destroyed.

Hollyhocks diseased.—*G. R.*: It is no use trying to save them now, seeing that the disease has got such a firm hold of them. You should try spraying with the Bouillie Bordelaise early in summer, before a speck of disease is visible upon them, and renew the spraying at intervals through the summer. Then if the mixture is to have any effect it would prevent the spread of the disease as the spores would be unable to germinate to any great extent upon the leaves. The spraying should be carried out in such a way that the under surface of the leaves is evenly although lightly wetted all over, so that when the rusty pustules burst and scatter their spores, the latter will be destroyed in their attempt to germinate. Another method might be tried with very good results, and that is to get a good strain of seed of double varieties, and raise your plants in that way instead of by cuttings, as it has a weakening effect upon the constitution of the plants and lays them more liable to disease than they would otherwise be. By means of seedlings you would have a fresh stock of plants every year, which, although not disease proof would give great satisfaction for ordinary garden decoration.

Gladioli failing.—*A. S. J.*: The highly improved varieties are frequently weak in constitution and liable to fail at flowering time. Another reason is that cultivators keep their corms too long in a warm and dry place during winter, so that they are greatly dried up and weakened in that way by loss of weight before it is time to plant them out.

Names of Plants.—*G. S. M.*: 1, Alternanthera magnifica; 2, A. paronychoides aurea; 3, Saxifraga hypnoides; 4, Sedum Lydium; 5, Hyoscyamus niger; 6, Sedum spathulatum.—*P. M.*: 1, Echinops sphærocephala; 2, Sedum Telephium; 3, Lupinus

polyphyllus apparently, but no leaves with it; 4, Scrophularia aquatica variegata; 5, Œnothera fruticosa; 6, Physostegia virginiana speciosa; 7, Statice Limonum apparently, but no leaves sent; 8, Potentilla formosa, also known as P. nepalensis; 9, Veronica longifolia. Please send leaves with each plant next time.

MUSHROOMS.—*Honesty*: Both the "Funguses" were true Mushrooms, but too old to be eaten.

COMMUNICATIONS RECEIVED.—F. M. & Co.—A. P.—W. D.—N. O—H. B. S.—W. K.—A. O.—O. T.—A. H.—E. L.—J. C. & Sons.—F. G.—A. P.—F. M.

TRADE CATALOGUES RECEIVED.

JAMES CARTER & Co., 237-238, High Holborn, W.C.—Bulbs for winter and spring.

FLETCHER, DOUGLAS & JOHNSON, New Square, Chesterfield.—Bulb Catalogue.

JOHN LAING & SONS, Forest Hill, S.E.—Dutch and other Bulbous Roots, etc.

F. MILLER & Co., 267, Fulham Road, S.W.—Dutch Bulbs and English grown Daffodils, etc.

WILLIAM BULL, 536, King's Road, Chelsea, S.W.

W. DRUMMOND & SONS, Stirling.—Bulbous.—Tuberous-rooted Plants and Bulbs.
Flower Roots.

DICKSONS LIMITED, Chester.—Flowering Bulbs, etc.

LONDON SEED TRADE.

August 23rd, 1892.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, E.C., report a brisk demand for Trifolium incarnatum; English grown realises 2s. per cwt. advance, foreign unchanged. Mustard scarce and dearer, supplies almost exhausted Rape steady.

COVENT GARDEN MARKET.

August 24th.

FRUIT.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.		s. d.	s. d.
Grapes..... per lb.	1 0	2 0	Pine apples.		
Peaches ... per dozen	2 0	8 0	—St. Michael's, each	2 6	6 0
Melons ... . each	1 6	2 0	Apples...per ½ sieve	1 0	4 6
			Plums...per ½ sieve	3 6	7 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Beans, French, per lb.	0 6		Lettuces ...per dozen	1 6	2 0
Beet..... per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages ... per doz.	1 6	2 6	Onions.....per bunch	0 4	0 6
Carrots ... per bunch	0 6		Parsley .... per bunch	0 6	
Cauliflowers, Eng. dz.	3 0	6 0	Radishes... per dozen	1 6	
Celery.....per bundle	2 6		Small salading, punnet	0 4	
Cucumbers .....each	0 4	0 9	Spinach, per strike ...	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	0 9
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Asters .....per doz.	4 0	6 0	Heliotrope, per doz.	4 0	6 0
Balsams .....per doz.	3 0	6 0	Lilium Harrisii, doz.	12 0	24 0
Begonias ...per doz.	6 0	12 0	Lilium lancifolium...	12 0	24 0
Cyperus .....per doz.	4 0	12 0	Lilium Auratum.....	18 0	36 0
Dracæna term., doz.	24 0	36 0	Lobelia, ...per doz.	2 6	4 0
Dracæna viridis, doz.	9 0	18 0	Marguerites, per doz.	6 0	12 0
Evergreens, invar. doz	6 0	24 0	Mignonette, per doz.	4 0	6 0
Ferns, invar., per doz.	4 0	18 0	Palms in variety, each	2 6	10 0
Ferns, small, per 100	6 0	10 0	Palms, Specimen ...	15 0	63 0
Foliage Plants, doz.	12 0	60 0	Pelargoniums, per doz.	6 0	12 0
Fuchsia, ...per doz	3 0	6 0	—scarlet .....per doz.	2 0	4 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blms.	2 0	4 0	Mignonette... 12 bun.	1 0	3 0
Asters.....doz. bun.	3 0	6 0	Pelargoniums, 12 sps.	0 6	0 9
— French .....bun.	0 9	1 3	—scarlet.....12 bchs.	3 0	4 0
Bouvardias, per bun.	0 6	1 0	Primula, double, bun.	0 6	0 9
Carnations, 12 blooms	1 0	3 0	Pinks .....doz. buns.	2 0	4 0
Carnations, doz. bun.	4 0	6 0	Pansies, doz. bchs ...	1 0	2 0
Cornflower doz bnchs	1 6	3 0	Pyretbrum doz bnchs	2 0	4 0
Eucharis ...per doz.	1 0	3 0	Orchid Bloom in var. per bloom, from	0 2	0 8
Gardenias 12 blooms	1 6	3 0	Roses, doz bunches	2 0	6 0
Gladioli...doz. buns.	6 0	12 0	Roses, yellow, dozen	2 0	4 0
—..... doz. spikes	1 0	2 0	— Red.....doz. blms.	1 0	2 0
Heliotropes, 12 sprays	0 3	0 6	— Saffrano...per doz.	1 0	1 6
Lilium Harrisii, doz. blooms	1 6	3 0	— Tea ..... per dozen	0 6	2 0
Liliums var., dz. blms.	1 0	3 0	Stephanotis, dz. sps.	2 0	4 0
Maidenhair Fern, 12bs.	4 0	6 0	Stocks.....doz. bun.	3 0	4 0
Marguerites, 12 bun.	2 0	4 0	Sweet Peas, dz. bns.	2 0	4 0
Myosotis or Forget-me-not, doz. bnchs.	2 0	4 0	Sweet Sultan, dz. bn.	2 0	4 0
			Tuberoses, per doz	0 3	0 6

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FLOWER SHOWS, &c., 1892.

[*The Editor will be greatly obliged if Secretaries of societies will communicate to him the dates of their exhibitions as soon as fixed.*]

AUGUST.

29.—Cresswell Flower Show.
29.—Sheffield Flower Show (2 days).
30.—Brighton and Sussex "New" Horticultural Society's Show (2 days).
30.—Harrogate Horse and Horticultural Show.
31.—Bath Floral Fête (2 days).
31.—Bishop Stortford Flower Show.
31.—Handsworth Flower Show.
31.—Eastbourne Flower Show.

SEPTEMBER.

1.—Oxford Flower Show.
1.—Stirling Flower Show (2 days).
2.—National Dahlia Show at the Crystal Palace (2 days).
6.—Royal Horticultural Society: Committee Meetings at Drill Hall.
7.—National Chrysanthemum Society's Show at Royal Aquarium (2 days).
7.—Royal Caledonian Horticultural Society (2 days)
9.—Autumn Flower Show at Earl's Court (2 days).
10.—Leicester Early Chrysanthemum and Dahlia Show.
20.—Royal Horticultural Society: Committee Meetings at Drill Hall.
28.—National Chrysanthemum Society: Meeting of Floral Committee.

OCTOBER.

4.—Royal Horticultural Society: Committee Meetings at Drill Hall.
5.—Fruit Show at Earl's Court (3 days).
12.—National Chrysanthemum Society's Show at the Royal Aquarium (3 days).
18.—Royal Horticultural Society: Committee Meetings at Drill Hall.
25.—Fruit Show at Earl's Court (3 days).
26.—National Chrysanthemum Society: Meeting of Floral Committee.
27.—Alverstoke and Gosport Chrysanthemum Show (2 days).

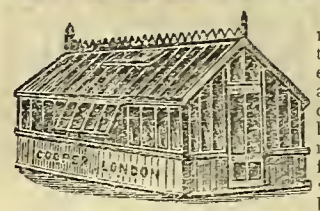
NOVEMBER.

1.—Royal Horticultural Society: Committee Meetings at Drill Hall.
1.—Kent County Chrysanthemum Show (2 days).
1.—Brixton Chrysanthemum Show (2 days).
1.—Barnstaple Chrysanthemum Show (2 days).
1.—Brighton and Hove Chrysanthemum Show (2 days).
2.—Ascot Chrysanthemum Show (2 days).
2.—Ealing Chrysanthemum Show (2 days).
2.—Portsmouth Chrysanthemum Show (3 days).
2.—Croydon Chrysanthemum Show (2 days).
3.—Steyning Chrysanthemum Show.
4.—Crystal Palace Chrysanthemum Show (2 days).
4.—Bolton Chrysanthemum Show (2 days).
8.—National Chrysanthemum Society at Royal Aquarium (3 days).
8.—Kingston and Surbiton Chrysanthemum Show (2 days).
8.—Enfield Chrysanthemum Show (2 days).
8.—Sevenoaks and West Kent Chrysanthemum Show (2 days).
8.—Leeds Chrysanthemum Show (2 days).
8.—Batley Chrysanthemum Show (2 days).
9.—Bath Chrysanthemum Show (2 days).
9.—Birmingham Chrysanthemum Show (2 days).
9.—South Shields Chrysanthemum Show (2 days).
9.—Cardiff Chrysanthemum Show (2 days).
9.—Bournemouth Chrysanthemum Show (2 days).
9.—Hornsey Chrysanthemum Show (2 days).
10.—Chelmsford Chrysanthemum Show.
11.—Leicester Chrysanthemum Show (2 days).
11.—Sheffield Chrysanthemum Show (2 days).
11.—Eccles and Patricroft Chrysanthemum Show (2 days).
11.—Wellingborough Chrysanthemum Show (2 days).
11.—Dundee Chrysanthemum Show.
11.—Bradford and District Chrysanthemum Show (2 days).
15.—Royal Horticultural Society: Committee Meetings at Drill Hall.
15.—Liverpool Chrysanthemum Show (2 days).
15.—Plymouth Chrysanthemum Show (2 days).
16.—Hull Chrysanthemum Show (2 days).
16.—Rugby Chrysanthemum Show (2 days).
17.—Edinburgh Chrysanthemum Show (3 days).
18.—Chorley Chrysanthemum Society (2 days).
18.—Stockport Chrysanthemum Show (2 days).
22.—Dalkey Chrysanthemum Show.
24.—National Chrysanthemum Society: Meeting of Floral Committee.

DECEMBER.

7.—National Chrysanthemum Society: Meeting of Floral Committee.
13.—Royal Horticultural Society: Committee Meetings at Drill Hall.

GREENHOUSES.



These Greenhouses are made especially for Amateurs at a cheap rate, so that everybody can have one that any handyman or gardener can put together in a few hours, as the framework is made so complete. All the framework is of good, sound well-seasoned red deal. The bottom part filled in with good, sound match boards, tongued, grooved, and beaded, and well seasoned. Ventilation given according to size of each House. The glass is good 16-oz. English cut and packed (no charge for packing cases). The House is painted one coat of good oil colour, lock for door, all necessary iron-work for ventilation, stages on each side for plants. All parts carefully marked, securely packed and put on rail, or delivered, erected and glazed complete, within 20 miles of London Bridge, at the following respective Prices:—
(Proportionable Prices for other size, and for erecting in any part of the country.)

Long	Wide	High		On Rail.	Delivered & Erected Complete.
7 ft.	5 ft.	7 ft.	4 ft. to eaves	£2 16 0	£4 5 0
8 ft.	5 ft.	7 ft.	4 ft. to eaves	3 10 0	5 0 0
9 ft.	6 ft.	7 ft. 3	4 ft. to eaves	4 0 0	5 10 0
10 ft.	7 ft.	7 ft. 6	4 ft. 6 to eaves	5 0 0	6 15 0
12 ft.	8 ft.	8 ft.	5 ft. to eaves	6 0 0	8 0 0
15 ft.	10 ft.	8 ft. 6	6 ft. to eaves	8 10 0	12 0 0
20 ft.	10 ft.	9 ft.	5 ft. 6 to eaves	12 0 0	16 0 0
25 ft.	10 ft.	9 ft.	5 ft. 6 to eaves	17 0 0	22 0 0
50 ft.	10 ft.	9 ft.	5 ft. 6 to eaves	30 0 0	40 0 0
100 ft.	10 ft.	7 ft.	5 ft. 6 to eaves	50 0 0	70 0 0

¾-Span-roofs, this quality, can be had at same price.
Estimates given for any size on application. Deduct 10 per cent. if required for brickwork.

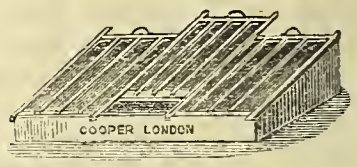
STRONG GARDEN LIGHTS.

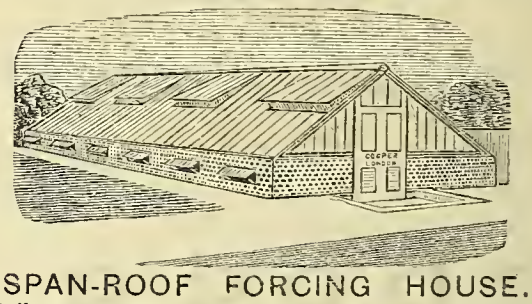
Painted and glazed, 3 by 4 ft., 6s. 6d.; 6 by 4 ft., 9s. each.

CUCUMBER FRAMES.

Complete from 18/-

See List for full particulars.





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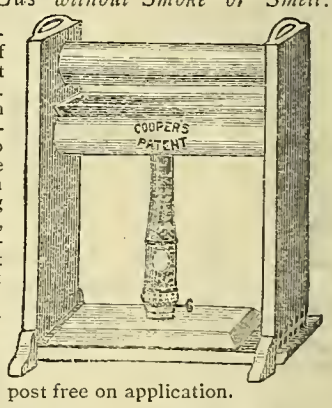
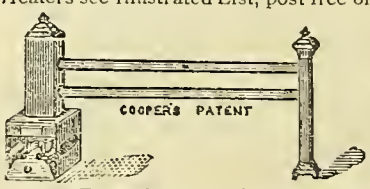
Built for brickwork 3 ft. high, of well-seasoned red deal; roof ventilation according to size; all 21-oz. glass. Suitable for Nurserymen, Market Gardeners, and all those who require a cheap, strong house for forcing or growing Cucumbers, Tomatoes, Melons, &c., &c. Delivered to any station in England carriage free. 20 ft. by 9 ft., £9. For Illustrations and Prices of other sizes see Illustrated Price List free.

COOPER'S HYGIENIC HEATER,

Burning Paraffin or Gas without Smoke or Smell.



These Heaters are constructed as a means of Heating by Hot Air without the use of hot water or fire. Its peculiar construction economises the heat generated, so that there is no waste of heat or fuel. There being perfect combustion in this Stove, and nothing whatever injurious to plants, but actually everything conducive to their health, it should be observed that plants may be had in full bloom throughout the severest winter. From 20s. complete. For full particulars and prices of other sized Heaters see Illustrated List, post free on application.



AMATEUR'S ASSISTANT HOT-WATER APPARATUS.
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See List, Post Free.

For other Heating Apparatus, see List.

GLASS! GLASS! GLASS!

Free on rail in London, packages included.

	15-oz., 100ft.	21-oz., 100ft.	15-oz., 200ft.	21-oz., 200ft.
4th.	8s. 9d.	12s. 0d.	17s. 0d.	24s. 0d.
3rd.	10s. 2d.	13s. 0d.	19s. 0d.	26s. 0d.

The following is a List of sizes always in stock:—
10 by 8, 12 by 9, 12 by 10, 14 by 10, 13 by 11, 18 by 11, 16 by 12, 18 by 12, 20 by 12, 17 by 13, 20 by 13, 18 by 14, 20 by 14, 22 by 14, 20 by 15, 20 by 16, 24 by 16, 20 by 18, 24 by 18.

Glass cut to any size required: 15-oz., 1½d. per ft.; 21-oz., 2½d per ft. Large sizes for cutting up, 15-oz., per case, 300 ft., 26s.; 21-oz., per case, 200 ft., 26s. All glass is cut and packed in own warehouses and put on rail free of charge; quality of glass and careful packing guaranteed. Special quotations for large quantities. Have cash estimates from me before ordering elsewhere.

SASH-BARS.

Putty prepared especially for greenhouse work, 7s. 6d. per cwt. Every description of prepared Horticultural Timber; for prices see List, post free.

Send for COMPLETE ILLUSTRATED LIST, post free, containing specifications of Greenhouses from 41s. to £220.

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